

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

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.

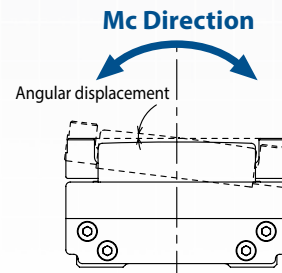
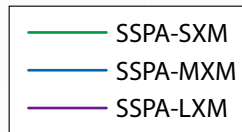
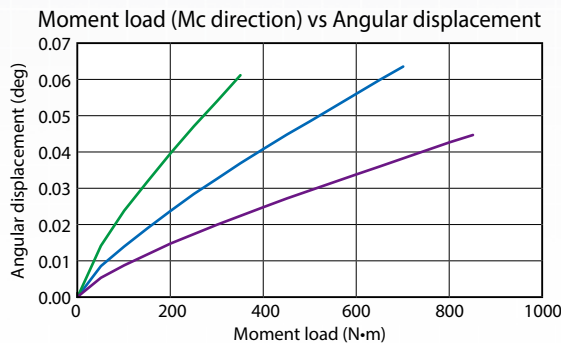
	Conventional product	ISB series
• Standard specification	±0.02 mm	→ ±0.01 mm
• High-precision specification	±0.01 mm	→ ±0.005 mm

■ 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.



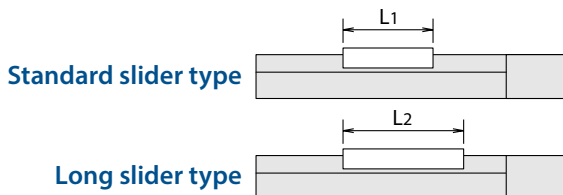
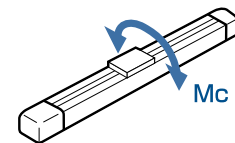
Allowable Mc is more than twice than the old model.

[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
<p>Compact size with a cross-section area of just 60%</p>	<p>Extra-large type ISA-WXM</p>

■ 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)



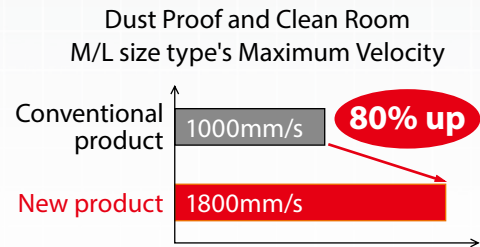
● **Standard specification**
ISB/ISPB/SSPA series

● **Simple, dustproof specification**
ISDB/ISPDB series

● **Cleanroom specification**
NEW ISDACR/ISPDACR/
ISDBCR/ISPDBCR/
SSPDACR series

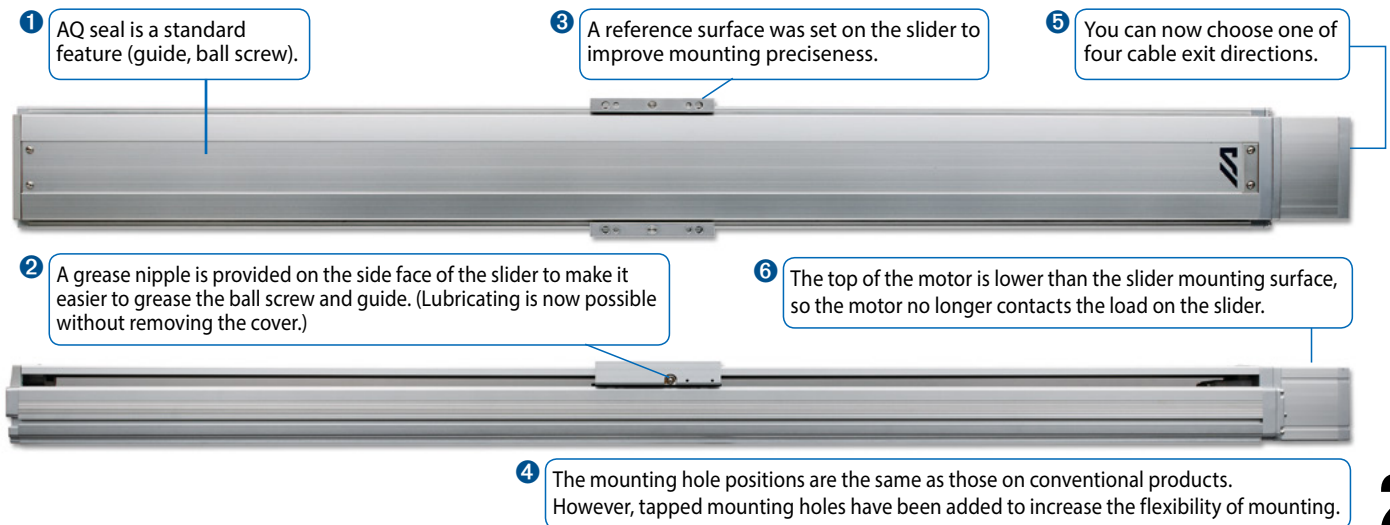
4. Performance Upgrade (note) Specifications will vary depending on the model and lead.

- 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
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ISB/ISPB-MXM-100	22
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ISB/ISPB-MXL-200	26
ISB-MXL-400	27
ISB/ISPB-MXMX-200	28
ISB-MXMX-400	29
ISB/ISPB-LXM-200	30
ISB/ISPB-LXM-400	31
ISB/ISPB-LXL-200	32
ISB/ISPB-LXL-400	33
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SSPA

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ISDB/ISPDB

Simple, Dustproof Type	page
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Cleanroom Specification

ISDBCR/ISPDBCR

High Precision Type	page
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SSPDACR

Small High Rigidity type	page
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ISDACR/ISPDACR

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ISDBCR/ISPDBCR

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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							
ISB ISPB	960 655 515 415	16	13	3.5			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	WA	100V		
	600 430 345 280 230	10	90	20		200V		
	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	-					
1200 1150 1000 950 830 740 650 590 540 490 440 410 370 340	20	45	-			ISB(ISPB)-LXUWX-200	36	
2400 2300 2000 1900 1660 1480 1300 1180 1080 980 880 820 740 680	40	40	-			ISB(ISPB)-LXUWX-400	37	
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	I	100V	SSPA-MXM-400	39
		1200	960	790	660	560	480	410																		20	90	12	A	200V		
		600	480	390	330	280	240	200																		10	120	25				
		2500	2320	1950	1660	1440	1250	1100																			50	60	12			SSPA-LXM-750
	1250	1160	970	830	720	620	550																			25	120	25				

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

I = Incremental A = Absolute AC = 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				
		1200	960	765	625	520	440																					20	23	4			ISDB(ISPDB)-M-100	44
		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	WA	100V	ISDB-M-400	46
		980-2200	1920	1570	1305	1105																						48	20	6		200V		
			1800	1650	1500	1425	1200	1050																				30	30	-			ISDB(ISPDB)-MX-200	47
			1200	1100	1000	950	800	700																				20	45	-				
			1700	1800	1900	2000	2100	2200	1860	1640	1450																	48	20	-			ISDB-MX-400	48
			1800	1540	1290	1095	940	815																				40	15	2.5				
			1200	1165	940	770	645	545	470	410																		20	45	9			ISDB(ISPDB)-L-200	49
			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				
				1800	1660																							40	15	-				
			1200	1150	1000	950	830																				20	45	-					
			1800	1660																							40	40	-			ISDB(ISPDB)-LX-400	52	
			1200	1150	1000	950	830																				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.

WA = Battery-less Absolute AC = AC power

single-axis robot

Cleanroom Specification

Series	Stroke (mm) / Maximum speed (mm/s)																									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	Lead (mm)	↔	↕								
ISDBC ISPDBC	960 795 610 480																									16	13	3	WA	100V 200V	IS(P)DBC-R-S	54
	480 400 305 240																									8	27	6				
	240 200 150 120																									4	55	14				
	1800 1440 1150 935 780 660																									30	15	2			IS(P)DBC-R-M-100	55
	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			IS(P)DBC-R-M-200	56
	1800 1440 1150 935 780 660																									30	30	6				
	1200 960 765 625 520 440																									20	45	10				
	600 480 380 310 260 220																									10	90	20			IS(P)DBC-R-MX-200	57
	300 240 190 155 130 110																									5	110	40				
	1800 1650 1500 1425 1200 1050 900 825 750 675																									30	30	-				
	1200 1100 1000 950 800 700 600 550 500 450																									20	45	-			IS(P)DBC-R-L-200	58
	1800 1540 1290 1095 940 815																									40	15	2.5				
	1200 1165 940 770 645 545 470 410																									20	45	9				
	600 585 470 385 320 275 235 205																									10	90	20			IS(P)DBC-R-L-400	59
1800 1540 1290 1095 940 815																									40	40	8					
1200 1165 940 770 645 545 470 410																									20	90	20					
600 585 470 385 320 275 235 205																									10	120	40	IS(P)DBC-R-LX-200	60			
1800 1660 1480 1300 1180 1080 980 880 820 740 680																									40	15	-					
1200 1150 1000 950 830 740 650 590 540 490 440 410 370 340																									20	45	-					
1800 1660 1480 1300 1180 1080 980 880 820 740 680																									40	40	-	IS(P)DBC-R-LX-400	61			
1200 1150 1000 950 830 740 650 590 540 490 440 410 370 340																									20	90	-					
960 795 610 480																									16	13	3			IS(P)DBC-R-S-60 - [] [] [] -ESD	69	
480 400 305 240																									8	27	6					
240 200 150 120																									4	55	14					
1800 1440 1150 935 780 660																									30	15	2	IS(P)DBC-R-M-100 - [] [] [] -ESD	70			
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	IS(P)DBC-R-M-200 - [] [] [] -ESD	71			
1800 1440 1150 935 780 660																									30	30	6					
1200 960 765 625 520 440																									20	45	10					
600 480 380 310 260 220																									10	90	20	IS(P)DBC-R-L-200 - [] [] [] -ESD	71			
300 240 190 155 130 110																									5	110	40					
1800 1540 1290 1095 940 815																									40	15	2.5					
1200 1165 940 770 645 545 470 410																									20	45	9	IS(P)DBC-R-L-400 - [] [] [] -ESD	71			
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	SSPDACR-S-200 - [] [] []	62			
600 585 470 385 320 275 235 205																									10	120	40					
1600 1290 1040 860 720 610																									30	30	4					
1100 1090 860 690 570 480 400																									20	45	6	SSPDACR-M-400 - [] [] []	63			
600 540 430 340 280 240 200																									10	90	12					
1600 1410 1180 1010 880 760																									40	45	6					
1100 1040 850 700 590 500 440 380																									20	90	12	SSPDACR-L-750 - [] [] []	64			
600 520 420 350 290 250 220 190																									10	120	25					
1600 1550 1340 1170 1040																									50	60	12					
1100 1060 900 770 670 580 520																									25	120	25					

* 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)																	Payload (kg)			Encoder type	Controller Input Power	Model number	Page
	100 mm	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700-2000	2100-2500	Lead (mm)	↔				
ISDACR ISPDACR	2000 1965 1605 1335 1130 970 840																	40	60	14	I A	100V 200V	IS(P)DACR-W-600	65
	1000 980 800 665 565 485 420																	20	120	29				
	500 490 400 330 280 240 210																	10	150	60				
	2000 1780 1525 1320																	50	60	14			IS(P)DACR-W-750	66
	1250 1050 880 760 660																	25	120	29				
	2000 1965 1725 1530 1365 1005 915 655																	40	60	-				
	1000 980 860 765 680 500 455 225																	20	120	-			IS(P)DACR-WX-600	67
	2000 2000 1580 1440 035																	50	60	-				
1250 1200 1075 790 720 515																	25	120	-					

* The value of payload is when operating at rated acceleration. I = Incremental A = Absolute = AC power

		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	2			
			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									
	M	100	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													
		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					40	34	30														
			200	30	1800	30	30	30																			Can not be used vertically															
				20	1200	45	45	45																			Can not be used vertically															
				400	48	2200			20.0																		Can not be used vertically															
		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																		Can not be used vertically																	
		400	40	1800	40	40	40																		Can not be used vertically																	
20			1200	90	90	90																			Can not be used vertically																	
ISDACR ISPDACR Cleanroom type	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												
																										Can not be used vertically																
SSPDACR	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														
	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														
	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

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

MXM Small, X-axis, standard type
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

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

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

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

1100 100 100mm
 ? ?
 2500 2500mm

* Varies depending on the model.

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

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

* The standard cable is a robot cable.

A3E **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.

Note: The selectable leads vary depending on the model.

● 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

ISDB Standard specification
ISPDB High precision specification

W **WA** Battery-less absolute type

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

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

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

500 100 100mm
 ? ?
 1600 1600mm

* Varies depending on the model.

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

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

* The standard cable is a robot cable.

B **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

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

Note: The selectable leads vary depending on the model.

● 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

ISDBCR 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

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

M **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

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

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

500 100 100mm
 ? ?
 2500 2500mm

* Varies depending on the model.

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

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

* The standard cable is a robot cable.

RT **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

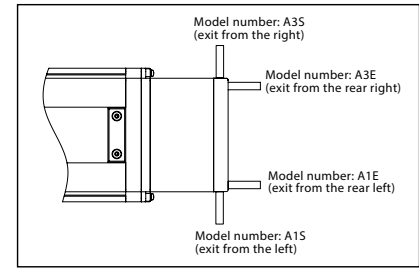
Note: Available encoder type may vary by the series. Please see each model page.

Note: The selectable leads vary depending on the model.

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.

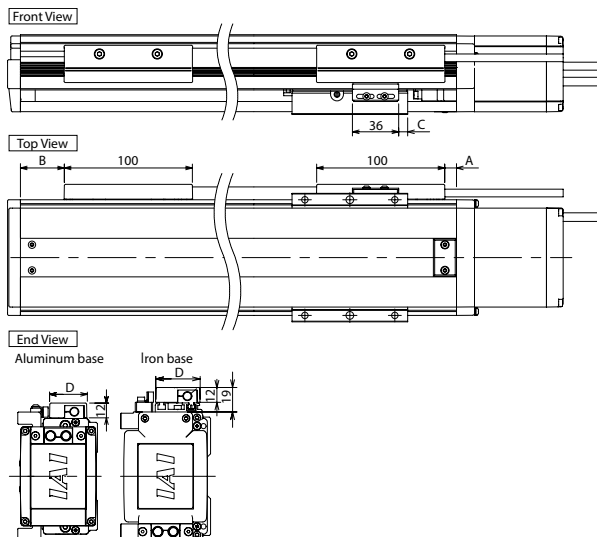
With the standard option (L), this switch is installed on the right side of the actuator as viewed from the motor. Select the opposite side option (LL) if you want to install the switch on the opposite side.

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
	ISDB ISPDB	LXL	41	119	22	42.5
		LXMX	88	140	17	42.5
		LXUWX	83	245	12	42.5
		S	10	60	37	29
		M	20	89	46	34.5
		MX	68	137	46	34.5
	ISDBCR ISPDBCR	L	31	119	57	42.5
		LX	77	165	57	42.5
		S	10	60	37	29
		M	20	89	46	34.5
		MX	68	137	45	34.5
		L	31	119	57	42.5
Iron base	SSPA	LX	77	165	55	42.5
		SXM	-8*	40	3	34.5
		MXM	-4*	74	3	34.5
	SSPDACR	LXM	19.5 (16.5)	86 (83)	24	42.5
		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 / WXMx.

*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 → 0.03mm/1m (parallelism/meter) × 1.5m (stroke) = 0.045mm

Squareness during motion → 0.02mm/1m (squareness/meter) × 1.5m (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 → 0.03mm/1m (parallelism/meter) × 0.9m (stroke) = 0.027mm

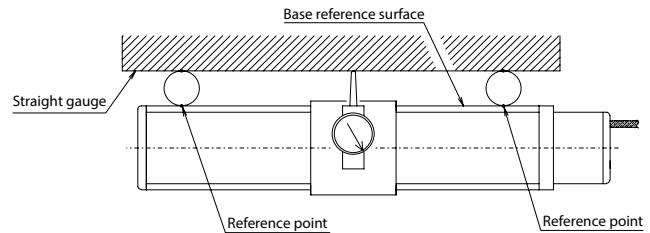
Squareness during motion → 0.015mm/1m (squareness/meter) × 0.9m (stroke) = 0.014mm

*Round up to the 3rd decimal place

1 Dynamic parallelism (horizontal/vertical)

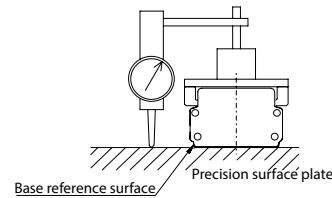
① Parallelism of the base reference surface and the slider motion (horizontal)

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.



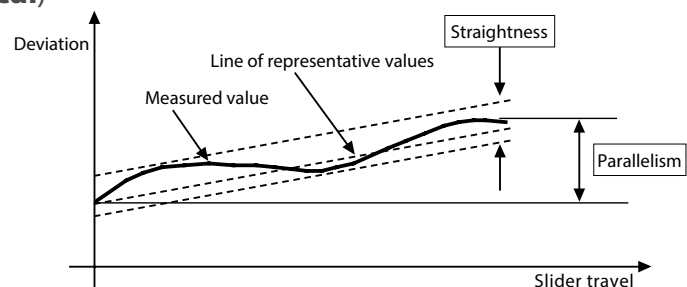
② Parallelism of the base mounting surface and the slider motion (vertical)

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:

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

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

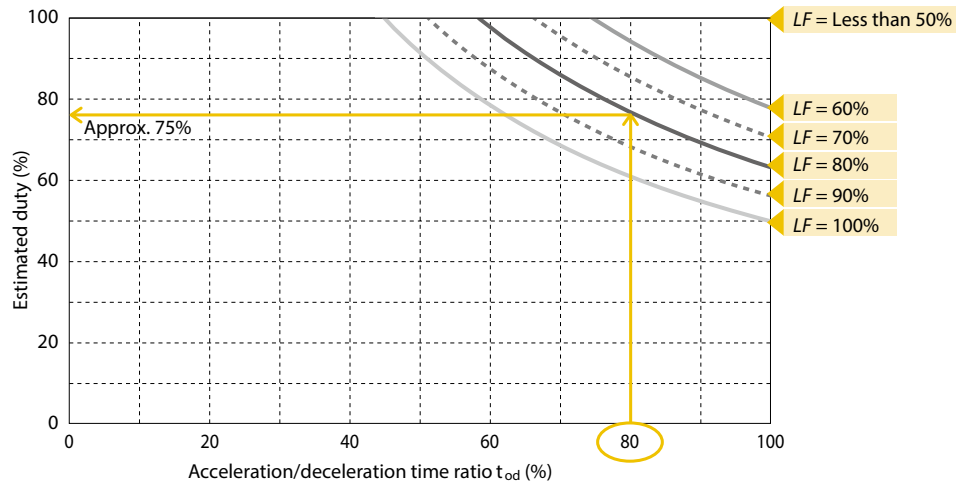
$$\text{Deceleration time} = \frac{\text{Speed (mm/s)}}{\text{Deceleration (mm/s}^2\text{)}} (\text{sec})$$

Acceleration (mm/s²) = Acceleration (G) x 9,800 mm/s²

Deceleration (mm/s²) = Deceleration (G) x 9,800 mm/s²

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%.



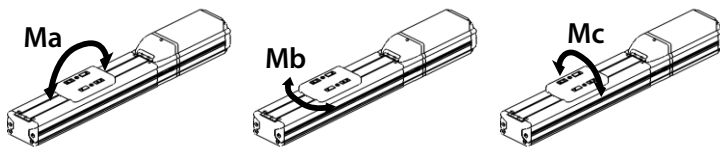
[Dynamic allowable moment and overhang load length]

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

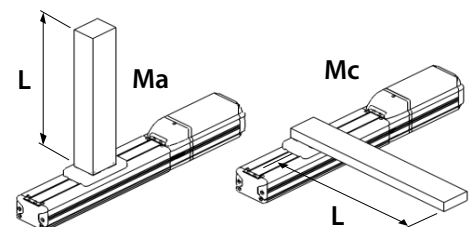
■ The dynamic allowable moment is a value assuming the reference rated life. Please note that when using beyond the moment specification value, the life of the guide will decrease.

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.



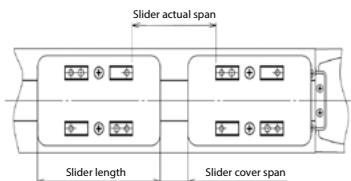
Directions of the Allowable Moment and Overhang Load Length When Using the Double Slider

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

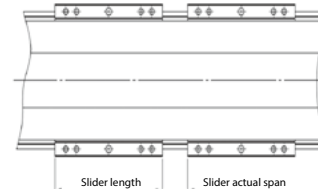
Series name	Type name	Allowable dynamic moment						Overhang load length (mm)	Clean specification maximum speed (mm/sec)	Clean specification suction volume (Nℓ/min)	Slider mass (kg)	Slider length (mm)	Minimum stroke with double slider (mm)
		Standard rated life (km)	Slider span (mm)		Ma direction (N-m)	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	–	–			
			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	–	–			
			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	–	–			
			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
			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


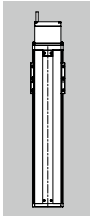
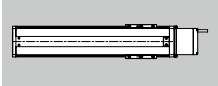

Please refer to the specification values of the nominal stroke.

(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	○	×	×	×

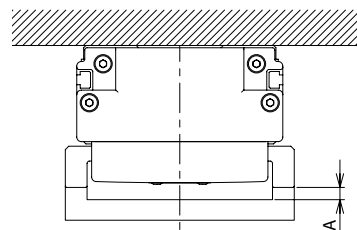
Note 1 When installing the actuator vertically, bring the motor to the top whenever possible. If the actuator is mounted with the motor at the bottom, problems won't occur during normal operation, but if the actuator is stopped for a prolonged period of time, grease may separate depending on the ambient 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 from the slider.

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

ISB	600mm or greater but less than 1000mm	5mm or greater
ISPB	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.

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

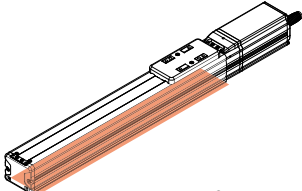
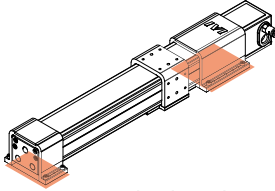
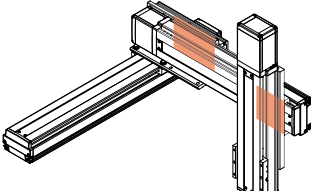
L: Service Life (km), C_M : Allowable Dynamic Moment (N·m),
M: Acting moment (N·m), f_{ws} : Standard load coefficient,
 f_w : Load coefficient, f_a : Attachment coefficient,
URL: Standard rated life

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



ISB-SXM-60

ISPB-SXM-60

±10µm
Standard

Battery-less absolute

Small X-axis

Standard Slider type

Actuator width 90 mm

60 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	SXM — WA	60	16: 16mm 8: 8mm 4: 4mm	100: 100mm 900: 900mm (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]-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.

CAUTION

(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 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	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	→P11

* ISPB can not select RT.

Actuator Specifications

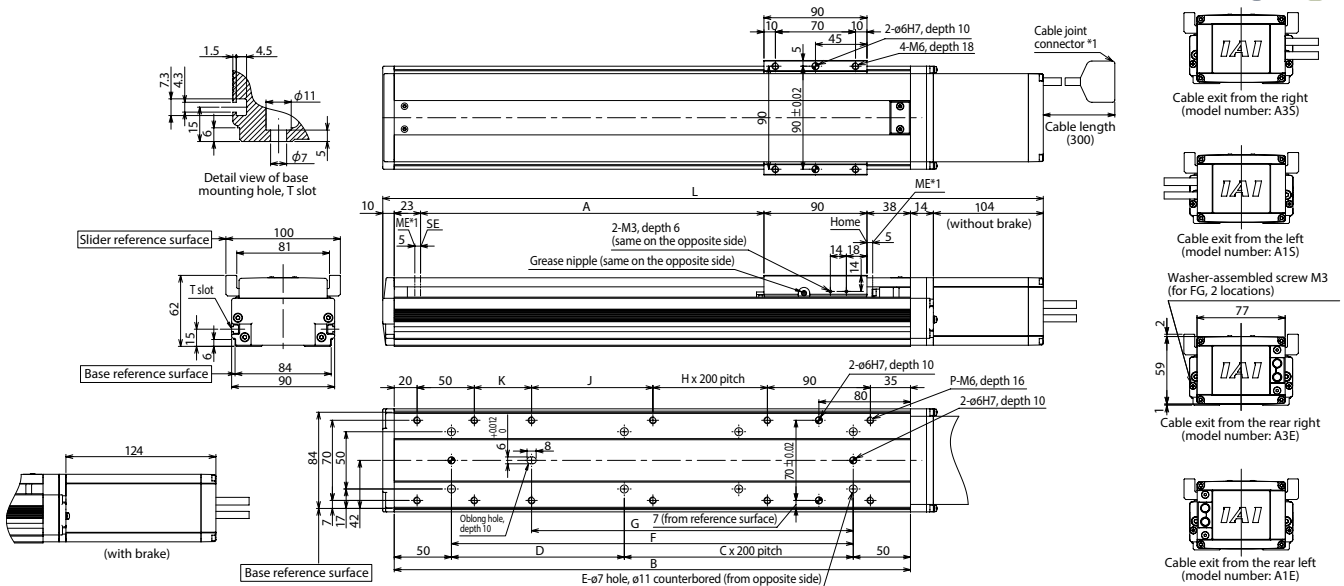
Positioning repeatability (Note 2)	±0.01mm [±0.003mm]
Drive method (Note 3)	Ball screw φ12mm, rolled C10 [equivalent to rolled C5]
Lost motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (**)(**)	Ma: 32.9N·m Mb: 47.0N·m Mc: 76.8N·m
Overhang load length(**)	Ma direction: 450mm max. Mb, Mc directions: 450mm max
Dynamic straightness (Note 5)	0.02mm/m max.
Base	Material: Aluminum, with white alumite treatment
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	L																	
	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	
without brake	379	429	479	529	579	629	679	729	779	829	879	929	979	1029	1079	1129	1179	
with brake	399	449	499	549	599	649	699	749	799	849	899	949	999	1049	1099	1149	1199	
A	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	
B	251	301	351	401	451	501	551	601	651	701	751	801	851	901	951	1001	1051	
C	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	
D	151	201	251	301	351	401	451	501	551	601	651	701	751	801	851	901	951	
E	4	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	
F	151	201	251	301	351	401	451	501	551	601	651	701	751	801	851	901	951	
G	131	131	181	231	281	331	381	431	481	531	581	631	681	731	781	831	881	
H	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	
J	56	56	106	156	206	256	306	356	406	456	506	556	606	656	706	756	806	
K	0	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
P	8	10	10	10	10	10	12	12	12	12	14	14	14	16	16	16	16	
Mass (kg)	3.0	3.4	3.8	4.2	4.5	4.9	5.2	5.6	5.9	6.3	6.6	7.0	7.3	7.7	8.0	8.4	8.7	
Maximum speed (mm/s)	Lead 16	960																
	Lead 8	480																
	Lead 4	240																

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

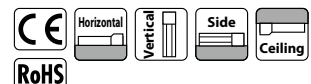
* Please return the actuator to us if a home direction change is necessary after purchase.

* 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	-	-	●		55,000 (depend on type)	
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/side/ceiling mountings depending on the model. Please contact IAI for more information.

ISB-SXM-100

±10µm Standard
Battery-less absolute
Small X-axis
Standard Slider type
Actuator width 90 mm
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 M5CON 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)
ISB-SXM-WA-100-36-①-T2-②-③	100	36	Horizontal (kg) Vertical (kg)	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.



- (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 650~1100)	ST	→P12
Home limit switch	L	→P10	Double slider specification	W	→P11

Actuator Specifications

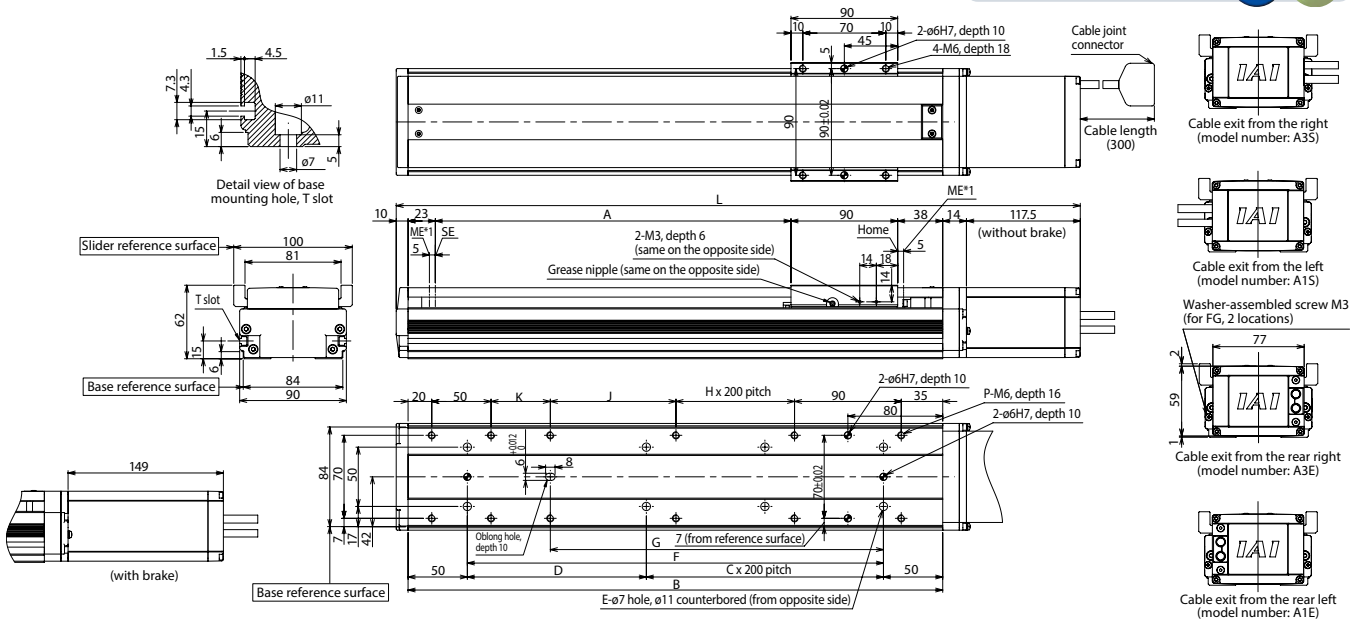
Positioning repeatability	±0.01mm
Drive method	Ball screw φ12mm, rolled C10
Lost motion	0.05mm max.
Dynamic allowable load moment (**)(**)	Ma: 32.9N·m Mb: 47.0N·m Mc: 76.8N·m
Overhang load length(**)	Ma direction: 450mm max. Mb, Mc directions: 450mm max
Dynamic straightness (Note 2)	0.02mm/m max.
Base	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

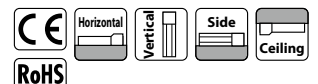
Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	
L	without brake	392.5	442.5	492.5	542.5	592.5	642.5	692.5	742.5	792.5	842.5	892.5	942.5	992.5	1042.5	1092.5	1142.5	1192.5	1242.5	1292.5	1342.5	1392.5
	with brake	424	474	524	574	624	674	724	774	824	874	924	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	2	2	2	2	3	3	3	3	4	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	1	2	2	2	2	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	14	14	14	14	16	16	16	16	18	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

- *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 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.)	
M5CON-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.

ISB-SXL-60

ISPB-SXL-60

±10µm
Standard

Battery-less absolute

Small X-axis

Long Slider type

Actuator width 90mm

60W

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	SXL	WA	60				T2: SCON M5CON 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)	Horizontal Payload (kg)	Vertical Payload (kg)	Rated thrust (N)	Stroke (mm)
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 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.

CAUTION

Option

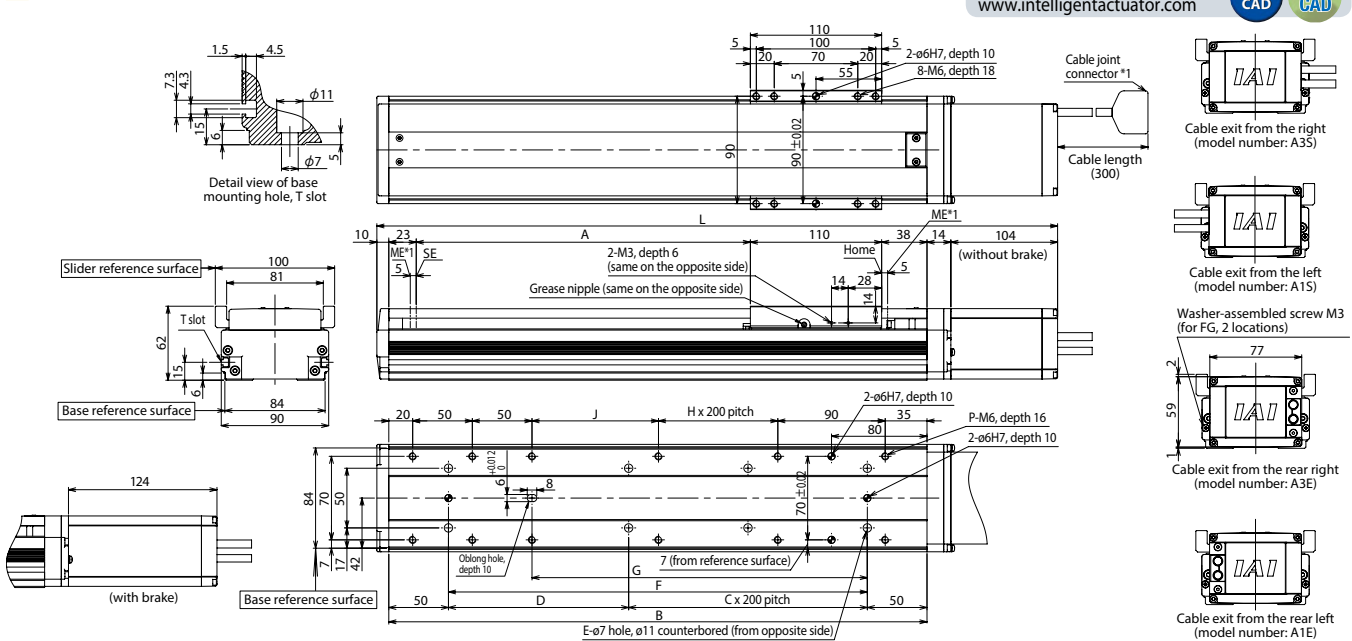
Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Home limit switch on the opposite side	LL	→P10
Cable exit from the rear left	A1E	→P10	Master axis specification	LM	→P11
Cable exit from the right	A3S	→P10	Master axis specification (sensor on the opposite 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 630~880)	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 φ12mm, rolled C10 [equivalent to rolled C5]
Lost motion (Note 4)	0.05mm [0.02mm] 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 5)	0.02mm/m max.
Base	Material: Aluminum, with white alumine 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

L	Stroke	130	180	230	280	330	380	430	480	530	580	630	680	730	780	830	880
	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	1199
A	130	180	230	280	330	380	430	480	530	580	630	680	730	780	830	880	880
B	301	351	401	451	501	551	601	651	701	751	801	851	901	951	1001	1051	1051
C	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4
D	201	251	301	351	401	451	501	551	601	651	701	751	801	851	901	951	951
E	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12
F	201	251	301	351	401	451	501	551	601	651	701	751	801	851	901	951	951
G	131	181	231	281	331	381	431	481	531	581	631	681	731	781	831	881	881
H	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3
J	56	106	156	206	256	306	356	406	456	506	556	606	656	706	756	806	806
P	10	10	10	10	10	12	12	12	12	14	14	14	14	16	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											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.

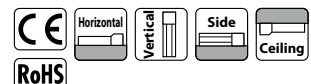
* Please return the actuator to us if a home direction change is necessary after purchase.

* 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.)	
M5CON-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)	
					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/side/ceiling mountings depending on the model. Please contact IAI for more information.

ISB-SXL-100

±10μm Standard
Battery-less absolute
Small X-axis
Long Slider type
Actuator width 90mm
100W



Model Specification Items	ISB	SXL	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	130: 130mm 1080: 1080mm (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-SXL-WA-100-36-①-T2-②-③	100	36	10	2	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

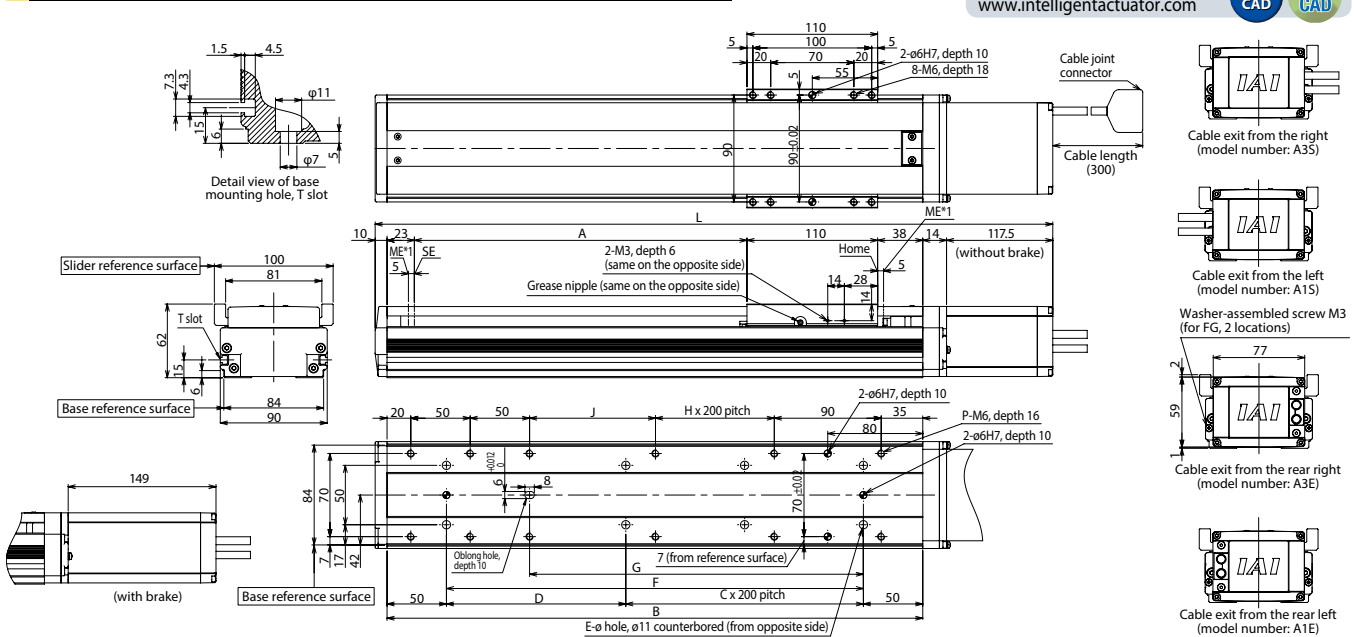
Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Home limit switch on the opposite side	LL	→P10
Cable exit from the rear left	A1E	→P10	Master axis specification	LM	→P11
Cable exit from the right	A3S	→P10	Master axis specification (sensor on the opposite 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.

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 30mm from the slider work mounting position.

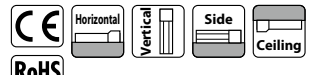
Dimensions and Mass by Stroke

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
	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	12	12	12	12	14	14	14	14	14	16	16	16	16	18	18	
Mass (kg)	without brake	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
	with brake	4	4.4	4.7	5.1	5.4	5.8	6.1	6.5	6.9	7.2	7.6	7.9	8.3	8.6	9	9.3	9.7	10.1	10.4	10.8
Maximum speed (mm/s)	Lead 36	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			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	●	-	●		2000	
XSEL-P/Q/RA/SA	8 axes	●	-	●		55,000 (depend on type)	
					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/side/ceiling mountings depending on the model. Please contact IAI for more information.

ISB-MXM-100

ISPB-MXM-100

±10µm
Standard

Battery-less absolute

Medium X-axis

Standard 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	MXM	WA	100	100W	30: 30mm 20: 20mm 10: 10mm 5: 5mm	100: 100mm 110: 110mm (Every 50mm)	T2: SCON M5CON 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	100~1100 (Every 50mm)
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.

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.

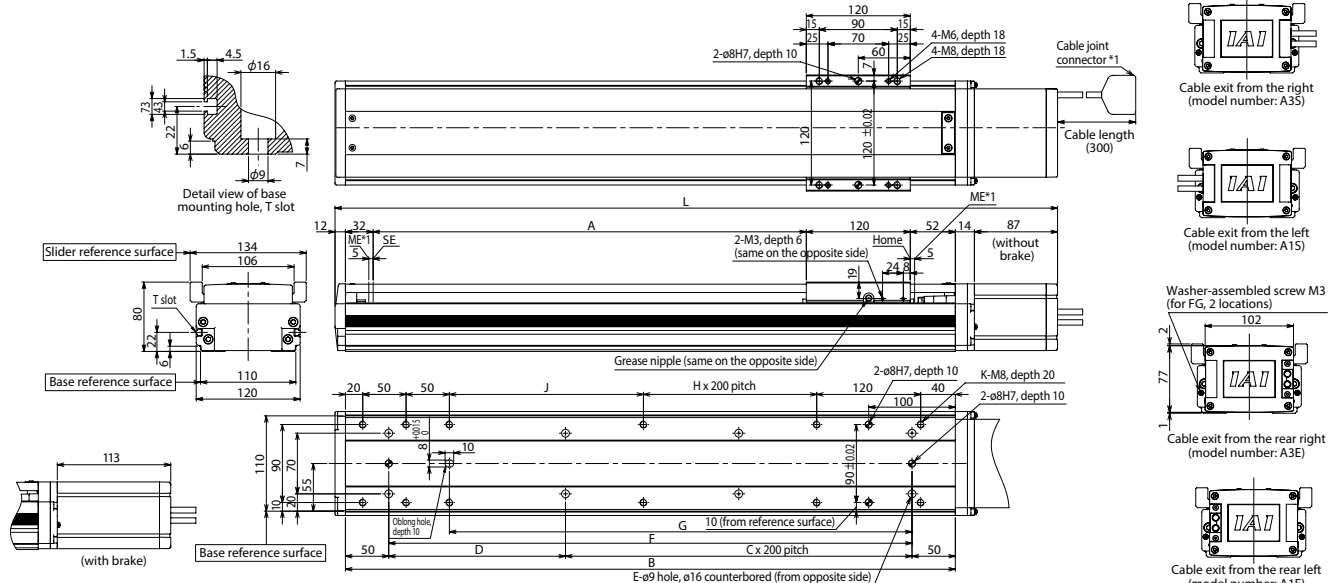
- (Note 1) The value of payload is when operating at an acceleration of 0.4G. (0.2G FOR 5mm lead) When the acceleration is increased, the payload will be reduced. Please contact IAI for more information.
- (Note 2, 3, 4) The values in [] apply only to the ISPD/BCR series. Other specifications apply to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

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

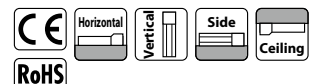
Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	
L	without brake	417	467	517	567	617	667	717	767	817	867	917	967	1017	1067	1117	1167	1217	1267	1317	1367	1417
	with brake	443	493	543	593	643	693	743	793	843	893	943	993	1043	1093	1143	1193	1243	1293	1343	1393	1443
A	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	
B	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204	1254	1304	
C	0	0	1	1	1	1	1	2	2	2	2	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	●	●	-	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.)	
M5CON-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.

ISB-MXM-200

ISPB-MXM-200

±10µm
Standard

Battery-less absolute

Medium X-axis

Standard 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
100: 100mm
110: 110mm
(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)	Horizontal Payload (kg)	Vertical Payload (kg)	Rated thrust (N)	Stroke (mm)
ISB[ISPB]-MXM-WA-200-30-①-T2-②-③	200	30	30	6	113.9	100~1100 (Every 50mm)
ISB[ISPB]-MXM-WA-200-20-①-T2-②-③		20	45	10	170.9	
ISB[ISPB]-MXM-WA-200-10-①-T2-②-③		10	90	20	341.8	
ISB[ISPB]-MXM-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 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

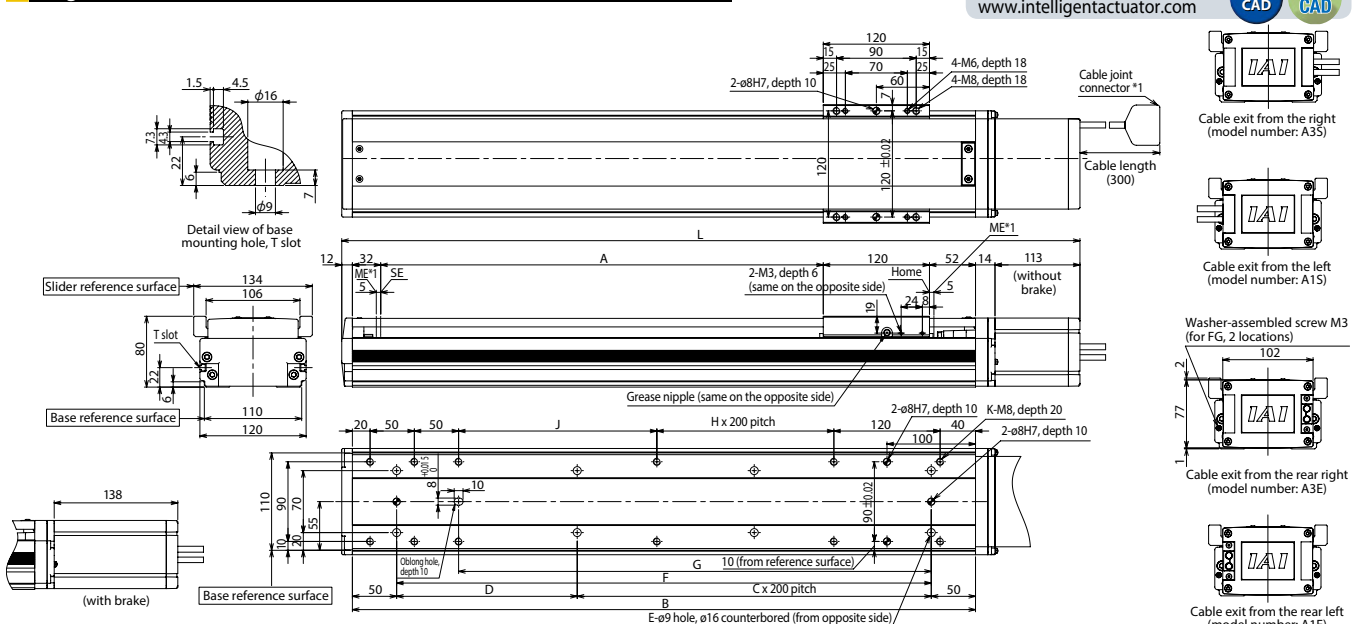
* ISPB can not select RT.

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

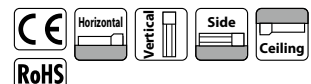
L	Stroke	Stroke (mm)																			
		100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
without brake	443	493	543	593	643	693	743	793	843	893	943	993	1043	1093	1143	1193	1243	1293	1343	1393	1443
	468	518	568	618	668	718	768	818	868	918	968	1018	1068	1118	1168	1218	1268	1318	1368	1418	1468
with brake	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204	1254	1304
A	0	0	1	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5
B	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204
C	4	4	6	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14
D	204	254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204
E	134	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034	1084	1134
F	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4
G	24	74	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224
H	10	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18
J	6.4	7.1	7.7	8.4	9.0	9.6	10.2	10.9	11.5	12.2	12.8	13.4	14.0	14.7	15.3	16.0	16.6	17.3	17.9	18.5	19.1
Maximum speed (mm/s)	Lead 30	1800																			
	Lead 20	1200																			
	Lead 10	600																			
	Lead 5	300																			
Maximum speed (mm/s)	Lead 30	1290																			
	Lead 20	860																			
	Lead 10	430																			
	Lead 5	215																			

- *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.

ISB-MXM-400

±10µm Standard
Battery-less absolute
Medium X-axis
Standard Slider type
Actuator width 120mm
400W



Model Specification Items	ISB	MXM	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	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)	Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)	
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.

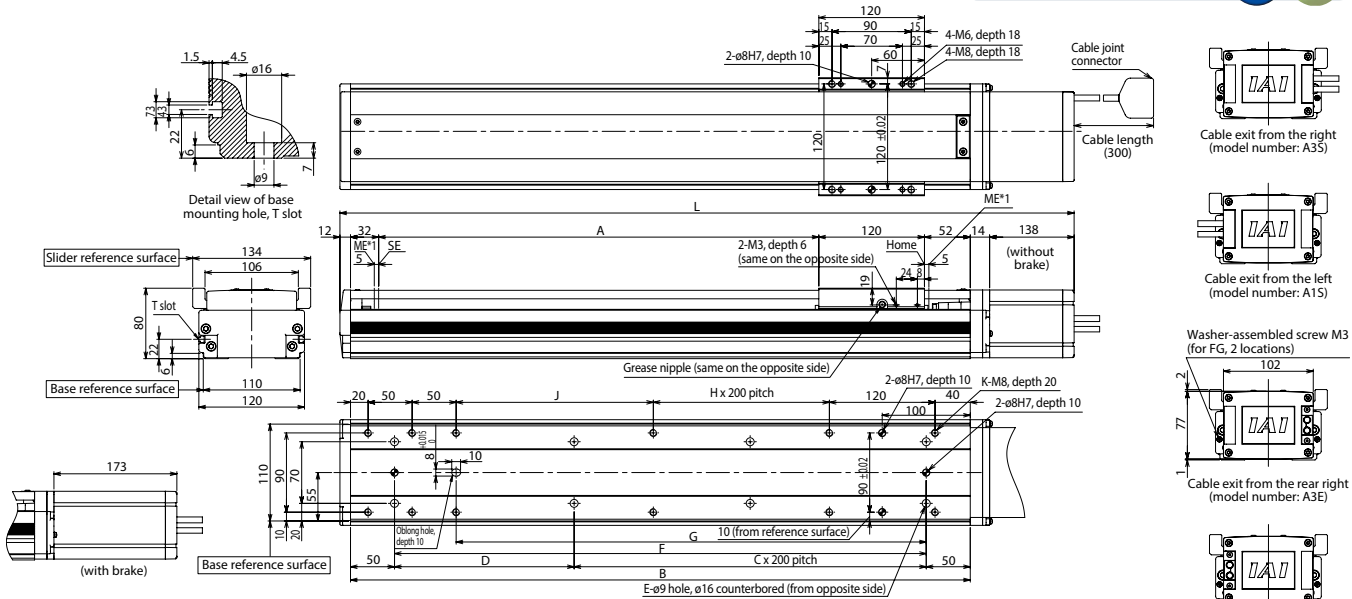
Option					
Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Home limit switch on the opposite side	LL	→P10
Cable exit from the rear left	A1E	→P10	Master axis specification	LM	→P11
Cable exit from the right	A3S	→P10	Master axis specification (sensor 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 (**)(**)	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.
 ** 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



- *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.

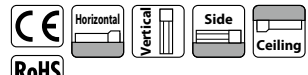
Dimensions and Mass by Stroke

Stroke	L																										
	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300		
without brake	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	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	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	1	1	1	1	1	2	2	2	2	3	3	3	3	4	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	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18	18	20	20	20		
Mass (kg)	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	15.9	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	12.7	13.3	13.9	14.6	15.2	15.8	16.5	17.1	17.7	18.4	19	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	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
		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	-	-	●			
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.



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

ISB-MXL-100

ISPB-MXL-100

±10µm
Standard

Battery-less absolute

Medium X-axis

Long Slider type

Actuator width 120mm

100w

High Precision Specification

±3µm
High precision

Model Specification Items

Series	MXL	Type	WA	Encoder type	100	Motor type	100W	Lead	30: 30mm 20: 20mm 10: 10mm 5: 5mm	Stroke	120: 120mm 1070: 1070mm (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.
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- 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 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	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

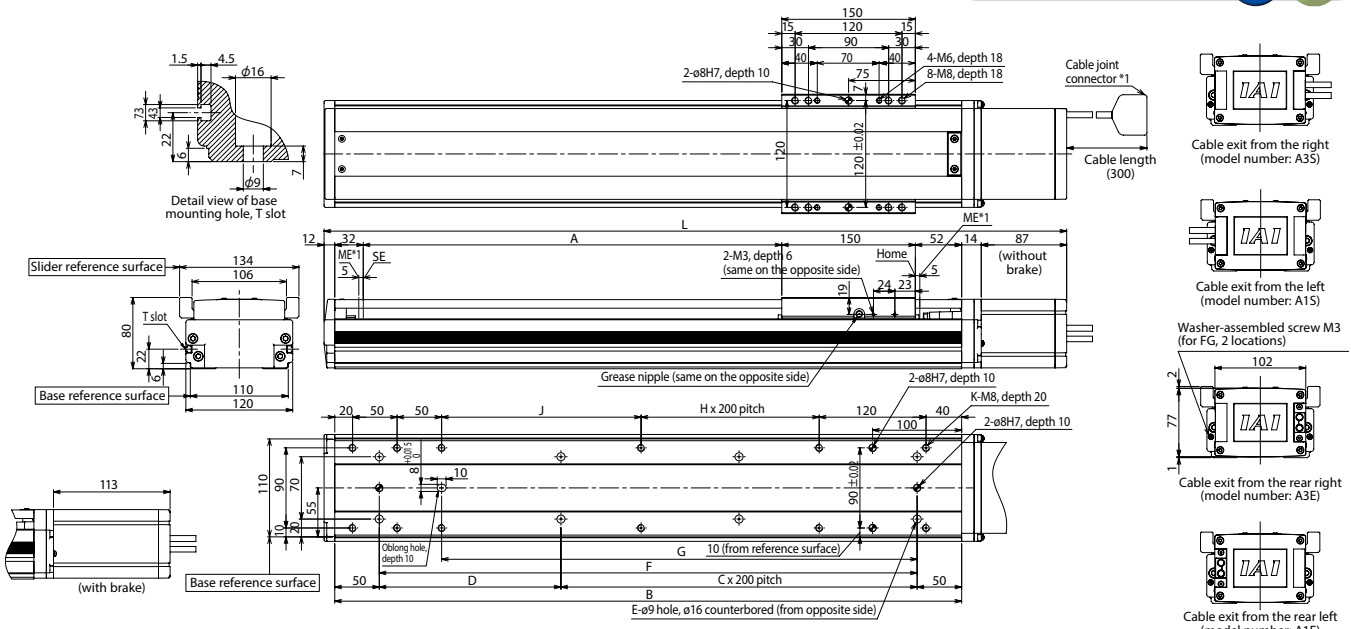
Positioning repeatability (Note 2)	±0.01mm [±0.003mm]
Drive method (Note 3)	Ball screw φ16mm, rolled C10 [equivalent to rolled C5]
Lost motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (**)(**)	Ma: 123N·m Mb: 176N·m Mc: 227N·m
Overhang load length(**)	Ma direction: 750mm max. Mb, Mc 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



Diagram



Dimensions and Mass by Stroke

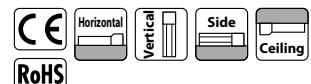
Stroke	Lead																			
	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070
L (without brake)	467	517	567	617	667	717	767	817	867	917	967	1017	1067	1117	1167	1217	1267	1317	1367	1417
	493	543	593	643	693	743	793	843	893	943	993	1043	1093	1143	1193	1243	1293	1343	1393	1443
A	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070
B	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204	1254	1304
C	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5
D	254	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	8	10	10	10	10	12	12	12	12	14	14
F	254	304	354	404	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204
G	184	234	284	334	384	434	484	534	584	634	684	734	784	834	884	934	984	1034	1084	1134
H	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4
J	74	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224
K	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18
Mass (kg)	6.3	6.9	7.5	8.2	8.8	9.5	10.1	10.7	11.3	12.0	12.6	13.3	13.9	14.5	15.1	15.8	16.4	17.1	17.7	18.4
Maximum speed (mm/s)	Lead 30	1800																		
	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-CL/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.

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	MXL — WA	200	T2	30: 30mm 20: 20mm 10: 10mm 5: 5mm	120: 120mm 1070: 1070mm (Every 50mm)	T2: SCON M: SCON S: SEL 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

(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. (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

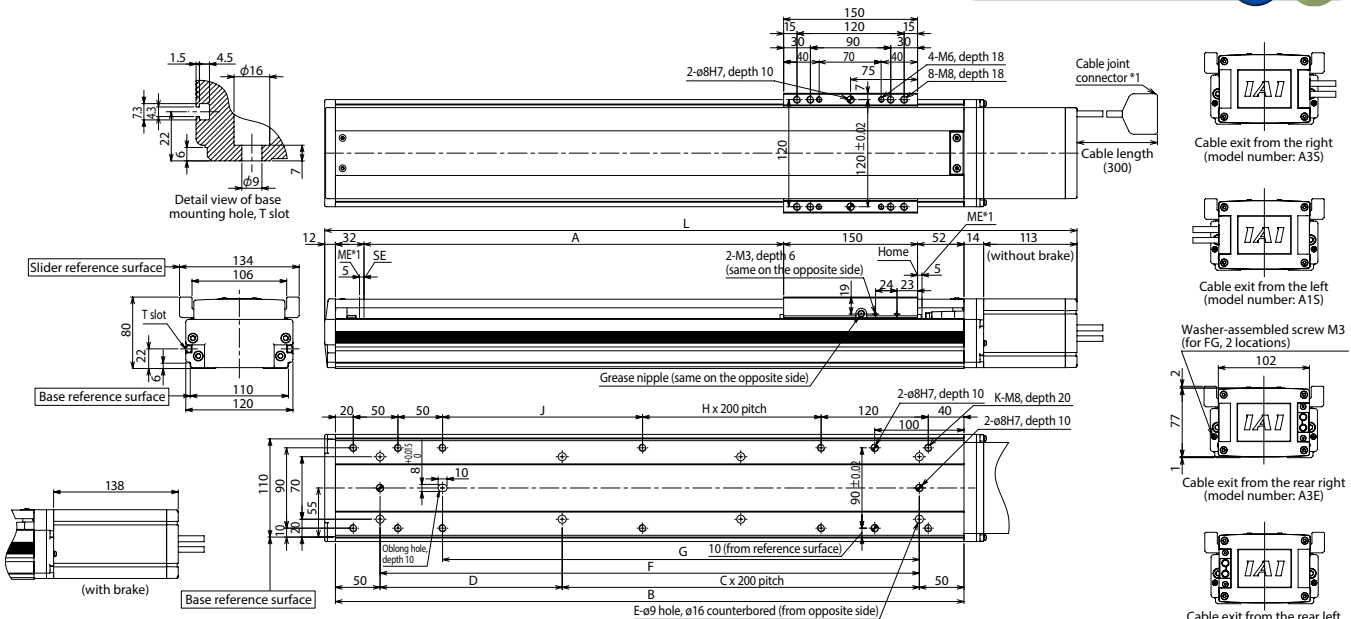
Positioning repeatability (Note 2)	±0.01mm [±0.003mm]
Drive method (Note 3)	Ball screw φ16mm, rolled C10 [equivalent to rolled C5]
Lost motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (**)(**)	Ma: 123N·m Mb: 176N·m Mc: 227N·m
Overhang load length(**)	Ma direction: 750mm max. Mb, Mc 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



Diagram



Dimensions and Mass by Stroke

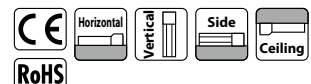
Stroke	Lead (mm)																			
	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070
L without brake	493	543	593	643	693	743	793	843	893	943	993	1043	1093	1143	1193	1243	1293	1343	1393	1443
	518	568	618	668	718	768	818	868	918	968	1018	1068	1118	1168	1218	1268	1318	1368	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	2	2	2	2	3	3	3	4	4	4	4	5	5	5	5
D	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204	254	104	154	204
E	4	6	6	6	6	8	8	8	8	10	10	10	10	10	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	3	3	3	3	4	4	4	4
J	74	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224	274	124	174	224
K	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18
Mass (kg)	6.7	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.)	
M: SCON-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)	
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/side/ceiling mountings depending on the model. Please contact IAI for more information.

ISB-MXL-400

±10μm Standard
Battery-less absolute
Medium X-axis
Long Slider type
Actuator width 120mm
400w



Model Specification Items	ISB	MXL	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	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)	Rated thrust (N)	Stroke (mm)
ISB-MXL-WA-400-48-①-T2-②-③	400	48	Horizontal (kg) Vertical (kg)	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.

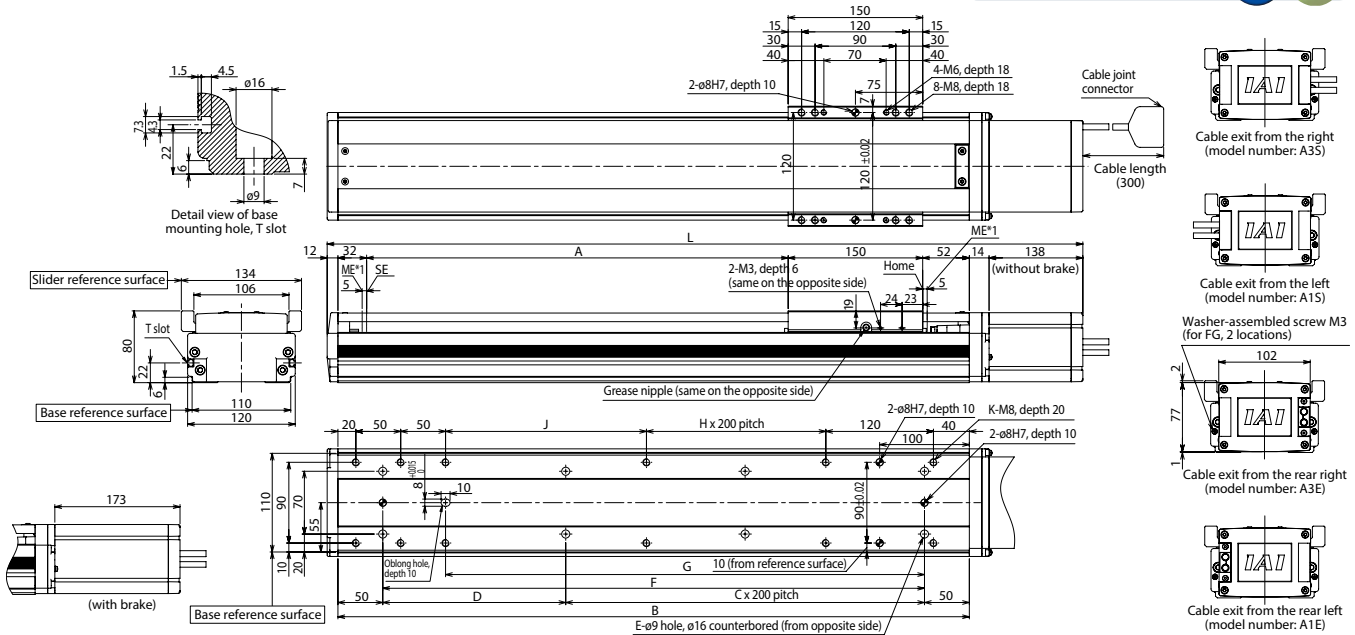
Option					
Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Home limit switch on the opposite side	LL	→P10
Cable exit from the rear left	A1E	→P10	Master axis specification	LM	→P11
Cable exit from the right	A3S	→P10	Master axis specification (sensor 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 (*)(**)	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.

Diagram

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



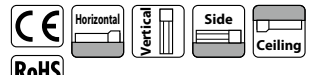
- *1 When the slider is returning to its home position, Please be careful of interference from surrounding objects, as it will travel until it reaches the ME.
ME: Mechanical End SE: Stroke End
- * Please return the actuator to us if a home direction change is necessary after purchase.
- * The allowable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

Dimensions and Mass by Stroke

Stroke	L																								
	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170	1220	1270	
without brake	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	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)	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	
	8.5	9.2	9.8	10.4	11.1	11.7	12.3	13	13.6	14.2	14.9	15.5	16.1	16.8	17.4	18	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	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
		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	-	-	●			
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)	



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

ISB-MXXM-200

ISPB-MXXM-200

±10µm
Standard

Battery-less absolute

Medium X-axis

Mid-Support 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	MXXM — WA	200	200V	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)	Horizontal Payload (kg)	Vertical Payload (kg)	Rated thrust (N)	Stroke (mm)
ISB[ISPB]-MXXM-WA-200-30-□-T2-□-□	200	30	30	—	113.9	800~2000
ISB[ISPB]-MXXM-WA-200-20-□-T2-□-□		20	45	—	170.9	(Every 50mm)

Legend: ① Stroke ② Cable length ③ Options

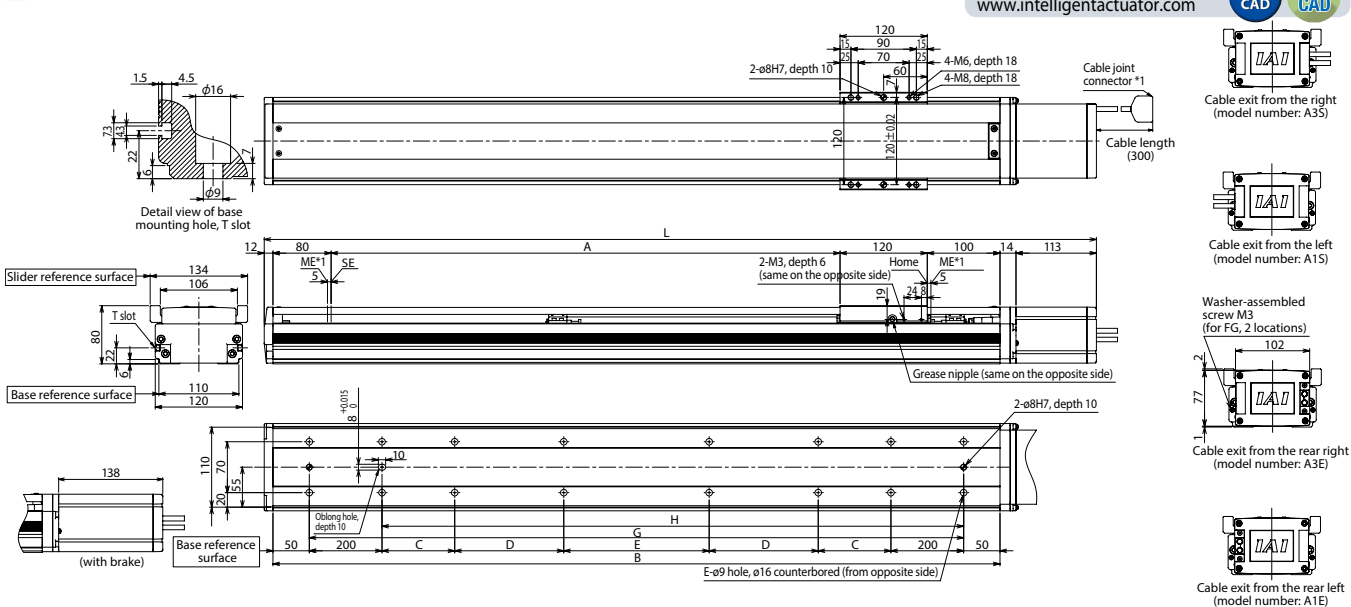
- (Note 1) The value of payload is when operating at an acceleration of 0.4G. Please contact IAI for more information.
- (Note 2, 3, 4) The values in [] apply only to the ISPDBCR series. Other specifications apply to both the ISDBCR and ISPDBCR.
- (Note 5) The value of dynamic straightness is when the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



- *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 37.5mm from the slider work mounting position.

Dimensions and Mass by Stroke

Stroke	L																								
	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
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
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	400	425	450	475	500
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																							
	Lead 20	1200																							

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-CL/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)	
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.



ISB-MXXM-400

±10µm Standard
Battery-less absolute
Medium X-axis
Mid-Support type
Actuator width 120mm
400W



Model Specification Items	ISB	MXXM	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)		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
ISB-MXXM-WA-400-48-①-T2-②-③	400	48	20	—	141.3	800~2000 (Every 50mm)

Legend: ① Stroke ② Cable length ③ Options

CAUTION (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.

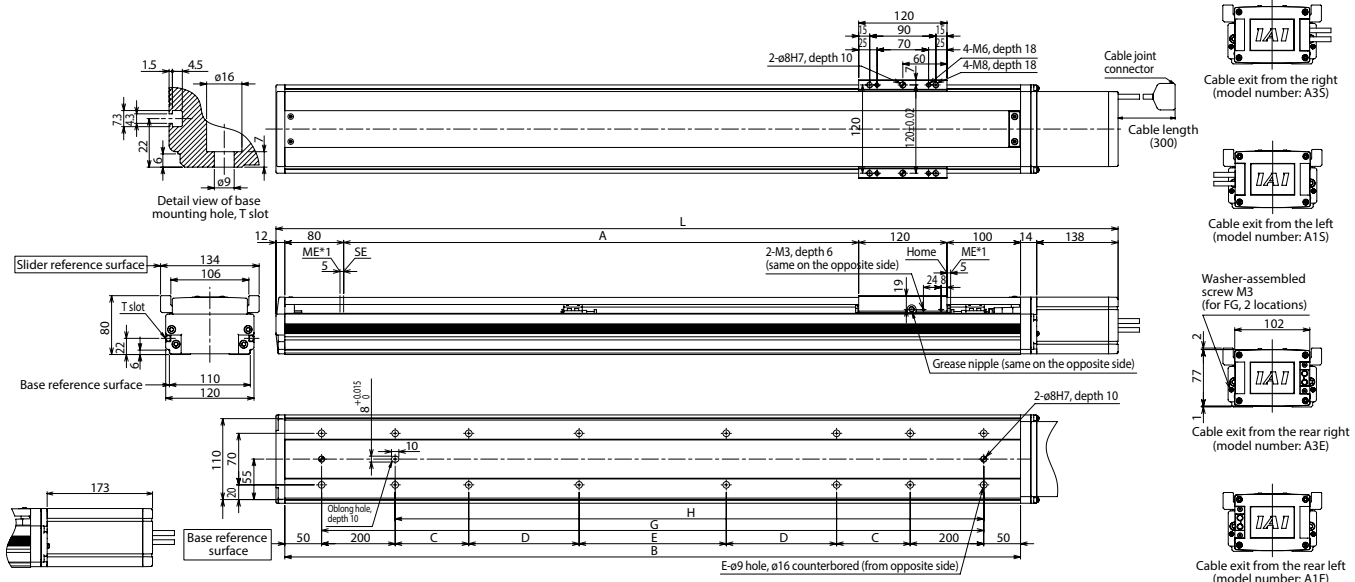
Option					
Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Home limit switch on the opposite side	LL	→P10
Cable exit from the rear left	A1E	→P10	Master axis specification	LM	→P11
Cable exit from the right	A3S	→P10	Master axis specification (sensor 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

L	Stroke	Stroke (mm)																								
		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
	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	27.3	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	-	-	●			
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.

ISB-LXM-200

ISPB-LXM-200

±10µm
Standard

Battery-less absolute

Large X-axis

Standard Slider type

Actuator width 150mm

200W

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
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)	Horizontal Payload (kg)	Vertical Payload (kg)	Rated thrust (N)	Stroke (mm)
ISB[ISPB]-LXM-WA-200-40-①-T2-②-③	200	40	15	4	85.5	100~1300 (Every 50mm)
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

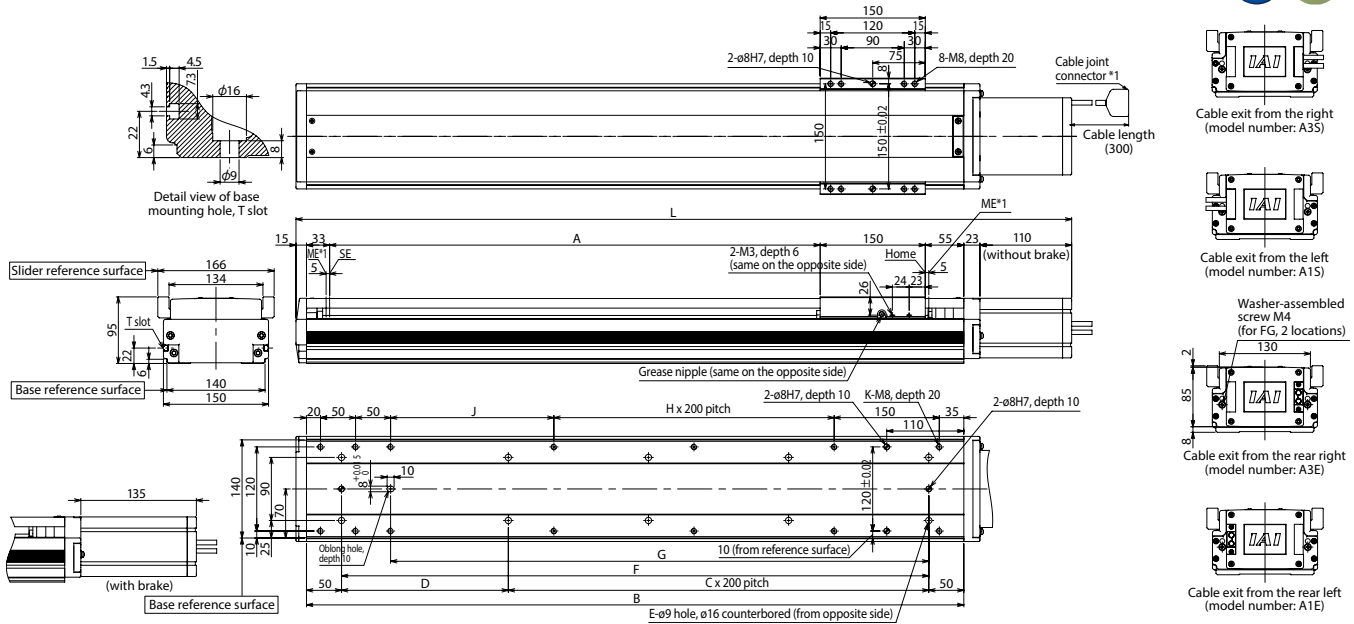
* ISPB can not select RT.

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



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	486	536	586	636	686	736	786	836	886	936	986	1036	1086	1136	1186	1236	1286	1336	1386	1436	1486	1536	1586	1636
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	18	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	1530	1290	1100	880	920	765	645	550	440	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 reaches the ME.
ME: Mechanical End
SE: Stroke End

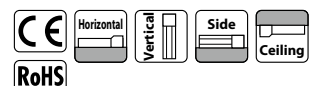
* Please return the actuator to us if a home direction change is necessary after purchase.

* 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	●	●	-	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	●	-	●		55,000 (depend on type)	
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/side/ceiling mountings depending on the model. Please contact IAI for more information.

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	LXM	WA	400	T2	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)	Horizontal Payload (kg)	Vertical Payload (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

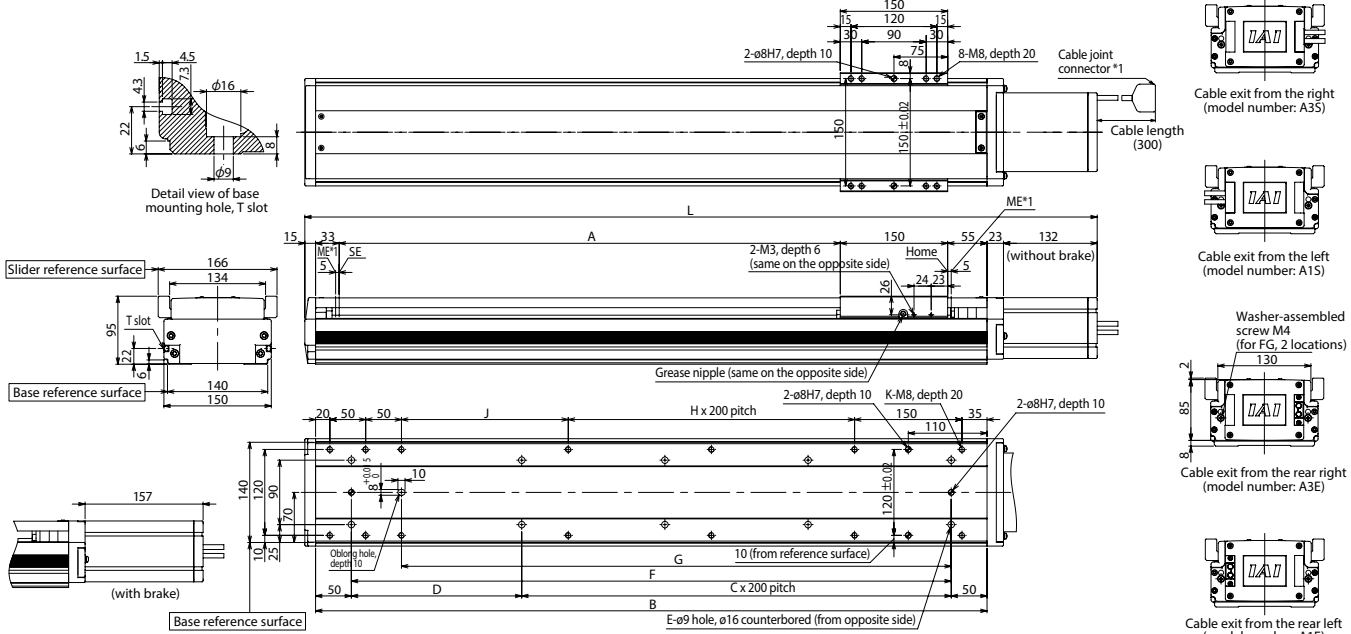
Positioning repeatability (Note 2)	±0.01mm [±0.003mm]
Drive method (Note 3)	Ball screw φ20mm, rolled C10 [equivalent to rolled C5]
Lost motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (**)(**)	Ma: 123N·m Mb: 176N·m Mc: 291N·m
Overhang load length(**)	Ma direction: 750mm max. Mb, Mc 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

2D CAD 3D CAD



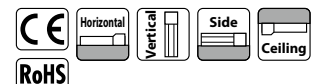
Dimensions and Mass by Stroke

L	Stroke	Stroke (mm)																									
		100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	
without brake	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		
	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		
with brake	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	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
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	238		
E	4	4	6	6	6	6	6	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16		
F	238	288	338	388	438	488	538	588	638	688	738	788	838	888	938	988	1038	1088	1138	1188	1238	1288	1338	1388	1438		
G	168	218	268	318	368	418	468	518	568	618	668	718	768	818	868	918	968	1018	1068	1118	1168	1218	1268	1318	1368		
H	0	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5		
J	33	83	133	183	233	283	333	383	433	483	533	583	633	683	733	783	833	883	933	983	1033	1083	1133	1183	1233		
K	10	10	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	18	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																									
	Lead 20	1200																									
	Lead 10	600																									
Reference page	512	512 (768 for network spec.)																									
	512	512 (768 for network spec.)																									
	20000	20000																									
Reference page	55,000	55,000 (depend on type)																									
	55,000	55,000 (depend on type)																									

- *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.

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	-	-	●			
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)	



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

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

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	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options*
ISB: Standard specification ISPB: High precision specification	LXL	WA	200	T2	40: 40mm 20: 20mm 10: 10mm	120: 120mm 1270: 1270mm (Every 50mm)	T2: SCON M5CON 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)	Horizontal Payload (kg)	Vertical Payload (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 ISPDBCR 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	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			

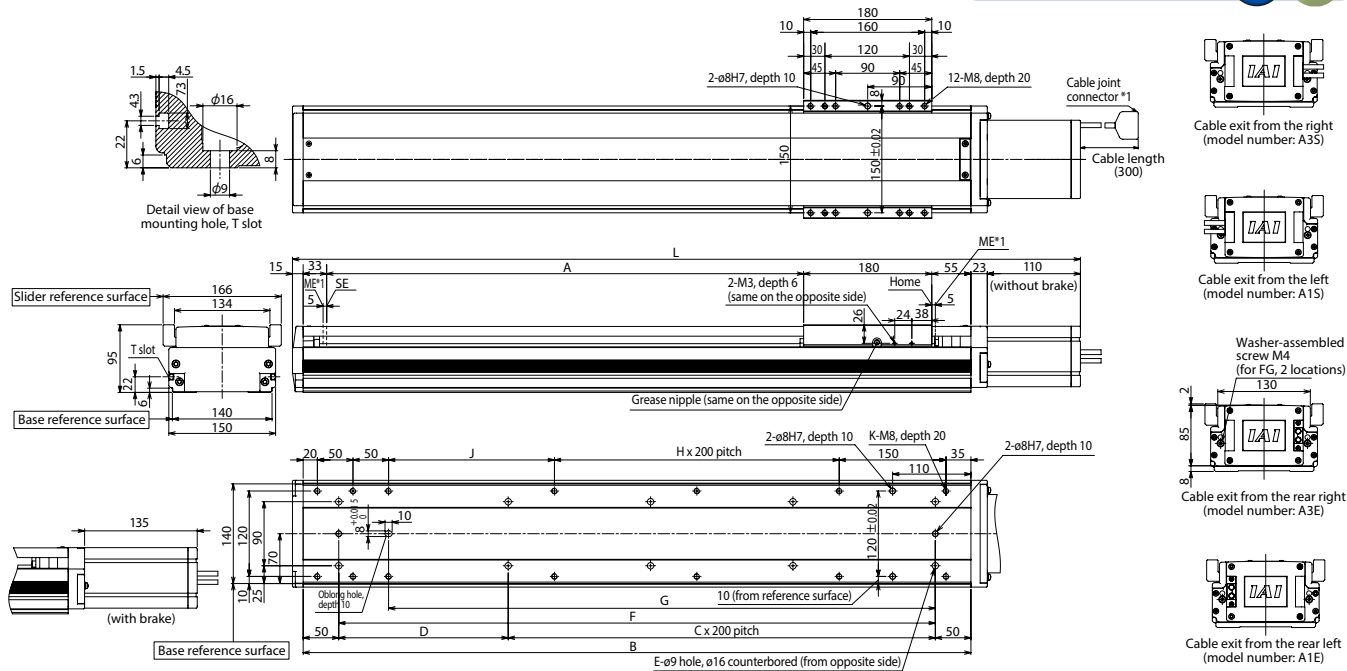
Actuator Specifications

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 alumine 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

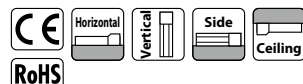
L	Stroke	120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170	1220	1270
	without brake	536	586	636	686	736	786	836	886	936	986	1036	1086	1136	1186	1236	1286	1336	1386	1436	1486	1536	1586	1636	1686
with brake	561	611	661	711	761	811	861	911	961	1011	1061	1111	1161	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																							
	Lead 20	1200																							
	Lead 10	600																							

- *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 working 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.)	
M5CON-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)	
					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/side/ceiling mountings depending on the model. Please contact IAI for more information.

ISB-LXL-400

ISPB-LXL-400

±10μm
Standard

Battery-less absolute

Large X-axis

Long Slider type

Actuator width 150mm

400W

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	LXL	WA	400	T2	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)	Rated thrust (N)	Stroke (mm)
ISB[ISPB]-LXL-WA-400-40-①-T2-②-③	400	40	Horizontal (kg) 40	10	120~1270 (Every 50mm)
ISB[ISPB]-LXL-WA-400-20-①-T2-②-③		20	90	20	
ISB[ISPB]-LXL-WA-400-10-①-T2-②-③		10	120	40	

• 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.

CAUTION (Note 2, 3, 4) The values in [] apply only to the ISPBDCR 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 620~1270)	ST	→P12
Creep sensor on the opposite side	CL	→P10	Double slider specification	W	→P11
Home limit switch	L	→P10			

Actuator Specifications

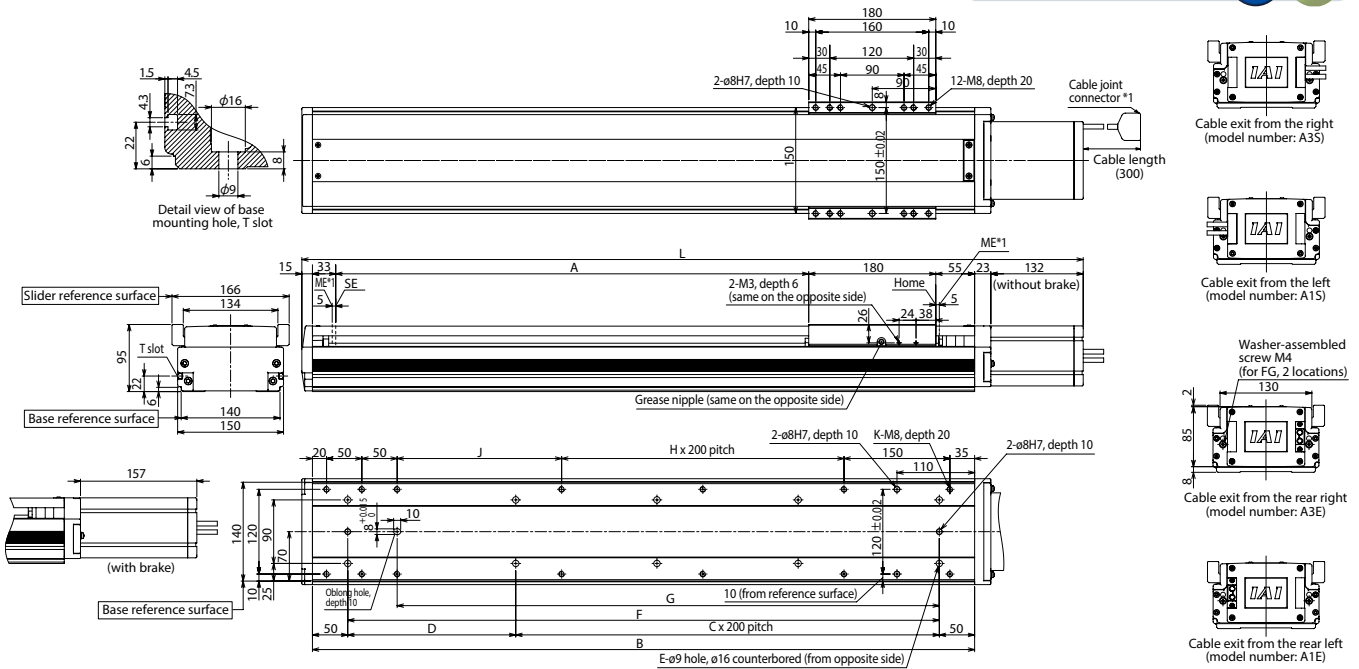
Positioning repeatability (Note 2)	±0.01mm [±0.003mm]
Drive method (Note 3)	Ball screw φ20mm, rolled C10 [equivalent to rolled C5]
Lost motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (**)(**)	Ma: 162N·m Mb: 231N·m Mc: 327N·m
Overhang load length(**)	Ma direction: 900mm max. Mb, Mc directions: 900mm max
Dynamic straightness (Note 5)	0.02mm/m max.
Base	Material: Aluminum, with white alumine 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

L	Stroke	Stroke (mm)																							
		120	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170	1220	1270
	without brake	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	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	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	14	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	2	3	3	3	3	4	4	4	4	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	14	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																						
		Lead 20	1200																						
		Lead 10	600																						
	Maximum speed (mm/s)	Lead 40	1840																						
		Lead 20	920																						
		Lead 10	460																						

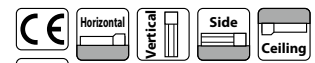
*1 When the slide is returning to its home position, please be careful of interference from surfacing objects, as it will travel until it races the ME.
ME: Mechanical End
SE: Stroke End

* 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.

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.) 512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG	1 axes	-	-	•			
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)	



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

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

ISB-LXM-200

ISPB-LXM-200

±10µm
Standard

Battery-less absolute

Large X-axis

Mid-Support type

Actuator width 150mm

200W

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	LXM	WA	200	20	20: 20mm 2500: 2500mm (Every 50mm)	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)	Rated thrust (N)	Stroke (mm)
Horizontal (kg)	Vertical (kg)				
ISB[ISPB]-LXM-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 ISPB series. Other specifications apply to both the ISB and ISPB.

(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.

Actuator Specifications

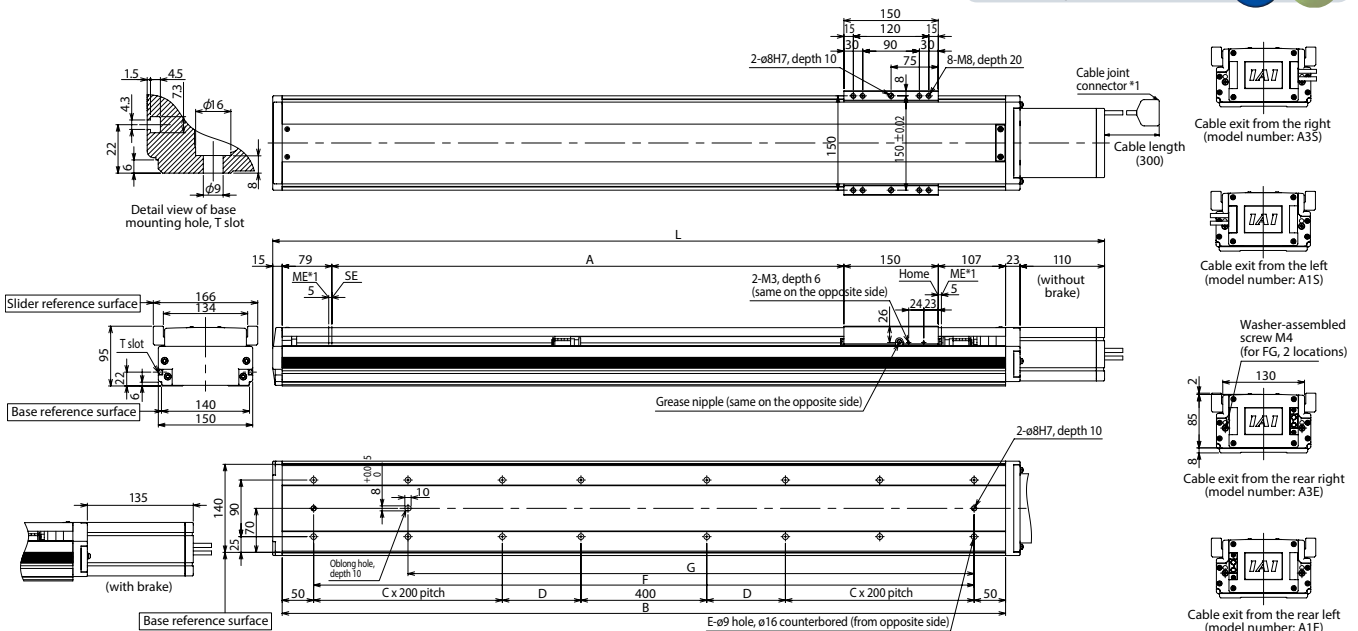
Positioning repeatability (Note 2)	±0.01mm [±0.003mm]
Drive method (Note 3)	Ball screw φ20mm, rolled C10 [equivalent to rolled C5]
Lost motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (*)	Ma: 123N·m Mb: 176N·m Mc: 291N·m
Overhang load length	Ma direction: 750mm max. Mb, Mc directions: 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.

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	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
L 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	2	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	
E	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			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-CL/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)	
					Single-phase AC200V / three-phase AC200V		



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

ISB-LXMX-400

ISPB-LXMX-400

±10µm
Standard

Battery-less absolute

Large X-axis

Mid-Support type

Actuator width 150mm

400w

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	LXMX — WA	400	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)	Horizontal Payload (kg)	Vertical Payload (kg)	Rated thrust (N)	Stroke (mm)
ISB[ISPB]-LXMX-WA-400-40-①-T2-②-③	400	40	40	—	169.6	1000~2500 (Every 50mm)
ISB[ISPB]-LXMX-WA-400-20-①-T2-②-③		20	90	—	339.1	

• Legend: ① Stroke ② Cable length ③ Options

CAUTION

(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 ISPB series. Other specifications apply to both the ISDBCR and ISPBBCR.

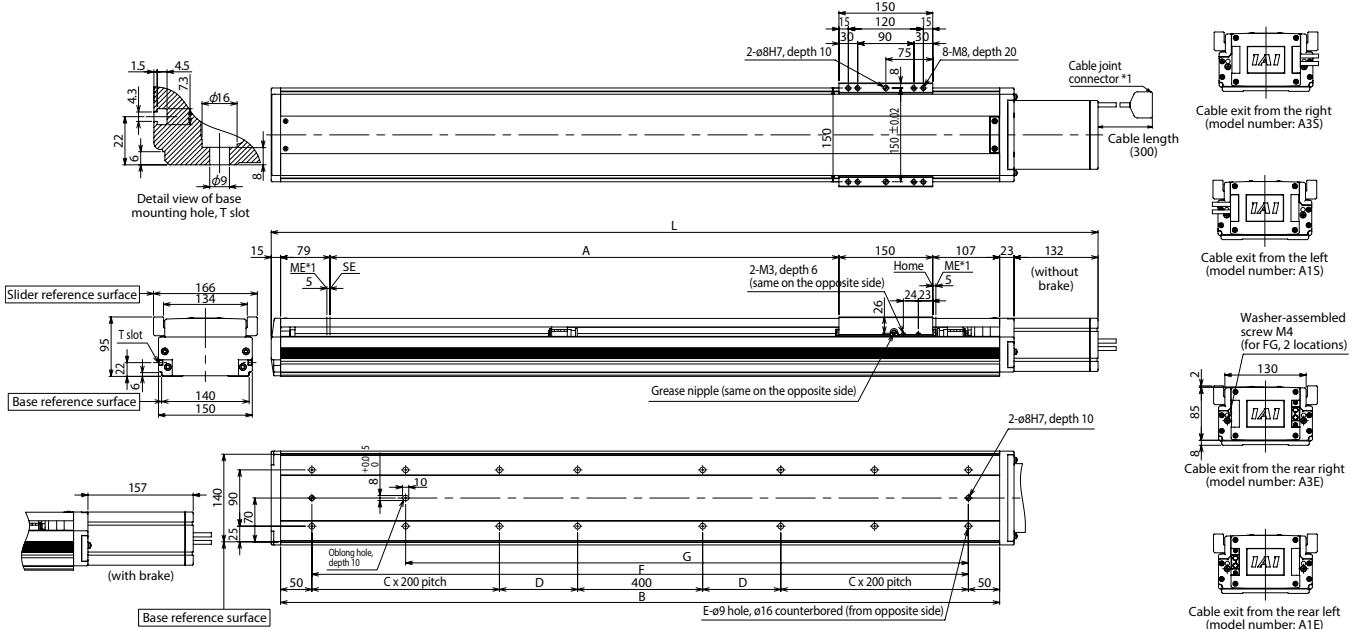
(Note 5) The value of dynamic straightness is when the high straightness, precision specification option is specified.

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	Dimensions (mm)																				Mass (kg)												
	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	1520	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	
	with 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	
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	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
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		
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	16	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)	Lead 40	27.7	28.6	29.5	30.4	31.3	32.1	33.0	33.9	34.8	35.6	36.5	37.4	38.3	39.2	40.0	40.9	41.8	42.7	43.5	44.4	45.3	46.2	47.0	47.9	48.8	49.7	50.6	51.4	52.3	53.2	54.1	
	Lead 20	2400								2300	2000			1900	1660	1480	1300	1180	1080					880				820			740		680
Maximum speed (mm/s)		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
		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-L/LCG	1 axes	-	-	●			
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.

ISB-LXUWX-200

ISPB-LXUWX-200

±10µm
Standard

Battery-less absolute

Large X-axis

Mid-Support type

Double Slider type

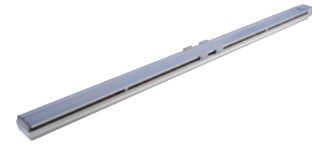
Actuator width 150mm

200w

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	LXUWX	WA	200	20	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)	Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)	
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 ISPB series. Other specifications apply to both the ISDBCR and ISPBBCR.

(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.

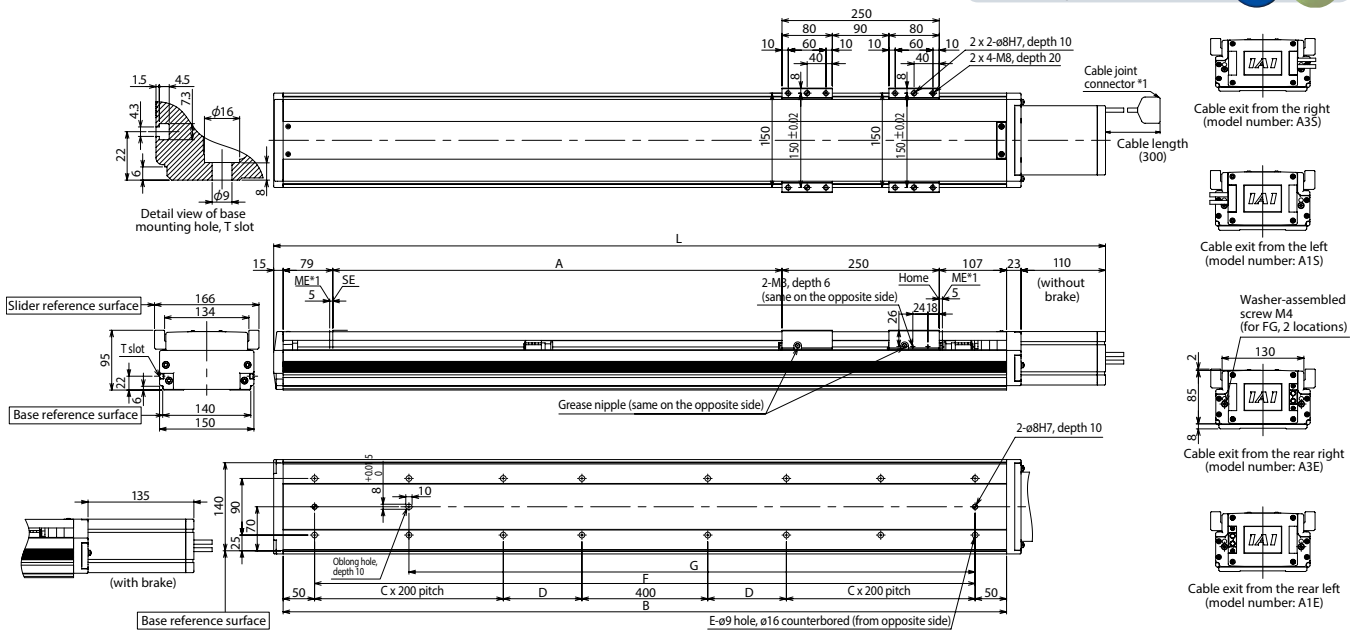
Actuator Specifications

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: 299N·m Mb: 427N·m Mc: 292N·m
Overhang load length	Ma direction: 1250mm max. Mb, Mc directions: 1250mm 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.

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	Lead																															
	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	2	2	2	2	2	2	2	2		
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	16	16	16	16	16	16	16	16		
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			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-CL/LCG	1 axes	-	-	●			
SCON-CAL/CGAL	1 axes	●	-	-			
MSCON-C	6 axes	This model is network-compatible only.					
SSEL-CS	2 axes	●	-	●			
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.



ISB-LXUWX-400

ISPB-LXUWX-400

±10µm
Standard

Battery-less absolute

Large X-axis

Mid-Support type

Double Slider type

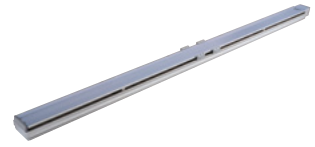
Actuator width 150mm

400w

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	LXUWX	WA	400	400V	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)	Horizontal Payload (kg)	Vertical Payload (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 ISPBCR series. Other specifications apply to both the ISDBCR and ISPBCR.

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

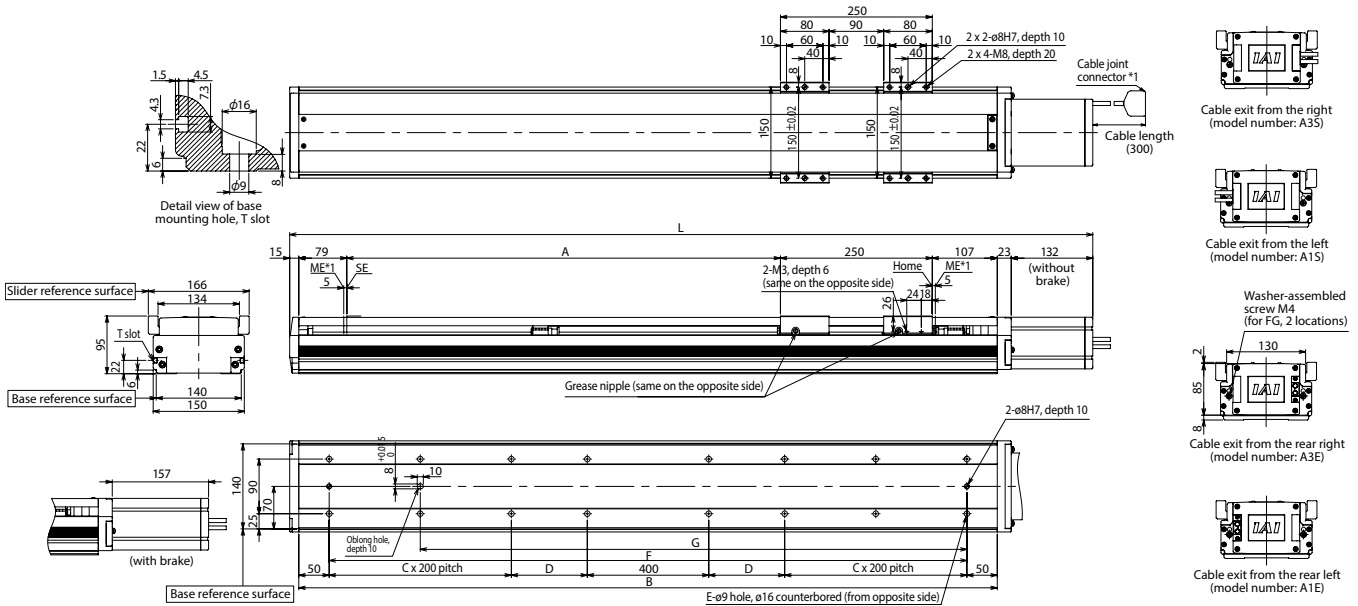
Option

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 surfacing 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	Dimensions (mm)																				Mass (kg)											
	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	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
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	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	
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)	Lead 40	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	57.1	
	Lead 20	—	—	2400	—	2300	2000	—	1900	1660	—	1480	1300	1180	1080	—	980	—	880	—	820	—	740	—	680	—	—	—	—	—	—	

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	-	-	●			
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.

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	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 M: 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)	Horizontal Payload (kg)	Vertical Payload (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			

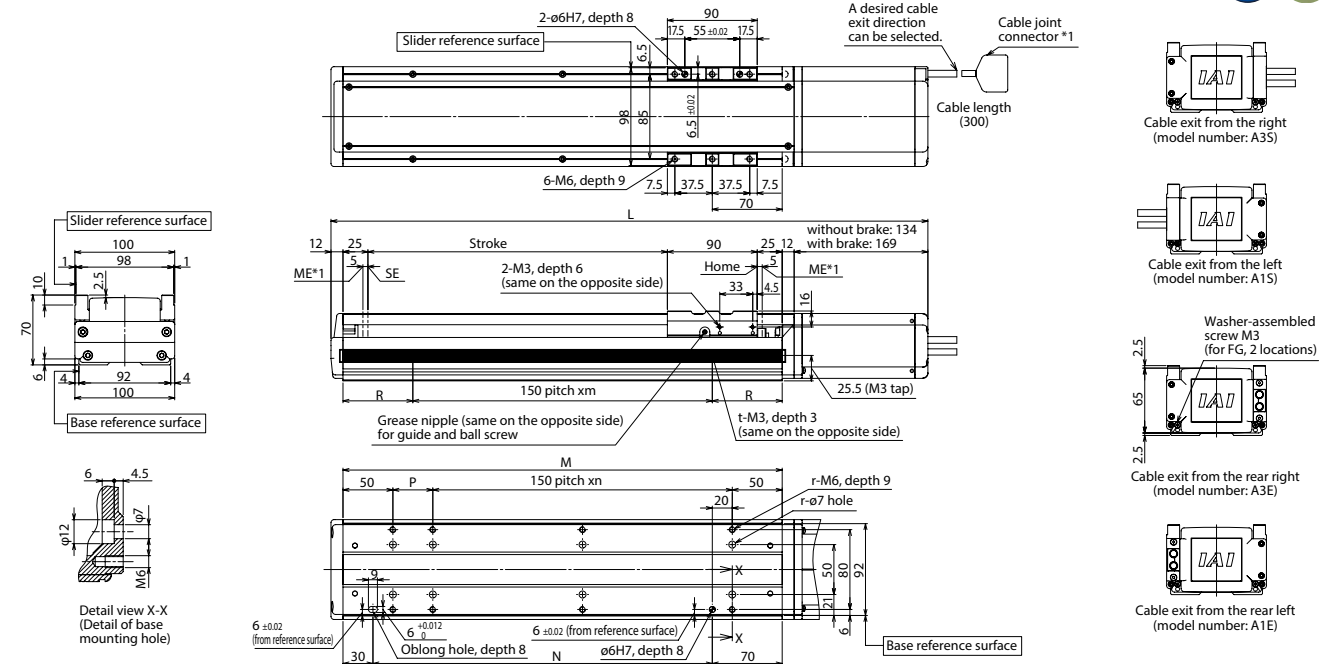
Actuator Specifications

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



Dimensions and Mass by Stroke

L	Stroke	Mass (kg)																				
		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	8	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																				
	Lead 20	1120																				
	Lead 10	600																				

*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

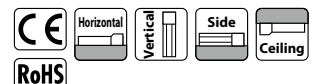
* Please return the actuator to its home direction change is necessary after purchase.

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

SSPA-MXM-400

High Precision Specification

±5µm High precision

Medium X-axis

High Rigidity

Actuator width 130 mm

400 w



Model Specification Items	SSPA	MXM		400				T2		
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options*	
	A: Absolute specification I: Incremental specification	400: 400W	40: 40mm 20: 20mm 10: 10mm	100: 100mm 200: 200mm 300: 300mm 400: 400mm (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)	Horizontal Payload (kg)	Vertical Payload (kg)	Rated thrust (N)	Stroke (mm)
SSPA-MXM-①-400-40-②-T2-③-④	400	40	45	6	169.6	100~1300 (Every 50mm)
SSPA-MXM-①-400-20-②-T2-③-④		20	90	12	339.1	
SSPA-MXM-①-400-10-②-T2-③-④		10	120	25	678.3	

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

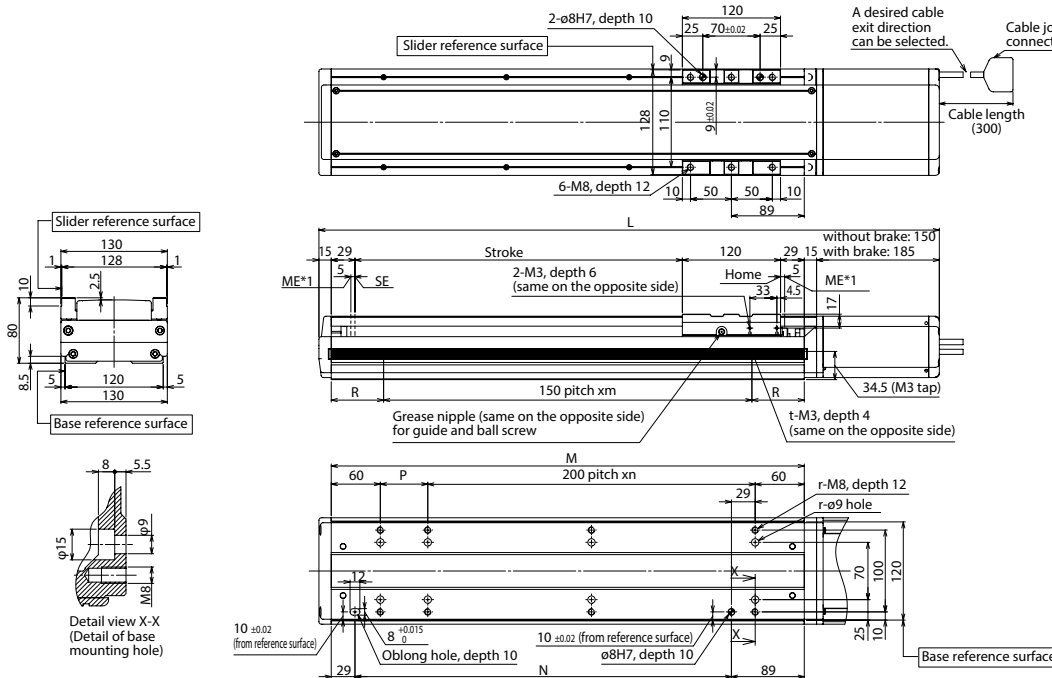
Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the rear left	A1E	→P10	Electrolytic black coating (stroke 100~300)	MD	→P11
Cable exit from the right	A3S	→P10	Electrolytic 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 950~1300)	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 650~1300)	ST	→P12
Master axis specification	LM	→P11			

Actuator Specifications

Positioning repeatability	±0.005mm
Drive method	Ball screw φ20mm, equivalent to rolled C5
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
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)

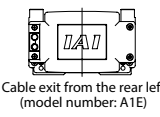
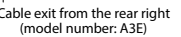
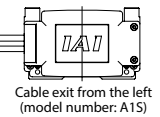
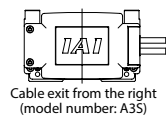
* Assumes a standard rated life of 10,000km. The operational life will vary depending on operation and installation conditions. Please refer to P16 for details on operational life.

Diagram



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

2D CAD 3D CAD



*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.

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

* The allowable moment offset reference position is 48.5mm from the slider work mounting position.

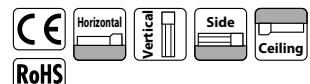
Dimensions and Mass by Stroke

Stroke	L																										
	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300		
without brake	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158	1208	1258	1308	1358	1408	1458	1508	1558	1608	1658		
with brake	493	543	593	643	693	743	793	843	893	943	993	1043	1093	1143	1193	1243	1293	1343	1393	1443	1493	1543	1593	1643	1693		
M	278	328	378	428	478	528	578	628	678	728	778	828	878	928	978	1028	1078	1128	1178	1228	1278	1328	1378	1428	1478		
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	158	208	258	308	358	408	458	508	558	608	658	708	758	808	858	908	958	1008	1058	1108	1158	1208	1258	1308	1358		
R	64	14	39	64	14	39	64	14	39	64	14	39	64	14	39	64	14	39	64	14	39	64	14	39	64		
m	1	2	2	2	3	3	3	4	4	4	4	5	5	5	6	6	7	7	7	8	8	8	9	9	9		
n	0	0	1	1	1	1	2	2	2	3	3	3	3	3	4	4	4	5	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	14	14	14	14	14	16	16	16		
t	2	3	3	3	4	4	4	4	5	5	5	6	6	6	7	7	8	8	8	9	9	9	10	10	10		
Mass (kg)	12.4	13.5	14.6	15.7	16.7	17.8	18.9	20.0	21.1	22.2	23.2	24.3	25.4	26.5	27.6	28.7	29.7	30.8	31.9	33.0	34.1	35.2	36.2	37.3	38.4		
Maximum speed (mm/s)	Lead 40	2400																									
	Lead 20	1200																									
	Lead 10	600																									

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	-	-	●			
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.



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

SSPA-LXM-750

High Precision Specification

±5µm High precision

Large X-axis

High Rigidity

Actuator width 155 mm

750 w



Model Specification Items	SSPA	LXM		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)		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
SSPA-LXM-①-750-50-②-T2-③-④	750	50	60	12	255	100~1500 (Every 50mm)
SSPA-LXM-①-750-25-②-T2-③-④			25	25		

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 950~1200)	MD	→P11
Brake	B	→P10	Electrolytic black coating (stroke 1250~1500)	MD	→P11
Creep sensor	C	→P10	Non-motor end specification	NM	→P11
Creep sensor on the opposite side	CL	→P10	Guide with ball retention mechanism	RT	→P11
Home limit switch	L	→P10	Slave axis specification	S	→P11
Home limit switch on the opposite side	LL	→P10	High straightness, precision specification (stroke 100~600)	ST	→P12
Master axis specification	LM	→P11	High straightness, precision specification (stroke 650~1300)	ST	→P12
			High straightness, precision specification (stroke 1350~1500)	ST	→P12

Actuator Specifications

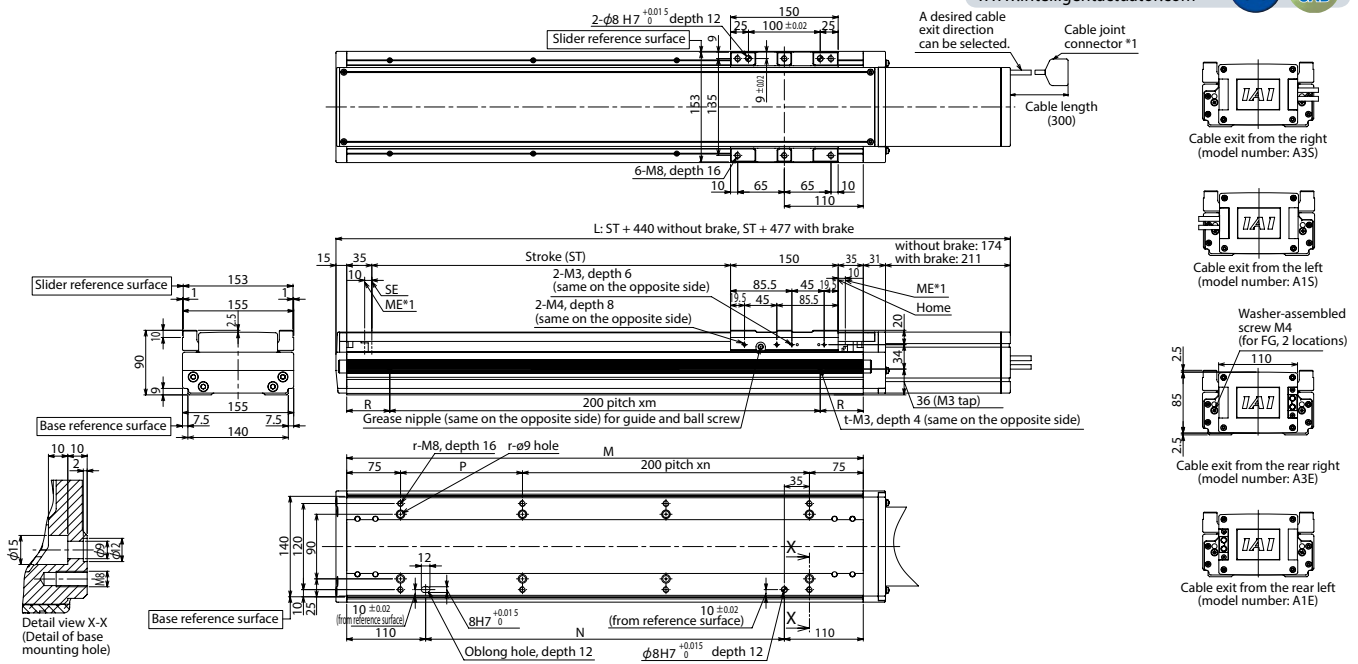
Positioning repeatability	±0.005mm
Drive method	Ball screw φ25mm, equivalent to rolled C5
Lost motion	0.02mm max.
Dynamic allowable load moment (*)	Ma: 162N·m Mb: 162N·m Mc: 391N·m
Overhang load length	Ma direction: 750mm max. Mb, Mc directions: 750mm max
Dynamic straightness (Note 2)	0.015mm/m max.
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



- *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 50.5mm from the slider work mounting position.

Dimensions and Mass by Stroke

Stroke	L																												
	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
without brake	540	590	640	690	740	790	840	890	940	990	1040	1090	1140	1190	1240	1290	1340	1390	1440	1490	1540	1590	1640	1690	1740	1790	1840	1890	1940
with brake	577	627	677	727	777	827	877	927	977	1027	1077	1127	1177	1227	1277	1327	1377	1427	1477	1527	1577	1627	1677	1727	1777	1827	1877	1927	1977
M	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170	1220	1270	1320	1370	1420	1470	1520	1570	1620	1670	1720
N	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
P	170	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170	1220	1270	1320	1370	1420	1470	1520	1570
R	60	85	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
m	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	8	8	8
n	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	4	5	5	5	5	6	6	6	6	7	7
r	4	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18
t	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	9	9	9
Mass (kg)	21.0	23.0	25.0	26.5	28.0	29.5	31.0	33.0	35.0	36.5	38.0	39.5	41.0	43.0	45.0	46.5	48.0	49.5	51.0	52.5	54.0	56.0	58.0	59.5	61.0	62.5	64.0	66.0	68.0
Maximum speed (mm/s)	2500																	2320	2320	1950	1950	1660	1660	1440	1440	1250	1250	1100	1100
	Lead 50	1250																	1160	1160	970	970	830	830	720	720	620	620	550
Lead 25	1250																	1160	1160	970	970	830	830	720	720	620	620	550	550

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	-	-	●	20000		
XSEL-P/Q/RA/SA	8 axes	-	-	●	Single-phase AC200V / three-phase AC200V	55,000 (depend on type)	

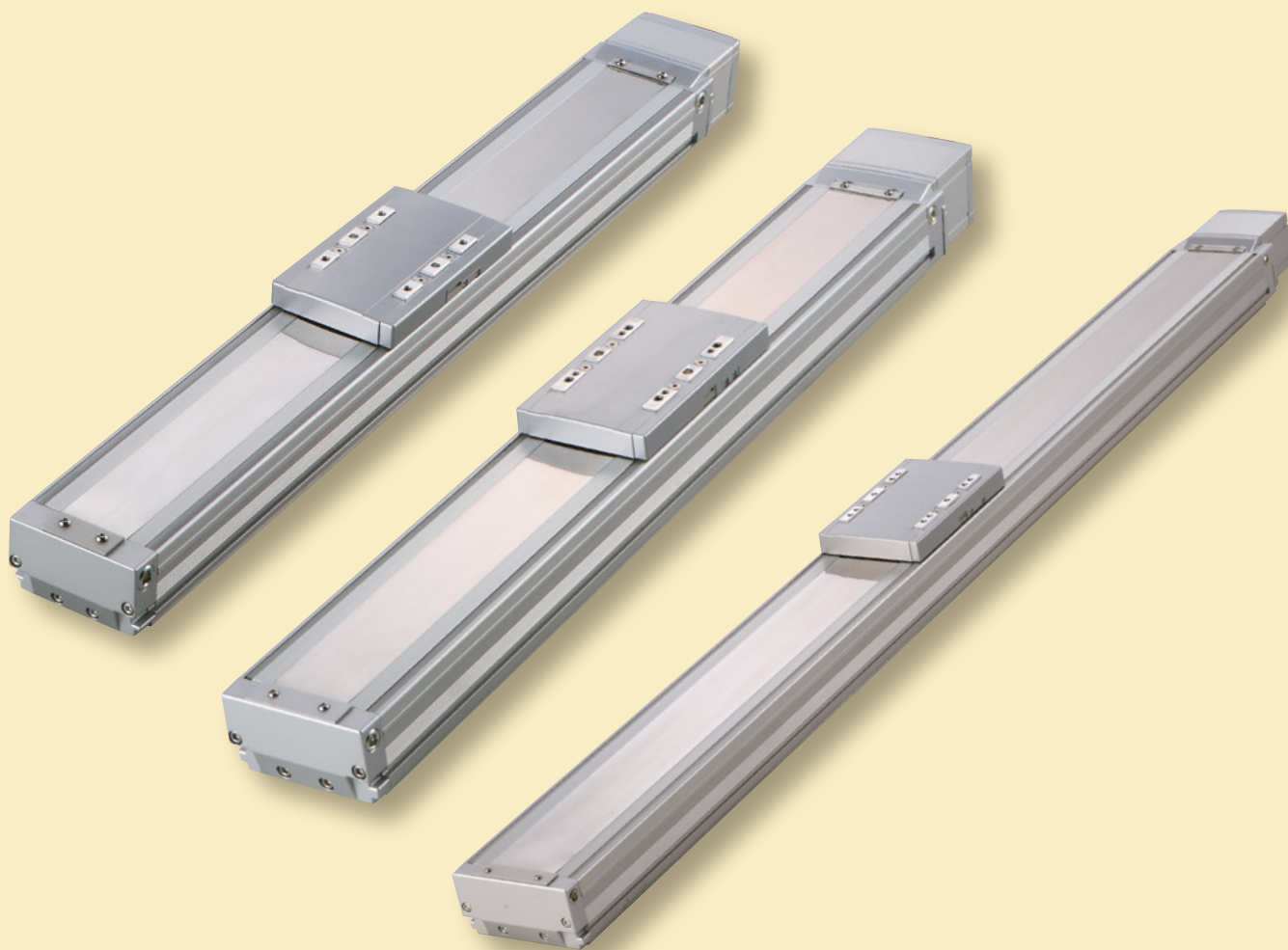
● The type of compatible networks will vary depending on controller. Please contact IAI for more information.



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

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	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options*
ISDB: Standard specification ISPDB: High precision specification	S	WA	60				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)	Horizontal Payload (kg)	Vertical Payload (kg)	Rated thrust (N)	Stroke (mm)
ISDB[ISPDB]-S-WA-60-16-①-T2-②-③	60	16	13	3	53.1	100~800 (Every 50mm)
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			

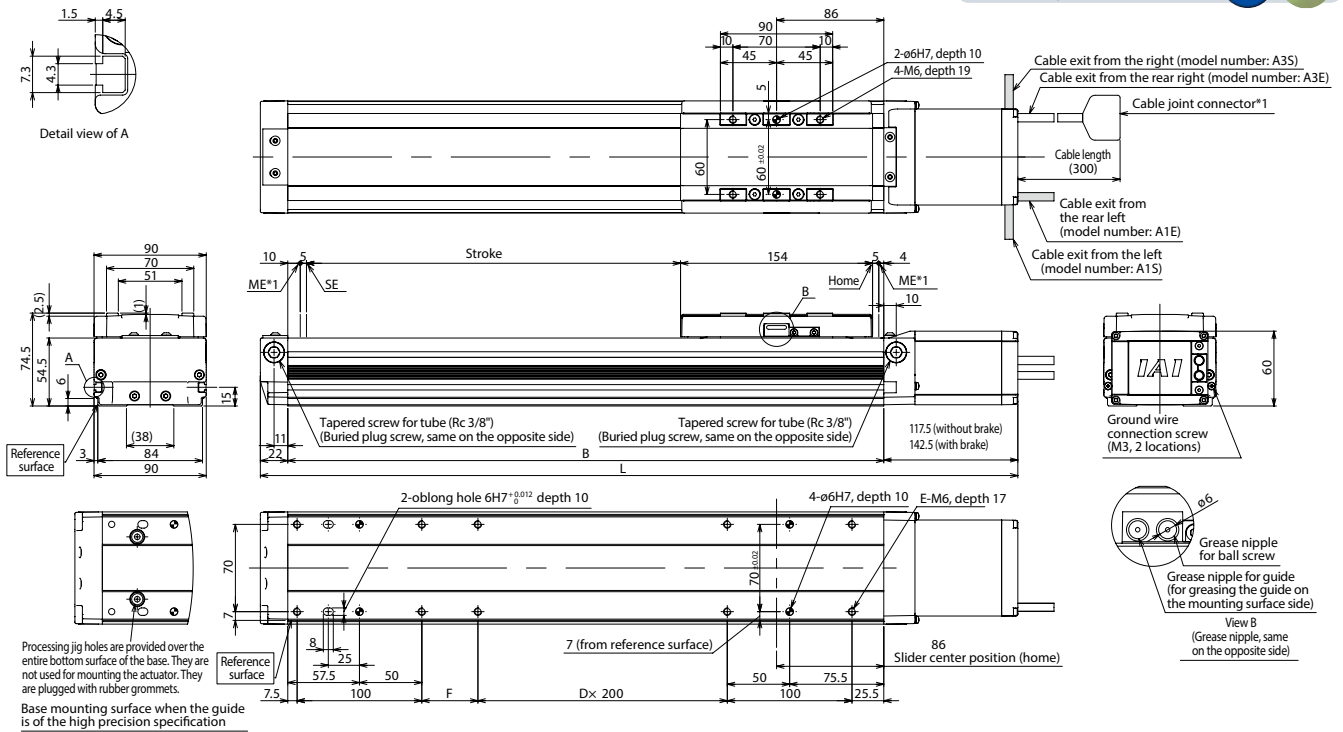
* ISPDB can not select RT.

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



Dimensions and Mass by Stroke

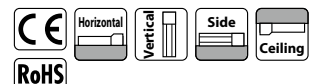
Stroke	100		150		200		250		300		350		400		450		500		550		600		650		700		750		800	
	L	without brake	with brake	without brake	with brake	without brake	with brake	without brake	with brake	without brake	with brake	without brake	with brake	without brake	with brake	without brake	with brake	without brake	with brake	without brake	with brake	without brake	with brake	without brake	with brake	without brake	with brake	without brake	with brake	
B	278	328	378	428	478	528	578	628	678	728	778	828	878	928	978	1028	1078	1128	1178	1228	1278	1328	1378	1428	1478	1528	1578	1628	1678	1728
D	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
E	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
F	45	95	145	195	245	295	345	395	445	495	545	595	645	695	745	795	845	895	945	995	1045	1095	1145	1195	1245	1295	1345	1395	1445	1495
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	9.5	9.9	10.3	10.7	11.1	11.5	11.9	12.3	12.7	13.1	13.5	13.9	14.3	14.7	15.1
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	●	●	-	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	●	-	●		55,000 (depend on type)	
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.

ISDB-S-100

±10μm Standard
Battery-less absolute
Simple Dust Proof
Small type
Actuator width 90mm
100w



Model Specification Items	ISDB	S	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 800: 800mm (Every 50mm)	T2: SCON M: SCON S: SEL X: SEL-P/Q X: SEL-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-S-WA-100-36-①-T2-②-③	100	36	Horizontal (kg) Vertical (kg)	47.2	100~800 (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.



- (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	→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			

Actuator Specifications

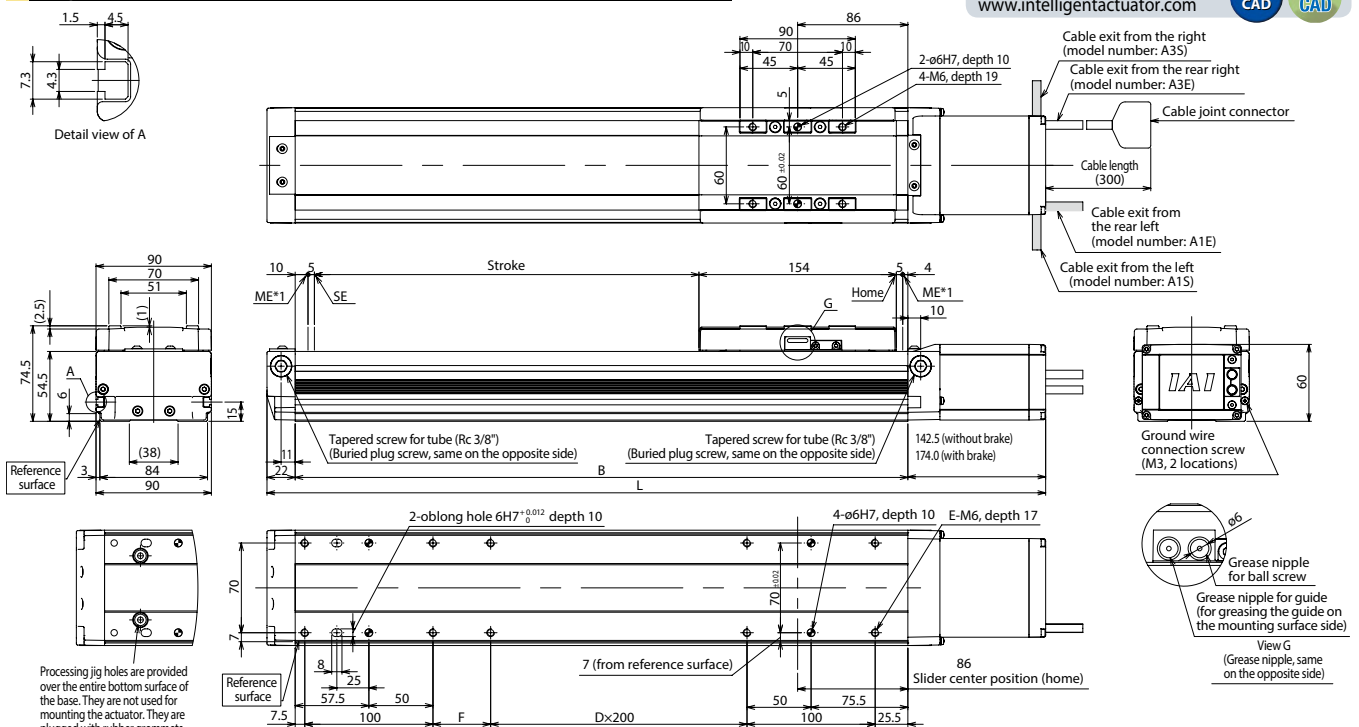
Positioning repeatability	±0.01mm
Drive method	Ball screw φ12mm, rolled C10
Lost motion	0.05mm max.
Dynamic allowable load moment (**)(**)	Ma: 32.9N·m Mb: 47.0N·m Mc: 76.8N·m
Overhang load length(**)	Ma direction: 450mm max. Mb, Mc directions: 450mm max
Dynamic straightness (Note 2)	0.02mm/m max.
Base	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.
 ** 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



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

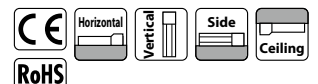
Stroke	Lead															
	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	
L	without brake	442.5	492.5	542.5	592.5	642.5	692.5	742.5	792.5	842.5	892.5	942.5	992.5	1042.5	1092.5	1142.5
	with brake	474	524	574	624	674	724	774	824	874	924	974	1024	1074	1124	1174
B	278	328	378	428	478	528	578	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	245	295	345	395	445	495	545	595	645	695	745	
Mass (kg)	without brake	4.3	4.6	5.0	5.4	5.7	6.1	6.4	6.8	7.2	7.5	7.9	8.2	8.6	9.0	9.3
	with brake	4.6	4.9	5.3	5.7	6.0	6.4	6.7	7.1	7.5	7.8	8.2	8.5	8.9	9.3	9.6
Maximum speed (mm/s)	Lead 36	1075	1370	1620	1830	1940	1980	2000	2000	2000	2000	1825	1590	1400	1240	1105

- *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 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	●	●	-	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.)	
M: SCON-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)	
					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/side/ceiling mountings depending on the model. Please contact IAI for more information.

ISDB-M-100

ISPDB-M-100

±10µm
Standard

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	M	WA	100	100W	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)	Horizontal Payload (kg)	Vertical Payload (kg)	Rated thrust (N)	Stroke (mm)
ISDB[ISPDB]-M-WA-100-30-①-T2-②-③	100	30	15	2	56.6	100~1100 (Every 50mm)
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			

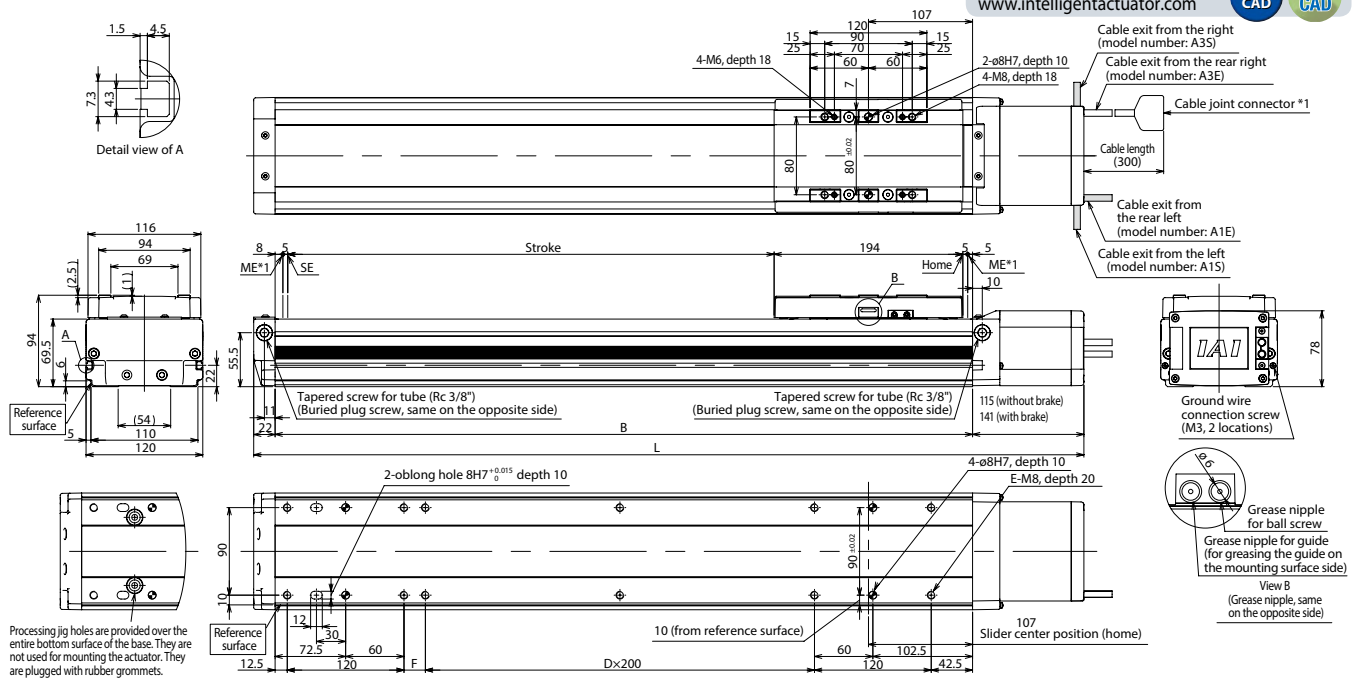
* ISPDB can not select RT.

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
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

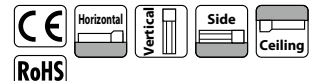
Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	
	L without brake	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204	1254	1304	1354	1404	1454
L with brake	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280	1330	1380	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	1800																				
	Lead 20	1200																				
	Lead 10	600																				
	Lead 5	300																				

- *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
- * 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	●	●	-	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.

ISDB-M-200

ISPDB-M-200

±10µm
Standard

Battery-less absolute

Simple Dust Proof

Medium 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*
ISDB: Standard specification	M	WA	200	30: 30mm 20: 20mm 10: 10mm 5: 5mm	100: 100mm 110: 110mm (Every 50mm)	T2: SCON M5CON 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)	Horizontal Payload (kg)	Vertical Payload (kg)	Rated thrust (N)	Stroke (mm)
ISDB[ISPDB]-M-WA-200-30-①-T2-②-③	200	30	30	6	113.9	100~1100 (Every 50mm)
ISDB[ISPDB]-M-WA-200-20-①-T2-②-③		20	45	10	170.9	
ISDB[ISPDB]-M-WA-200-10-①-T2-②-③		10	90	20	341.8	
ISDB[ISPDB]-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.

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			

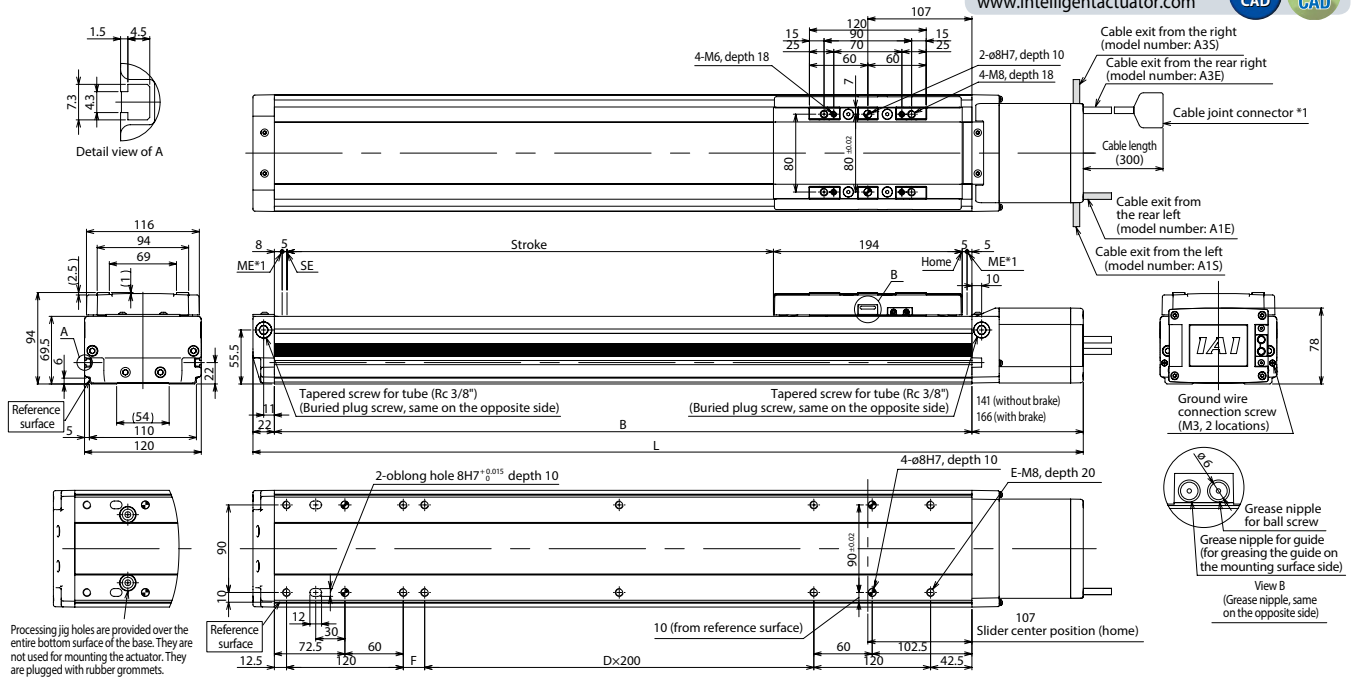
* ISPDB can not select RT.

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
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

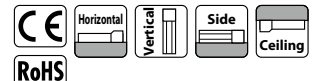
Stroke	L											D	E	F	Mass (kg)							
	100	150	200	250	300	350	400	450	500	550	600					650	700	750	800	850	900	950
without brake	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280	1330	1380	1430	1480	
	505	555	605	655	705	755	805	855	905	955	1005	1055	1105	1155	1205	1255	1305	1355	1405	1455	1505	
with brake	317	367	417	467	517	567	617	667	717	767	817	867	917	967	1017	1067	1117	1167	1217	1267	1317	
B	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	
D	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	
E	22	72	122	172	22	72	122	172	22	72	122	172	22	72	122	172	22	72	122	172	22	
F	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																				
	Lead 20	1200																				
	Lead 10	600																				
	Lead 5	300																				
Maximum speed (mm/s)	Lead 30	1630																				
	Lead 20	1085																				
	Lead 10	545																				
	Lead 5	270																				

- *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 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	●	●	-	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.)	
M5CON-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)	
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/side/ceiling mountings depending on the model. Please contact IAI for more information.

ISDB-M-400

±10μm Standard
Battery-less absolute
Simple Dust Proof
Medium type
Actuator width 120mm
400w



Model Specification Items	ISDB	M	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	100: 100mm 1100: 1100mm (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-M-WA-400-48-①-T2-②-③	400	48	Horizontal (kg) Vertical (kg)	141.3	100~1100 (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.

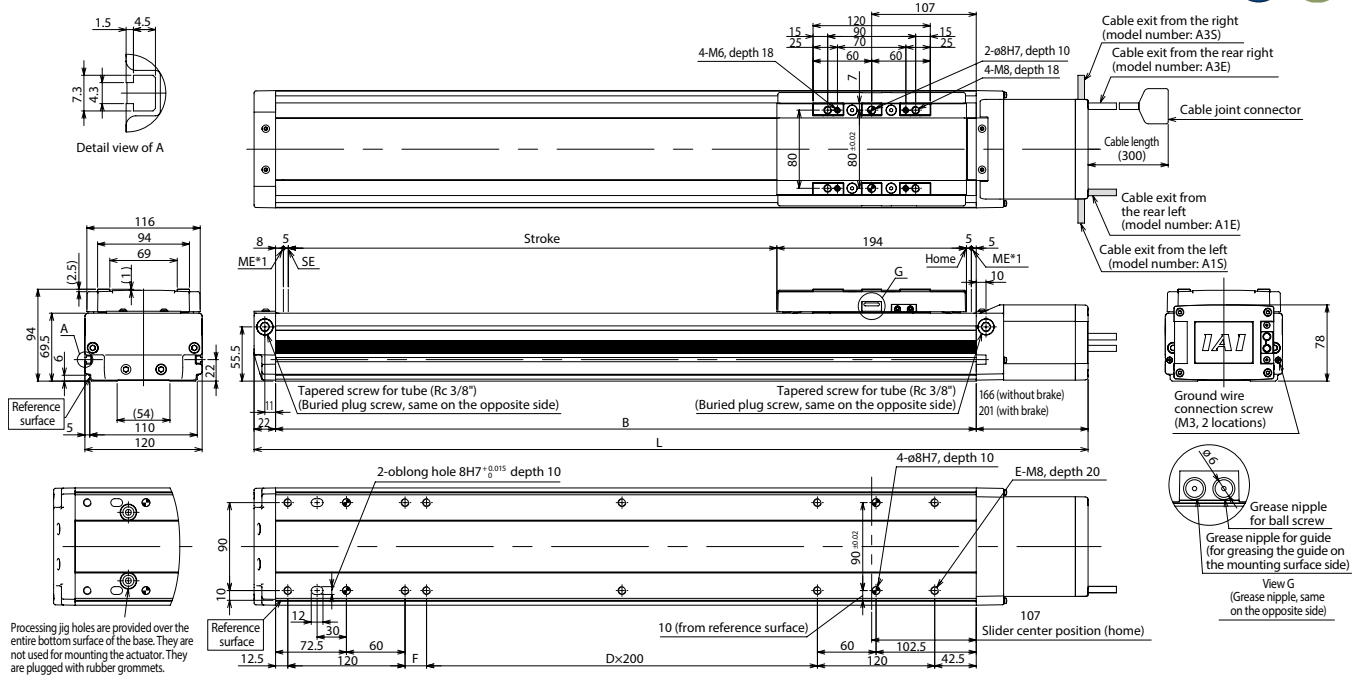
Option					
Name	Model number	Reference page	Name	Model number	Reference page
Cable exit from the left	A1S	→P10	Master axis specification	LM	→P11
Cable exit from the rear left	A1E	→P10	Master axis specification (sensor on the opposite side)	LLM	→P11
Cable exit from the right	A3S	→P10	Non-motor end specification	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			

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.
** 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



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.

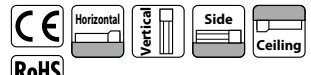
Dimensions and Mass by Stroke

Stroke	Dimensions (mm)																					
	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
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	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)	without brake	8.5	9.1	9.7	10.3	11.0	11.6	12.2	12.9	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 (mm/s)	Lead 48	980	1270	1520	1740	1930	2050	2125	2200	2200	2200	2200	2200	2145	1920	1730	1570	1430	1305	1195	1105	

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	-	-	●			
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.



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

ISDB-MX-200

ISPDB-MX-200

High Precision Specification

±10μm Standard

±3μm High precision

Battery-less absolute

Simple Dust Proof

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*
ISDB: Standard specification ISPDB: High precision specification	MX	WA	200	200W	30: 30mm 20: 20mm	800: 800mm 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)	Rated thrust (N)	Stroke (mm)
ISDB[ISPDB]-MX-WA-200-20-□-①-T2-②-③	200	30	Horizontal (kg) Vertical (kg)	113.9	800~1600 (Every 50mm)
ISDB[ISPDB]-MX-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 800~1300)	ST	→P12
Creep sensor on the opposite side	CL	→P10	High straightness, precision specification (stroke 1400~1600)	ST	→P12
Home limit switch	L	→P10			

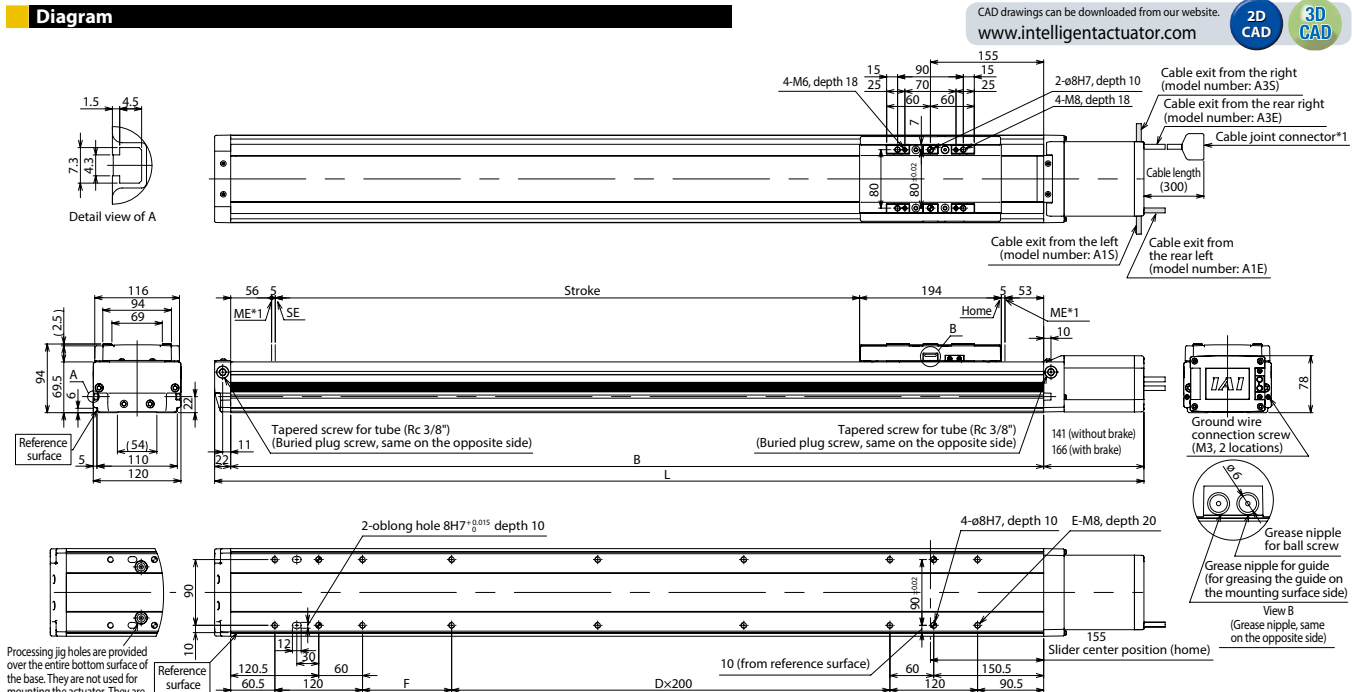
* ISPB can not select RT.

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
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



- * 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 51.5mm from the slider work mounting position.

Dimensions and Mass by Stroke

Stroke	L																		
	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600		
without brake	1276	1326	1376	1426	1476	1526	1576	1626	1676	1726	1776	1826	1876	1926	1976	2026	2076		
with brake	1301	1351	1401	1451	1501	1551	1601	1651	1701	1751	1801	1851	1901	1951	2001	2051	2101		
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	322	372	422	472	522	572	622	672	722	772	822	872	922		
Mass (kg)	18.3	18.9	19.6	20.2	20.9	21.5	22.2	22.8	23.4	24.1	24.7	25.3	26.0	26.6	27.3	27.9	28.6		
Maximum speed (mm/s)	Lead 30	1800						1650				1500		1425		1200		1050	
	Lead 20	1200						1100				1000		950		800		700	

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	-	-	●		55,000 (depend on type)	
					Single-phase AC200V / three-phase AC200V		



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

ISDB-MX-400

±10µm Standard
Battery-less absolute
Simple Dust Proof
Medium type
Mid-Support type
Actuator width 120mm
400w



Model Specification Items	ISDB	MX	WA	400	48			T2		
	Series	Type	Encoder type	Motor type	Lead	Stroke	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)
			Horizontal (kg)	Vertical (kg)		
ISDB-MX-WA-400-48-①-T2-②-③	400	48	20	—	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

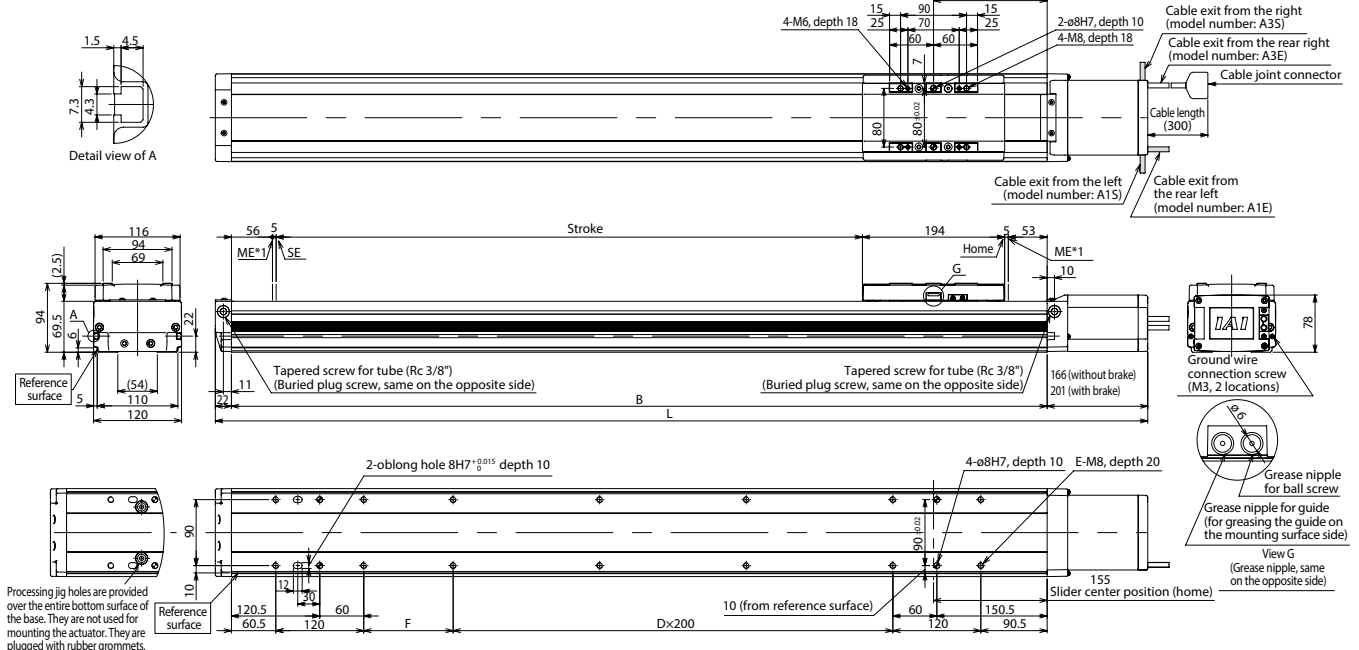
Positioning repeatability	±0.01mm
Drive method	Ball screw φ16mm, rolled C10
Lost motion	0.05mm max.
Dynamic allowable load moment (*)	Ma: 81.0N·m Mb: 116N·m Mc: 189N·m
Overhang load length	Ma direction: 600mm max. Mb, Mc directions: 600mm max
Dynamic straightness (Note 2)	0.02mm/m max.
Base	Material: 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.

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



Diagram



*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	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	4	5	5	5	5	6	6	6	6	7
E	14	14	14	14	16	16	16	16	16	18	18	18	18	20	20	20	20	22
F	122	172	222	272	322	372	422	472	522	572	622	672	722	772	822	872	922	972
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.) 512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG	1 axes	-	-	●			
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.



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	L	WA	200	200W	40: 40mm 20: 20mm 10: 10mm	100: 100mm 20: 20mm 1300: 1300mm (Every 50mm)	T2: SCON M: SCON S: SEL 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	100~1300 (Every 50mm)
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			

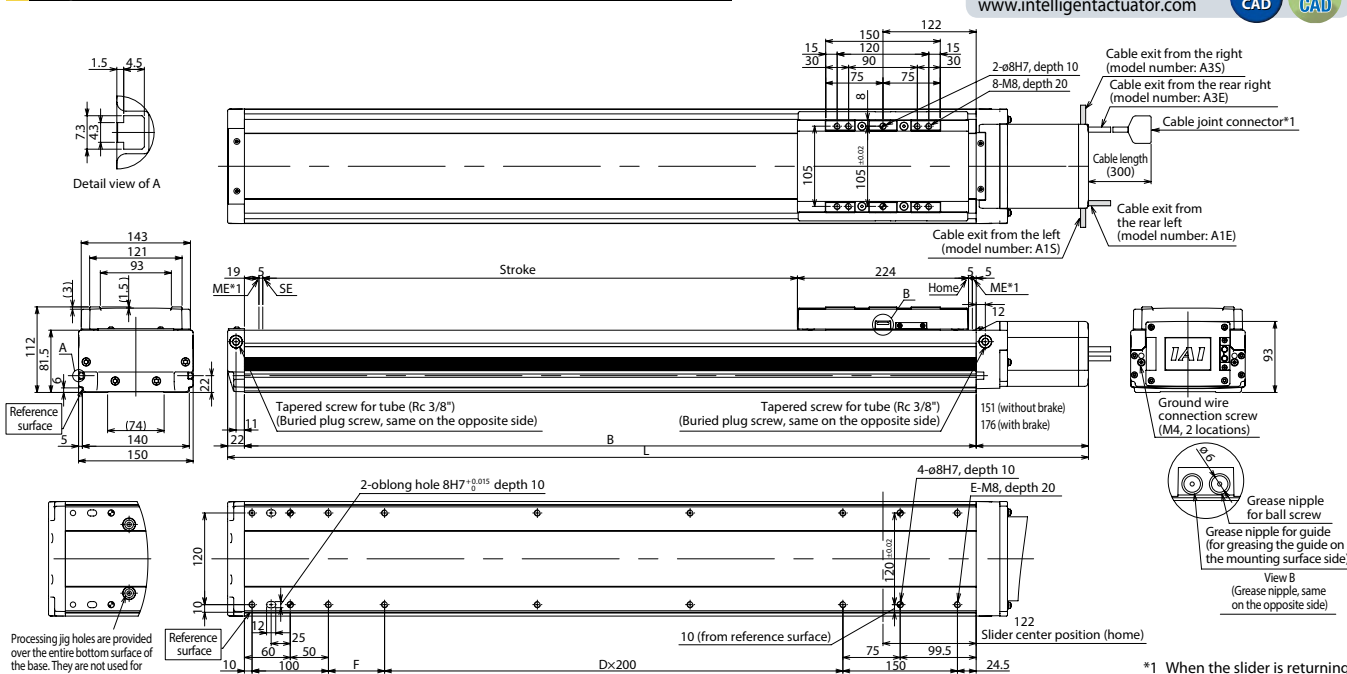
* ISPDB can not select RT.

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



Dimensions and Mass by Stroke

Stroke	Reference surface																									
	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	10	12	12	12	14	14	14	14	16	16	16	16	18	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	1800																								
	Lead 20	1200																								
	Lead 10	600																								

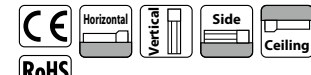
*1 When the slider is returning to its home position, Please be careful of interference from surrounding objects, as it will travel until it reaches the ME.

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

* The allowable moment offset reference position is 61.5mm 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	-	-	●		55,000 (depend on type)	
Single-phase AC200V / three-phase AC200V							



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

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

ISDB-L-400

ISPDB-L-400

±10µm
Standard

Battery-less absolute

Simple Dust Proof

Large 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*
ISDB: Standard specification ISPDB: High precision specification	L	WA	400	400V	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)	Horizontal Payload (kg)	Vertical Payload (kg)	Rated thrust (N)	Stroke (mm)
ISDB[ISPDB]-L-WA-400-40-①-T2-②-③	400	40	40	8	169.6	100~1300 (Every 50mm)
ISDB[ISPDB]-L-WA-400-20-①-T2-②-③		20	90	20	339.1	
ISDB[ISPDB]-L-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 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

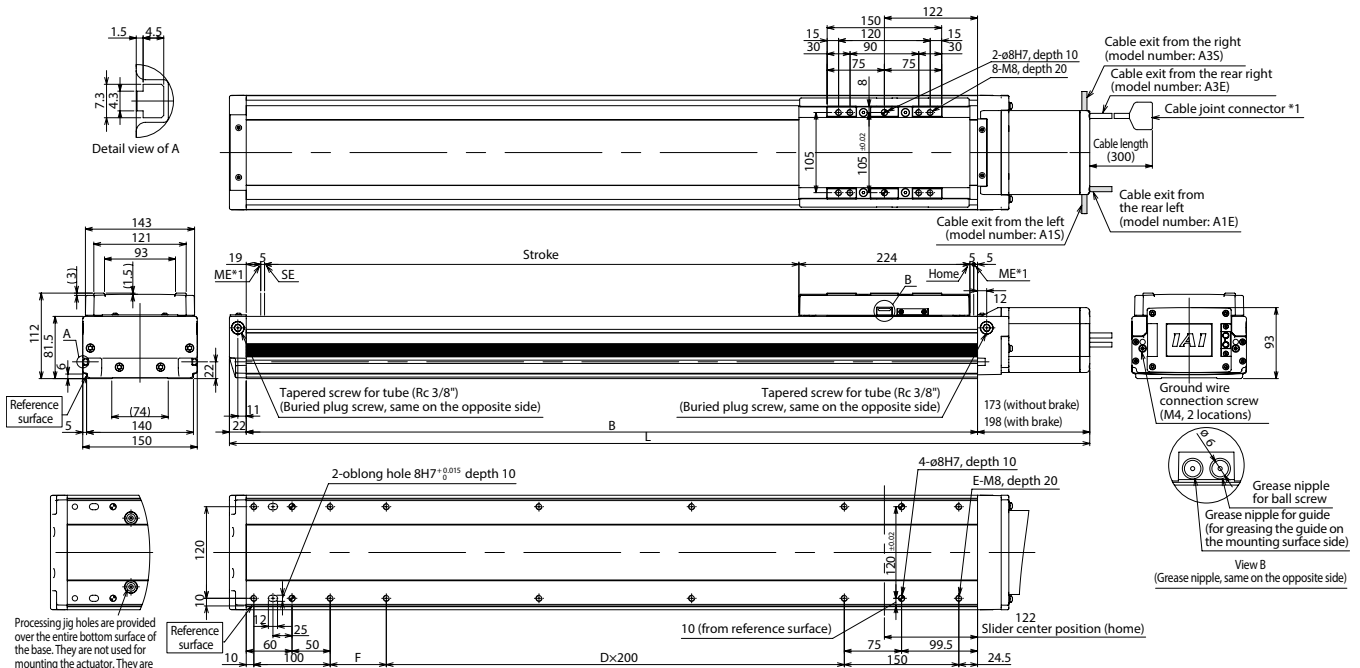
Positioning repeatability (Note 2)	±0.01mm [±0.003mm]
Drive method (Note 3)	Ball screw φ20mm, rolled C10 [equivalent to rolled C5]
Lost motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (**)	Ma: 123N·m Mb: 176N·m Mc: 291N·m
Overhang load length(**)	Ma direction: 750mm max. Mb, Mc directions: 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

CAD drawings can be downloaded from our website.

www.intelligentactuator.com



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

*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 61.5mm 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	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	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)	12.2	13.1	14.0	14.8	15.7	16.6	17.4	18.3	19.2	20.0	20.9	21.8	22.7	23.5	24.4	25.3	26.1	27.0	27.9	28.7	29.6	30.5	31.4	32.2	33.1
Maximum speed (mm/s)																									
Lead 40																									
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 AC200V	512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG	1 axes	-	-	●			
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.



RoHS

* 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

±10µm Standard

Battery-less absolute

Simple Dust Proof

Large type

Mid-Support 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	LX	WA	200	200: 200W	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)	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		

Legend: ① Stroke ② Cable length ③ Options

CAUTION

(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.

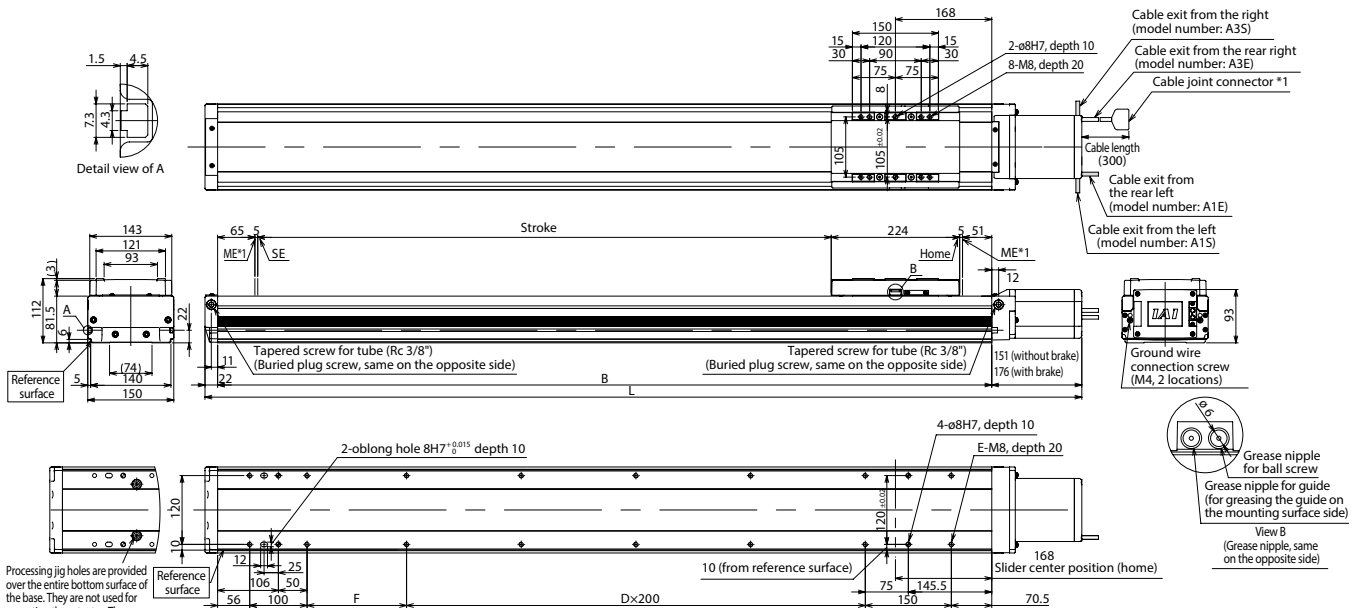
Actuator Specifications

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.

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.
- * 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
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			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.

ISDB-LX-400

ISPDB-LX-400

±10µm
Standard

Battery-less absolute

Simple Dust Proof

Large type

Mid-Support 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*
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)	Rated thrust (N)	Stroke (mm)
ISDB[ISPDB]-LX-WA-400-40-①-T2-②-③	400	40	40	169.6	1000~1600 (Every 50mm)
ISDB[ISPDB]-LX-WA-400-20-①-T2-②-③		20	90	339.1	

Legend: ① Stroke ② Cable length ③ Options

CAUTION	(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.

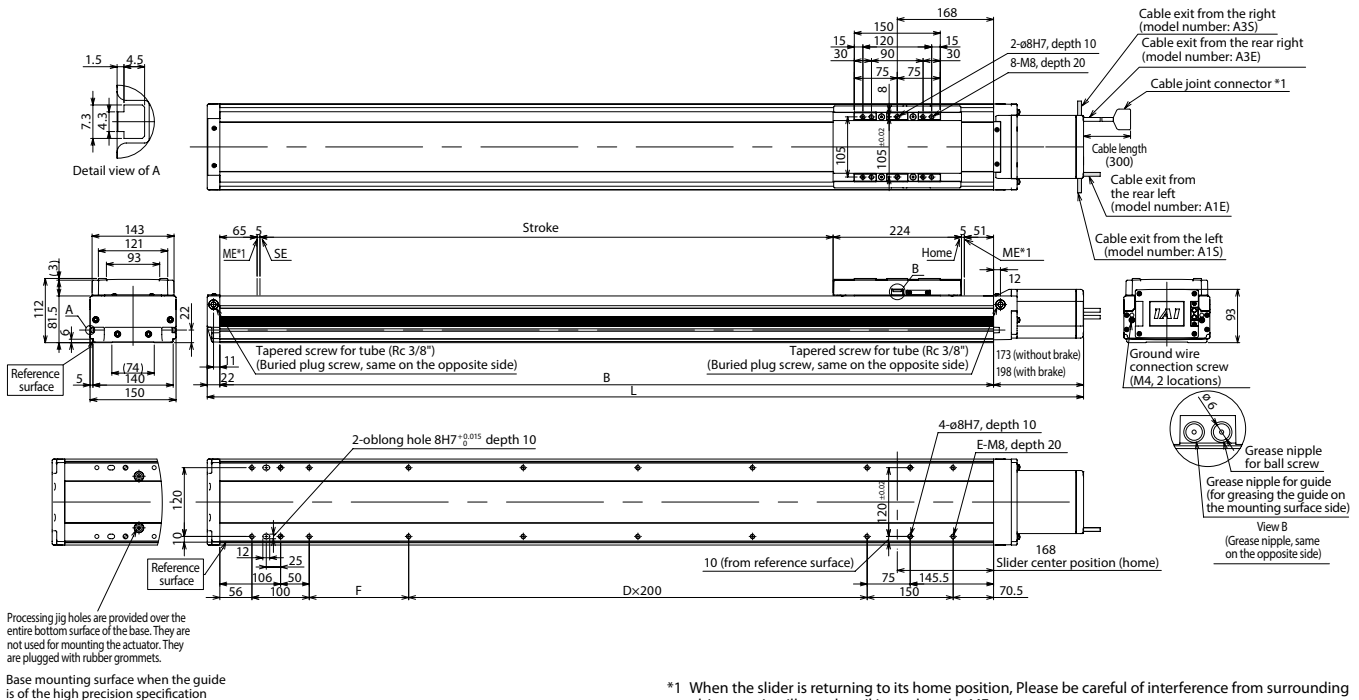
Actuator Specifications

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.

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.
- * 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	1545	1595	1645	1695	1745	1795	1845	1895	1945	1995	2045	2095
	with brake	1570	1620	1670	1720	1770	1820	1870	1920	1970	2020	2070	2120
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)	30.1	31.0	31.9	32.7	33.6	34.5	35.4	36.2	37.1	38.0	38.9	39.7	40.6
	Lead 40	1800											
Maximum speed (mm/s)	Lead 40	1800											
	Lead 20	1200											

Applicable Controllers

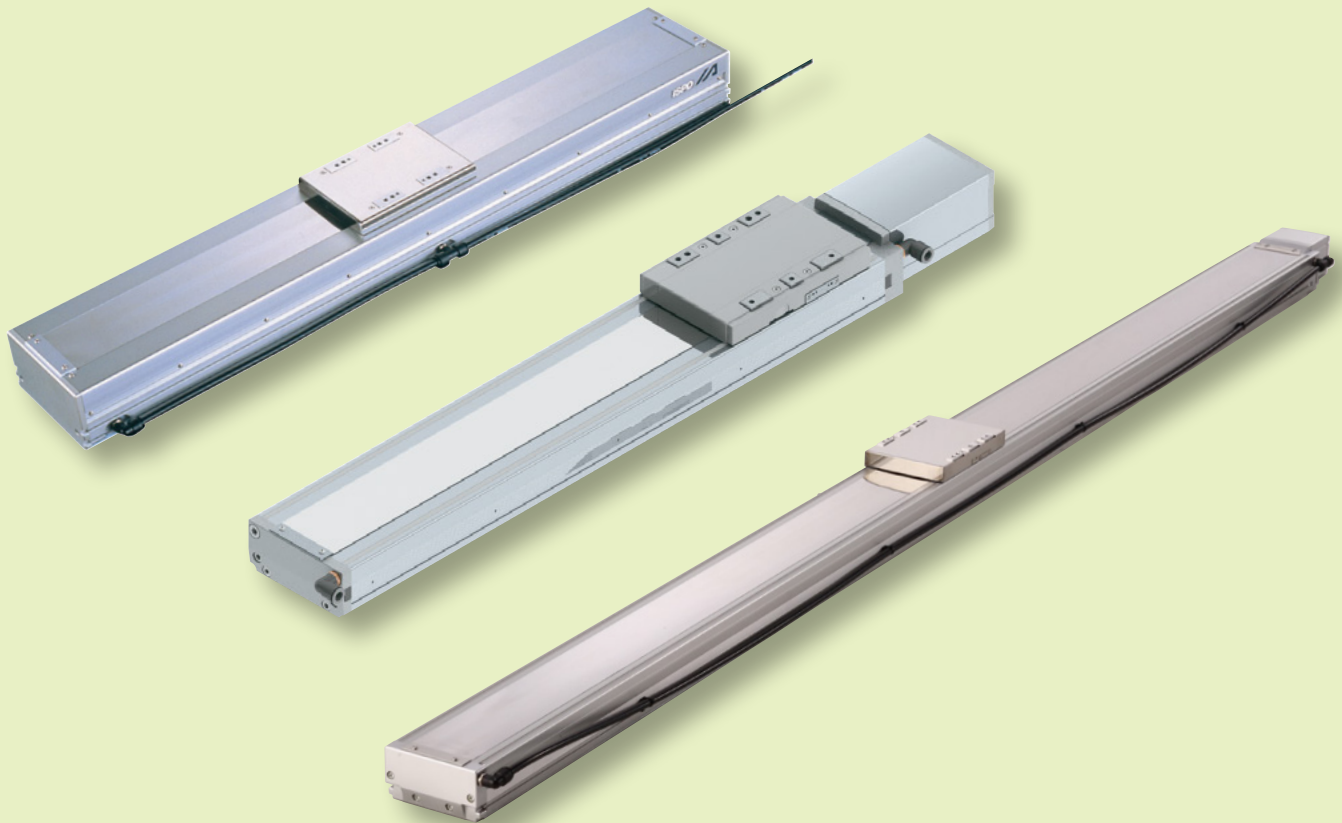
Applicable Controller	Maximum number of controlled axes	Operating method			Power-supply voltage	Maximum number of positioning points	Reference page
		Positioner	pulse train control	program			
SCON-CB/CGB	1 axes	●	●	-	Single-phase AC200V	512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG	1 axes	-	-	●			
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.



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	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options*
ISDBCR: Standard specification ISPDBCR: High precision specification	S	WA	60	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)	Rated thrust (N)	Suction flow rate (Nl/min)	Stroke (mm)	
			Horizontal (kg)	Vertical (kg)			
ISDBCR[ISDBCR]-S-WA-60-16-①-T2-②-③	60	16	13	3	53.1	100~800 (Every 50mm)	
ISDBCR[ISDBCR]-S-WA-60-8-①-T2-②-③			8	27	6		106.1
ISDBCR[ISDBCR]-S-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.

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			

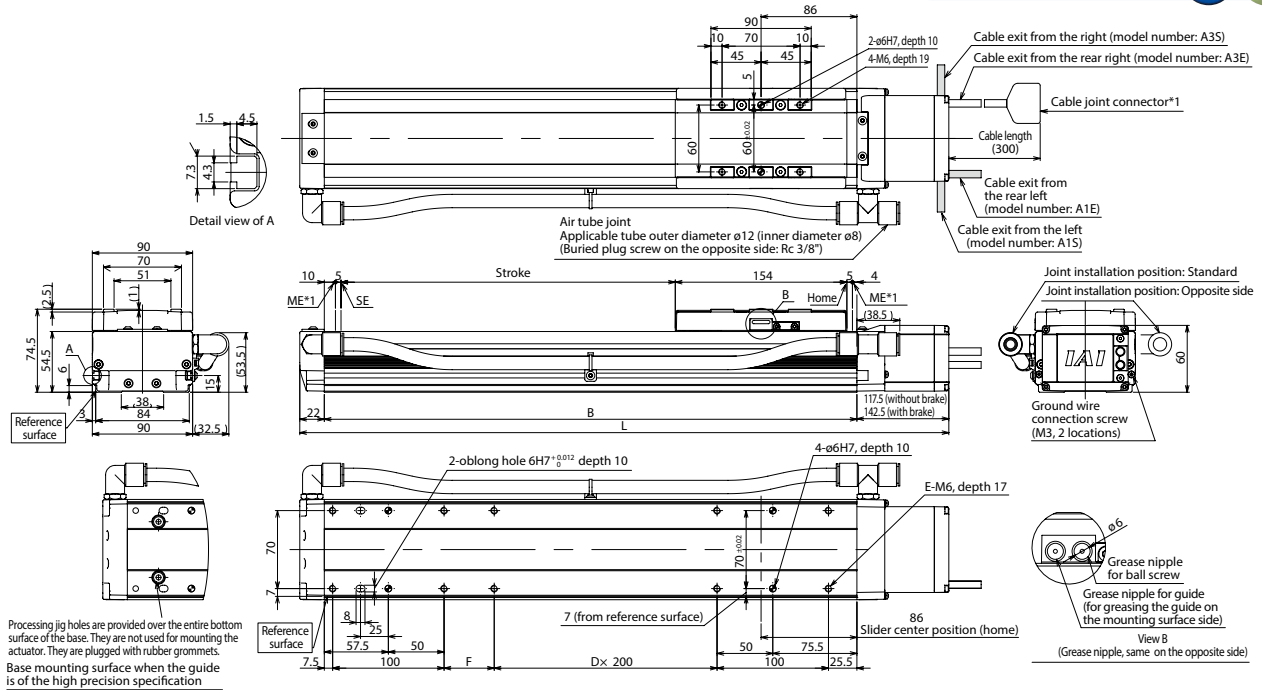
* ISPDBCR (all leads) and ISDBCR (lead16) can not select Guide with ball retention mechanism (RT).

Actuator Specifications

Drive method (Note 2)	Ball screw φ12mm, rolled C10 [equivalent to rolled C5]
Positioning repeatability (Note 3)	±0.01mm [±0.003mm]
Base	Material: Aluminum, with white alumite 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



Dimensions and Mass by Stroke

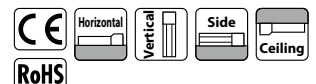
Stroke	L															
	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	
without brake	417.5	467.5	517.5	567.5	617.5	667.5	717.5	767.5	817.5	867.5	917.5	967.5	1017.5	1067.5	1117.5	
	442.5	492.5	542.5	592.5	642.5	692.5	742.5	792.5	842.5	892.5	942.5	992.5	1042.5	1092.5	1142.5	
with brake	278	328	378	428	478	528	578	628	678	728	778	828	878	928	978	
	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	
D	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	
	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	
	960															
Maximum speed (mm/s)	Lead 16	480														
	Lead 8	460														
	Lead 4	240														

- *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	●	●	-	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.

ISDBCR-M-100

ISPDBCR-M-100

±10µm
Standard

Clean-room
Spec

Battery-less
absolute

Medium
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*
ISDBCR: Standard specification	M	WA	100	100W	30: 30mm 20: 20mm	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.
ISPDBCR: High precision specification					10: 10mm 5: 5mm				

- 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		Motor output (W)	Lead (mm)	Payload (Note 1)		Rated thrust (N)	Suction flow rate (Nl/min)	Stroke (mm)
Model number				Horizontal (kg)	Vertical (kg)			
ISDBCR[ISPDBCR]-M-WA-100-30-①-T2-②-③		100	30	15	2	56.6	180	100~1100 (Every 50mm)
ISDBCR[ISPDBCR]-M-WA-100-20-①-T2-②-③			20	23	4	84.9	120	
ISDBCR[ISPDBCR]-M-WA-100-10-①-T2-②-③			10	45	10	169.8	50	
ISDBCR[ISPDBCR]-M-WA-100-5-①-T2-②-③			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 φ16mm, 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)

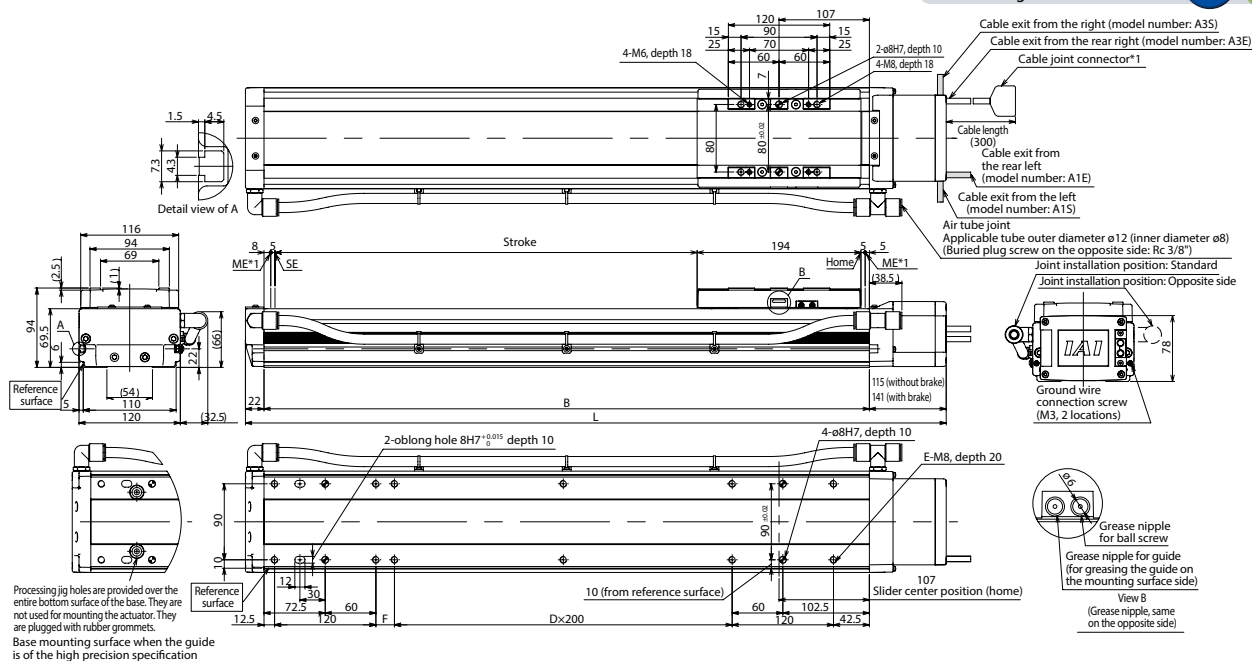
* Assumes a standard rated life of 10,000km. The operational life will vary depending on operation and installation conditions. Please refer to P16 for details on operational life.
** Please refer to P13 for the dynamic allowable load moment and overhang load length for the double slider option.

Diagram

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

2D CAD

3D CAD



Dimensions and Mass by Stroke

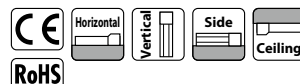
Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	
	L without brake	454	504	554	604	654	704	754	804	854	904	954	1004	1054	1104	1154	1204	1254	1304	1354	1404	1454
L with brake	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280	1330	1380	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)	7.6	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																				

- *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 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	●	●	-	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.

ISDBCR-M-200

ISPDBCR-M-200

±10µm
Standard

Clean-room
Spec

Battery-less
absolute

Medium
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 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.
	<p>* Please refer to P.9 for more information about the model specification items. * Please be sure to include the AQ seal (AQ) and one of the symbols for cable exit direction.</p>								

Actuator Specifications

Model number	Motor output (W)	Lead (mm)	Horizontal Payload (kg)	Vertical Payload (kg)	Rated thrust (N)	Suction flow rate (Nl/min)	Stroke (mm)
ISDBCR[ISPDBCR]-M-WA-200-30-①-T2-②-③	200	30	30	6	113.9	180	100~1100 (Every 50mm)
ISDBCR[ISPDBCR]-M-WA-200-20-①-T2-②-③		20	45	10	170.9	120	
ISDBCR[ISPDBCR]-M-WA-200-10-①-T2-②-③		10	90	20	341.8	50	
ISDBCR[ISPDBCR]-M-WA-200-5-①-T2-②-③		5	110	40	683.6	20	

• 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	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			

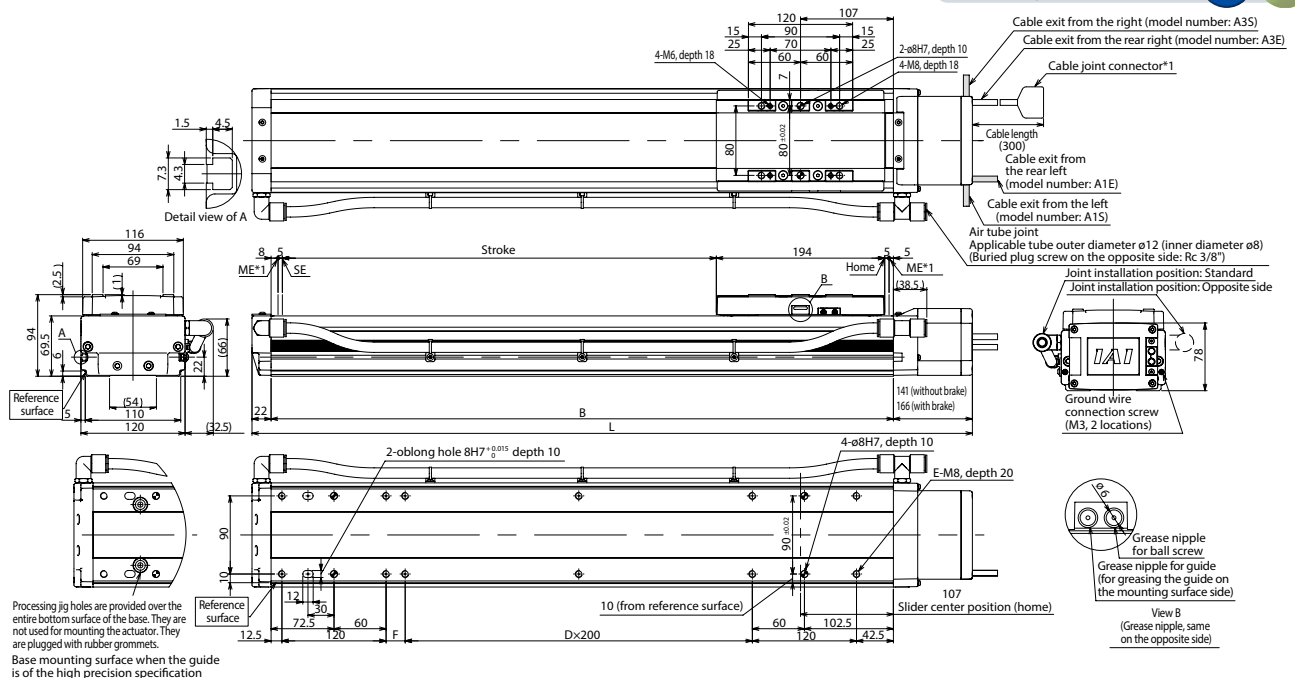
* ISPDBCR (all leads) and ISDBCR (lead16) can not select Guide with ball retention mechanism (RT).

Actuator Specifications

Drive method (Note 2)	Ball screw φ16mm, 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



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

2D CAD 3D CAD

Dimensions and Mass by Stroke

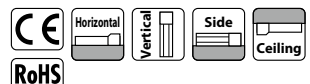
Stroke	L																					
	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	
without brake	480	530	580	630	680	730	780	830	880	930	980	1030	1080	1130	1180	1230	1280	1330	1380	1430	1480	
	505	555	605	655	705	755	805	855	905	955	1005	1055	1105	1155	1205	1255	1305	1355	1405	1455	1505	
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	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)	8.0	8.6	9.2	9.9	10.5	11.1	11.7	12.4	13.0	13.6	14.3	14.9	15.5	16.1	16.8	17.4	18.0	18.6	19.3	19.9	20.5	
Maximum speed (mm/s)	Lead 30	1800																				
	Lead 20	1200																				
	Lead 10	600																				
	Lead 5	300																				

*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
* 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.

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	●	-	●		55,000 (depend on type)	
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/side/ceiling mountings depending on the model. Please contact IAI for more information.

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	MX	WA	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)	Rated thrust (N)	Suction flow rate (Nl/min)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
ISDBCR[ISPDBCR]-MX-WA-200-30-①-T2-②-③	200	30	30	113.9	180	800~2000 (Every 50mm)
ISDBCR[ISPDBCR]-MX-WA-200-20-①-T2-②-③		20	45	170.9	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 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).

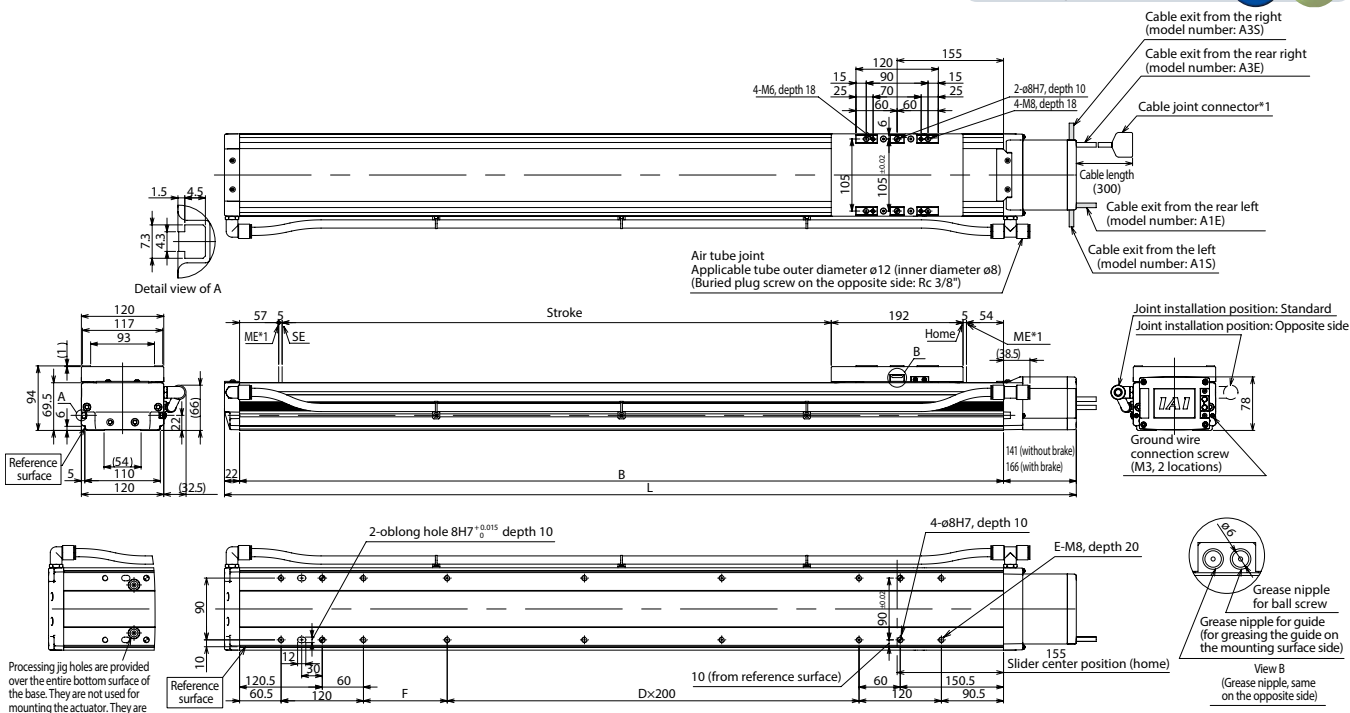
Actuator Specifications

Drive method (Note 2)	Ball screw φ16mm, 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.

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 its 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

L	Stroke	Mass (kg)																							
		800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
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
	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
with brake	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
	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
D	14	14	14	14	16	16	16	16	16	18	18	18	18	20	20	20	22	22	22	22	24	24	24	24	26
	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
E	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
	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
Mass (kg)	Lead 30	1800																							
	Lead 20	1200																							
Maximum speed (mm/s)	Lead 30	1650																							
	Lead 20	1100																							

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	●	-	●		55,000 (depend on type)	
Single-phase AC200V / three-phase AC200V							



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

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	Series	L	Encoder type	WA	Motor type	200	Lead	40: 40mm 20: 20mm 10: 10mm	Stroke	100: 100mm 1300: 1300mm (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.
	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification
	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification
	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard specification	ISDBCR: Standard 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[ISDBCR]-L-WA-200-40-①-T2-②-③	200	40	15 2.5	85.5	180	100~1300 (Every 50mm)
ISDBCR[ISDBCR]-L-WA-200-20-①-T2-②-③		20	45 9	170.9	120	
ISDBCR[ISDBCR]-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			

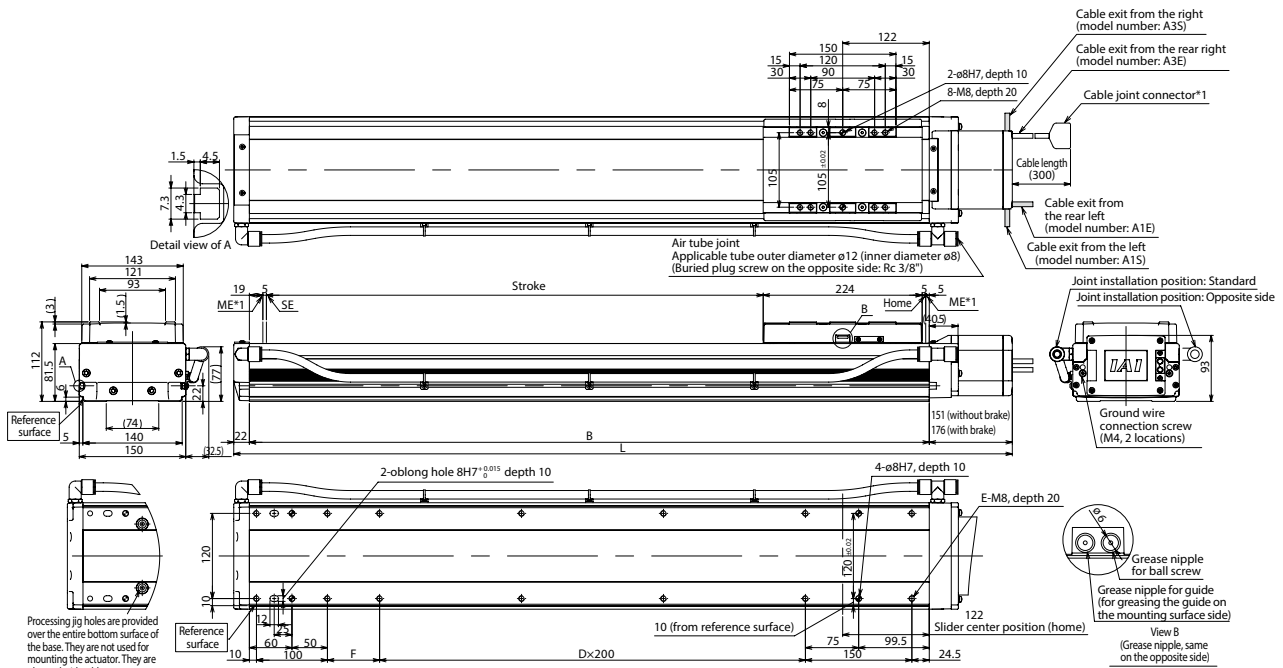
* ISPDBCR (all leads) and ISDBCR (lead 16) can not select Guide with ball retention mechanism (RT).

Actuator Specifications

Drive method (Note 2)	Ball screw φ20mm, rolled C10 [equivalent to rolled C5]
Positioning repeatability (Note 3)	±0.01mm [±0.003mm]
Base	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.

Diagram



Dimensions and Mass by Stroke

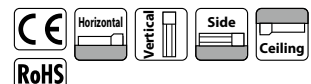
Stroke	L													Maximum speed (mm/s)														
	100	150	200	250	300	350	400	450	500	550	600	650	700		750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300		
without brake	531	581	631	681	731	781	831	881	931	981	1031	1081	1131	1181	1231	1281	1331	1381	1431	1481	1531	1581	1631	1681	1731	1781		
	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	1806		
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	1608		
D	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	3	4	4	4	4	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	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	1323.5		
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	33.2		
												1800	1800	1800	1700	1540	1410	1290	1185	1095	1015	940	875	815				
												1165	1045	940	850	770	705	645	595	545	505	470	440	410				
Maximum speed (mm/s)	Lead 40												1800	1800	1800	1700	1540	1410	1290	1185	1095	1015	940	875	815			
	Lead 20												1200	1200	1200	1100	980	880	800	730	670	620	580	540	510	480	450	420
	Lead 10												600	600	600	550	490	440	400	370	340	320	300	280	260	240	220	205

- *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 61.5mm 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	●	-	●		55,000 (depend on type)	
						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/side/ceiling mountings depending on the model. Please contact IAI for more information.

ISDBCR-L-400

ISPDBCR-L-400

- ±10µm
Standard
- Clean-room Spec
- Battery-less absolute
- Large 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*
ISDBCR: Standard specification	L	WA	400	400	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)	Rated thrust (N)	Suction flow rate (Nl/min)	Stroke (mm)
ISDBCR[ISPDBCR]-L-WA-400-40-①-T2-②-③	400	40	40	169.6	180	100~1300 (Every 50mm)
ISDBCR[ISPDBCR]-L-WA-400-20-①-T2-②-③		20	90	339.1	120	
ISDBCR[ISPDBCR]-L-WA-400-10-①-T2-②-③		10	120	678.3	50	

• Legend: ① Stroke ② Cable length ③ Options

CAUTION (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			

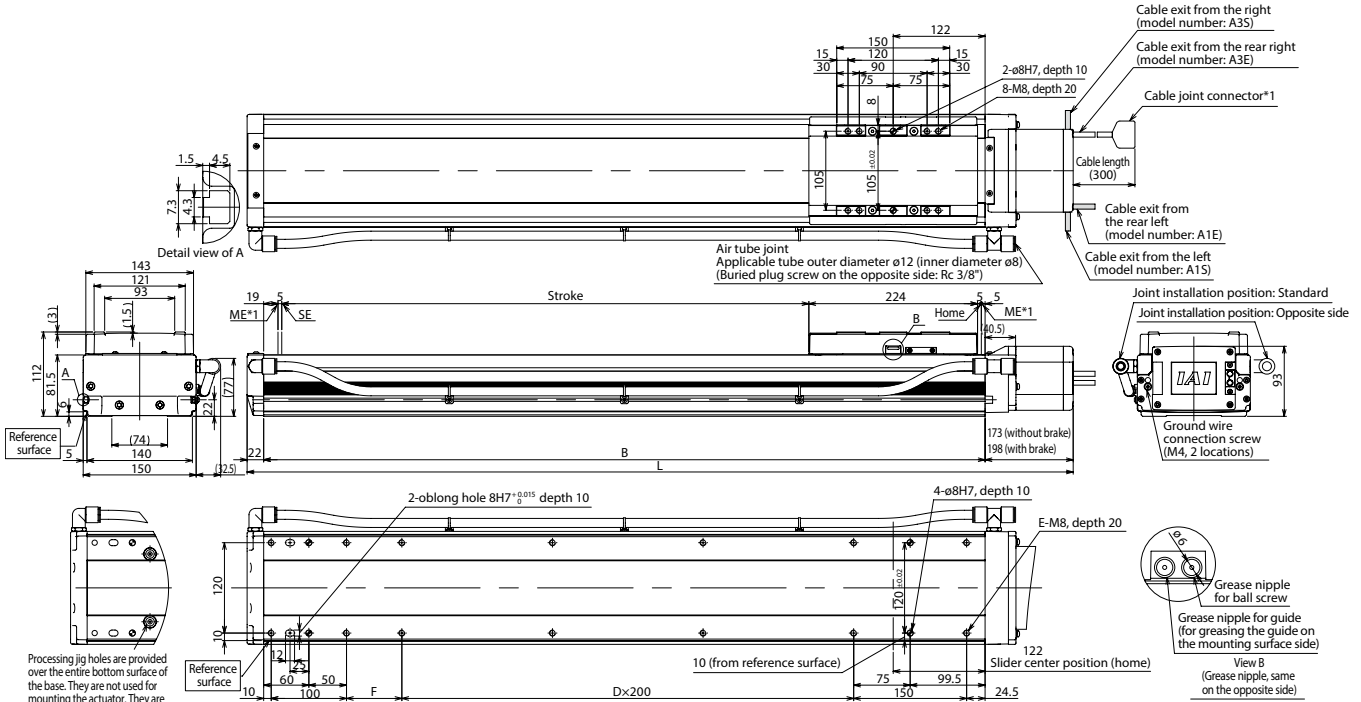
* ISPDBCR (all leads) and ISDBCR (lead16) can not select Guide with ball retention mechanism (RT).

Actuator Specifications

Drive method (Note 2)	Ball screw φ20mm, 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: 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.

Diagram



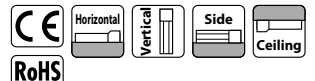
Dimensions and Mass by Stroke

Stroke	L																									
	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	
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	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	18	20	20
F	73.5	123.5	173.5	223.5	273.5	323.5	373.5	423.5	473.5	523.5	573.5	623.5	673.5	723.5	773.5	823.5	873.5	923.5	973.5	1023.5	1073.5	1123.5	1173.5	1223.5	1273.5	
Mass (kg)	12.3	13.1	14.0	14.8	15.7	16.6	17.4	18.3	19.1	20.0	20.8	21.7	22.5	23.4	24.3	25.1	26.0	26.8	27.7	28.5	29.4	30.2	31.1	31.9	32.8	
Maximum speed (mm/s)	Lead 40	1800																								
	Lead 20	1165																								
	Lead 10	585																								

- *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 61.5mm 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 AC200V	512 (768 for network spec.)	Please contact IAI for more information.
SCON-LC/LCG	1 axes	-	-	●			
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)	



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

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

ISDBCR-LX-200

ISPDBCR-LX-200

±10µm
Standard

Clean-room
Spec

Battery-less
absolute

Large
type

Mid-Support
type

Actuator width
150
mm

200
w

High
Precision
Specification

±3µm
High precision

Model Specification Items	Series	LX	WA	200				T2		
	ISDBCR: Standard specification	ISDBCR: 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)	Rated thrust (N)	Suction flow rate (Nl/min)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
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

(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			

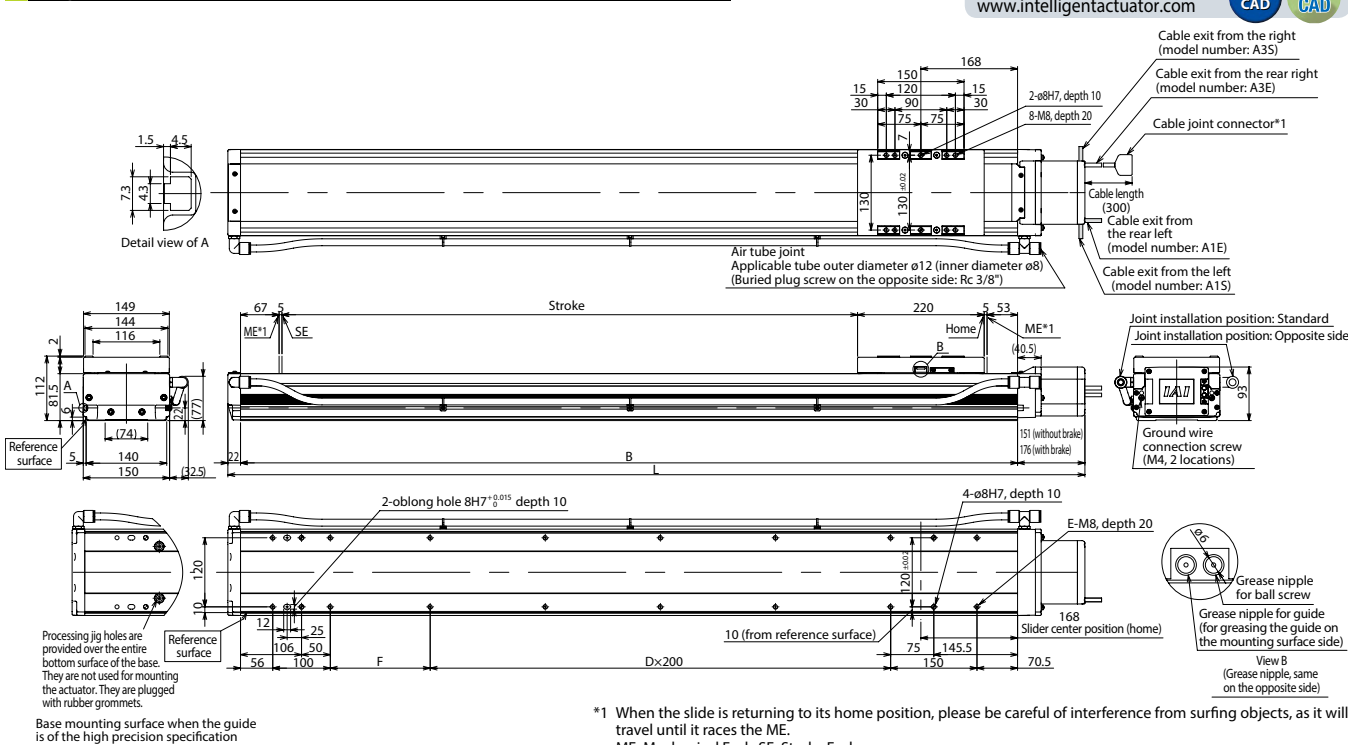
* ISPDBCR (all leads) and ISDBCR (lead16) can not select Guide with ball retention mechanism (RT).

Actuator Specifications

Drive method (Note 2)	Ball screw φ20mm, 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: 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.

Diagram



Dimensions and Mass by Stroke

L	Stroke	Mass (kg)																															
		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	B	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	
	D	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	
with brake	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	E	16	16	18	18	18	18	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	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)	Lead 40	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	
	Lead 20		1800			1800	1800			1800	1800			1660	1480	1300	1180	1080	980	880	820	740	680										
Maximum speed (mm/s)	Lead 40			1200			1150	1000	950	830	740	650	590	540	490	440	400	370	340														
	Lead 20																																

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	-	-	●		55,000 (depend on type)		
						Single-phase AC200V / three-phase AC200V		

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



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	Series	LX	WA	400				T2		
	ISDBCR: Standard specification	ISDBCR: 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)	Horizontal Payload (kg)	Vertical Payload (kg)	Rated thrust (N)	Suction flow rate (Nl/min)	Stroke (mm)
ISDBCR[ISDBCR]-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).

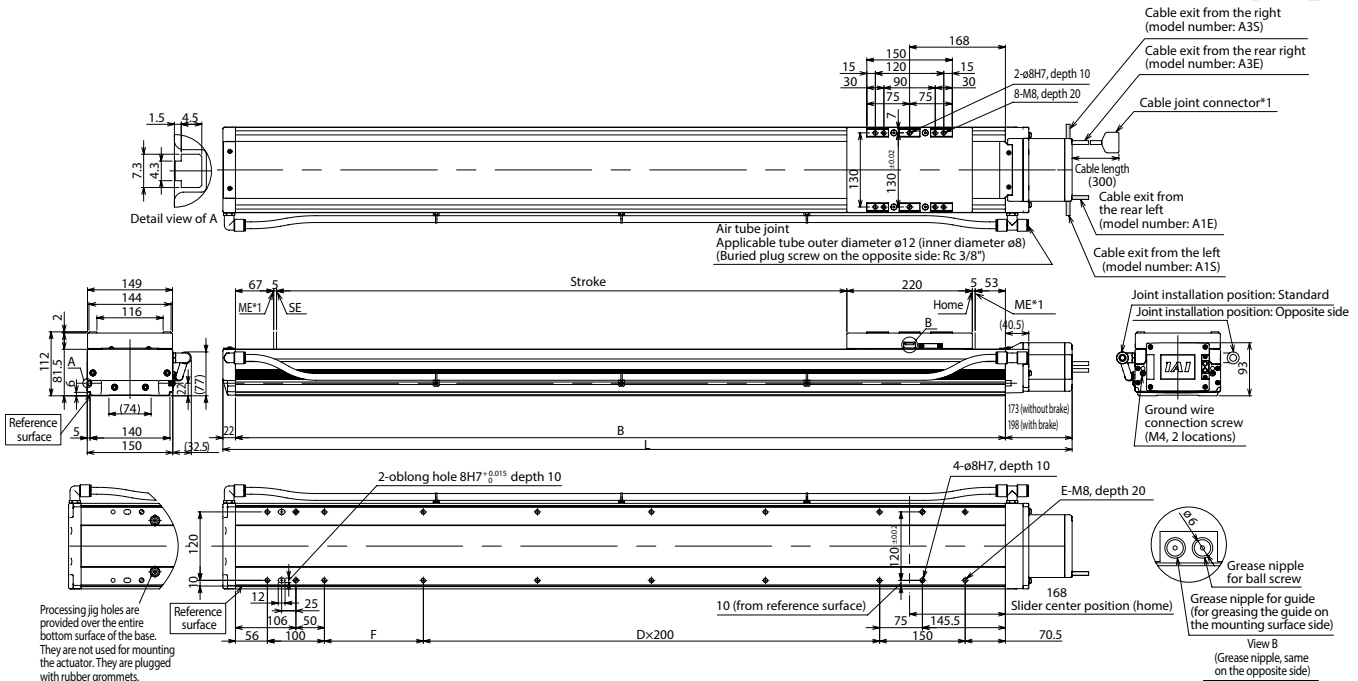
Actuator Specifications

Drive method (Note 2)	Ball screw φ20mm, 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: 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.

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 61.5mm from the slider work mounting position.

Dimensions and Mass by Stroke

Stroke	L																															
	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	
	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	
with brake	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	
B	4	4	5	5	5	5	6	6	6	7	7	7	7	7	8	8	8	8	9	9	9	9	10	10	10	10	11	11	11	12		
D	16	16	18	18	18	18	20	20	20	22	22	22	22	24	24	24	24	26	26	26	26	26	28	28	28	28	30	30	30	32		
E	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)	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
	Lead 40	1800		1800		1800		1800		1800		1660		1480		1300		1180		1080		980		880		820		740		680		
Maximum speed (mm/s)	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
		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	-	-	●			
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.

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** — **200** — **100** — **100** — **T2** — **SCON** — **None** — **Refer to the options table below.**

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
 20: 20mm
 100: 100mm
 1100: 1100mm (Every 50mm)

T2: SCON
 M: SCON
 S: SEL
 X: SEL-P/Q
 X: SEL-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 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	100~1100 (Every 50mm)
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

CAUTION

(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 650~1100)	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			

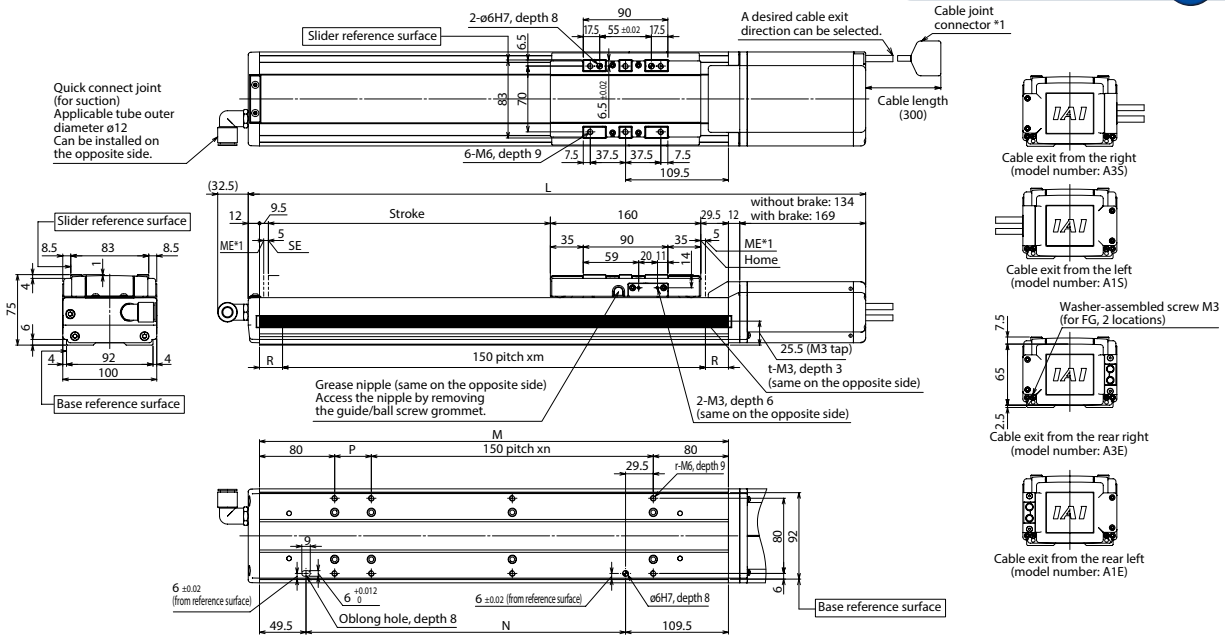
* If it is Lead 20 or 30, can not select Guide with ball retention mechanism (RT).

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

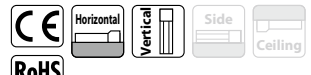
L	Stroke	Stroke																						
		100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100		
	without brake	457	507	557	607	657	707	757	807	857	907	957	1007	1057	1107	1157	1207	1257	1307	1357	1407	1457		
	with brake	492	542	592	642	692	742	792	842	892	942	992	1042	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	3	3	4	4	4	4	5	5	5	6	6	6	7	7	7	8	8			
n		0	1	1	1	2	2	2	3	3	4	4	4	5	5	5	6	6	6	7	7			
r		4	6	6	8	8	8	10	10	10	12	12	12	14	14	14	16	16	16	18	18			
t		2	3	3	3	4	4	4	5	5	6	6	6	7	7	7	8	8	8	9	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	610	
	Lead 20	1100											1090	970	860	770	690	630	570	520	480	440	400	
	Lead 10	600											540	480	430	380	340	310	280	260	240	220	200	

- *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 direction change is necessary after purchase.
- * The allowable moment offset reference position is 50mm 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.)	
M: SCON-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)	
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.

SSPDACR-M-400

High Precision Specification

±5µm High precision

Clean-room Spec

Medium High Rigidity

Actuator width 130 mm

400 w



Model Specification Items	SSPDACR— M	—	—	—	400	—	—	—	—	—	T2	—	—	—
	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options*					
	A: Absolute specification I: Incremental specification	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)	Horizontal Payload (kg)	Vertical Payload (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	100~1300 (Every 50mm)
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			

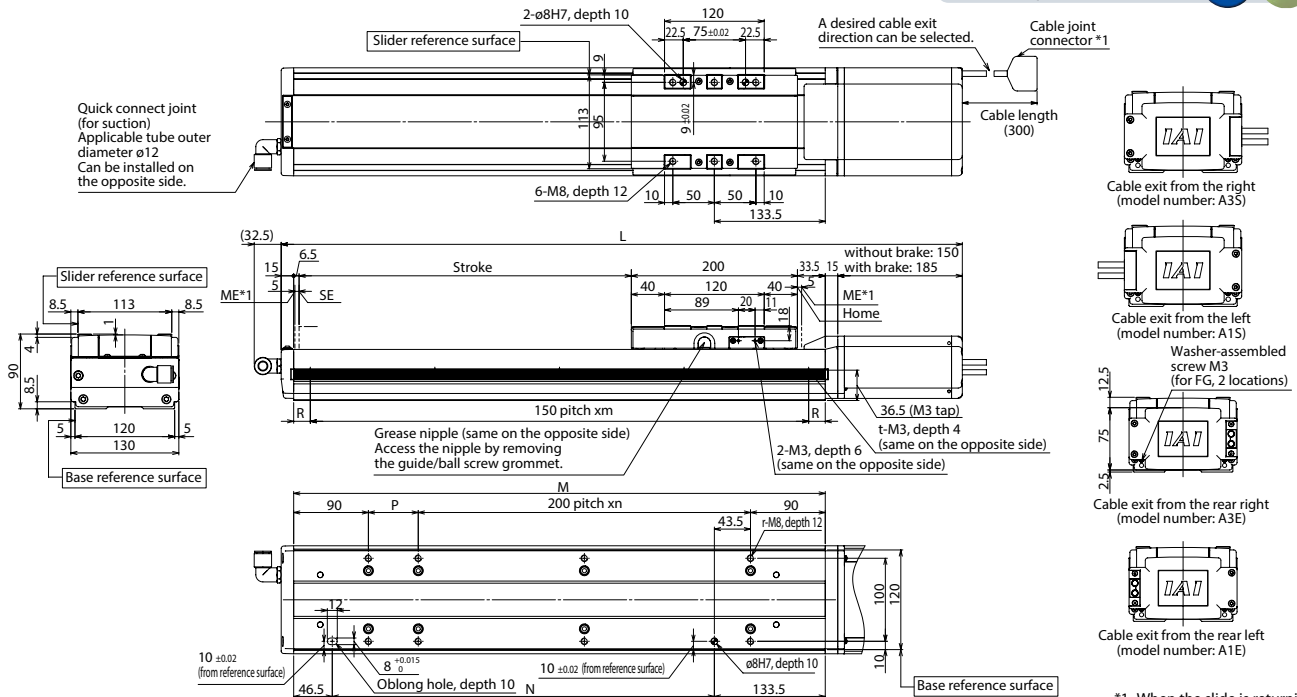
* If it is Lead 40, can not select Guide with ball retention mechanism (RT).

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



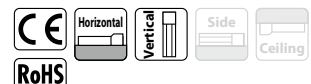
Dimensions and Mass by Stroke

Stroke	L													M													
	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300		
without brake	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		
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	60	110	160	210	60	110	160	210	60	110	160	210	60	110	160	210	60	110	160	210	60	110	160		
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	3	3	3	3	4	4	4	4	5	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	14	14	14	14	14	16	16	16		
t	3	3	3	4	4	4	5	5	5	6	6	6	7	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																									
	Lead 20	1100																									
	Lead 10	600																									

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	-	-	●			
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.



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

SSPDACR-L-750

High Precision Specification

±5µm High precision

Clean-room Spec

Large High Rigidity

Actuator width 155 mm

750 w



Model Specification Items	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options*	
	SSPDACR	L		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)	Rated thrust (N)	Suction flow rate (Nl/min)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
SSPDACR-L-①-750-50-②-T2-③-④	750	50	60	12	255	100~1500 (Every 50mm)
SSPDACR-L-①-750-25-②-T2-③-④		25	120	25	510	

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			

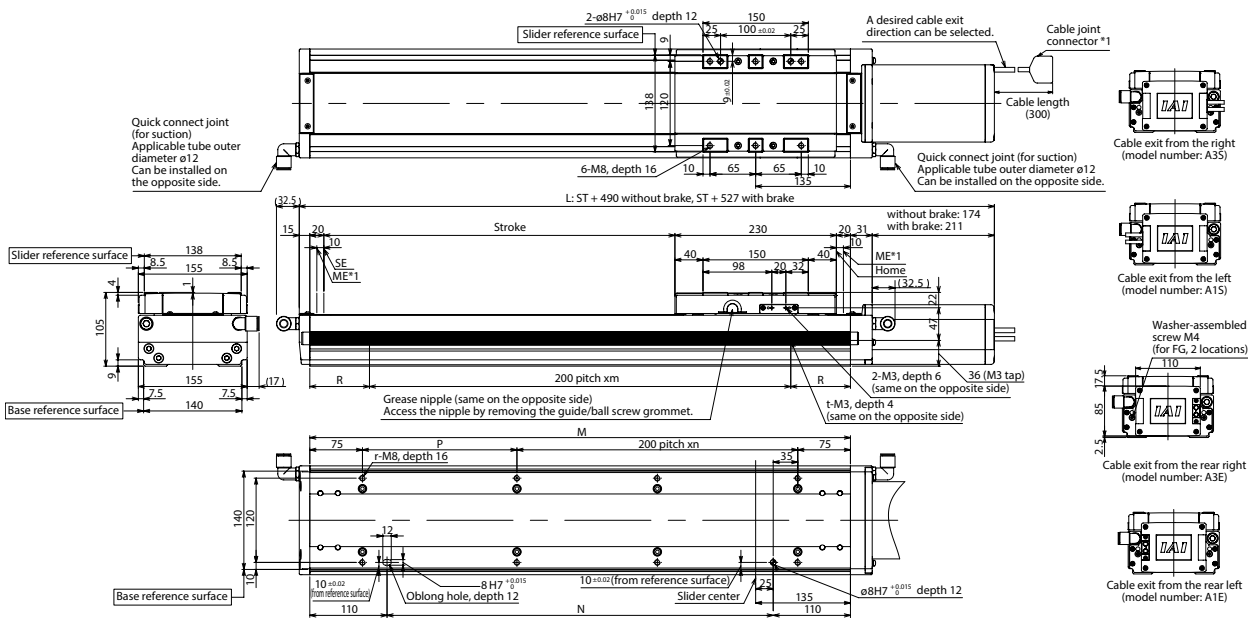
* If it is Lead 50, can not select Guide with ball retention mechanism (RT).

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



*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.

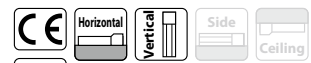
* The allowable moment offset reference position is 65.5mm from the slider work mounting position.

Dimensions and Mass by Stroke

Stroke	L																												
	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500
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	70	120	170	220	70	120	170	220	70	120	170	220	70	120	170	220	70	120	170	220	70	120	170	220
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	1600	1550	1340	1170	1040						
	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	●	●	-	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	-	-	55,000 (depend on type)			
Single-phase AC200V / three-phase AC200V					55,000 (depend on type)		



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

ISDACR-W-600

ISPDACR-W-600

±20µm
Standard

Clean-room
Spec

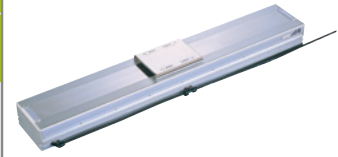
Extra large
type

Actuator width
198
mm

600
W

High Precision
Specification

±10µm
High precision



Model Specification Items	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options*
ISDACR: Standard specification ISPDACR: High precision specification	W			600: 600W	40: 40mm 20: 20mm 10: 10mm	100: 100mm 200: 200mm 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)	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	100~1300 (Every 50mm)
ISDACR[ISPDACR]-W-①-600-20-②-T2-③-L-④		20	120	29	510	
ISDACR[ISPDACR]-W-①-600-10-②-T2-③-L-④		10	150	60	1020	

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.

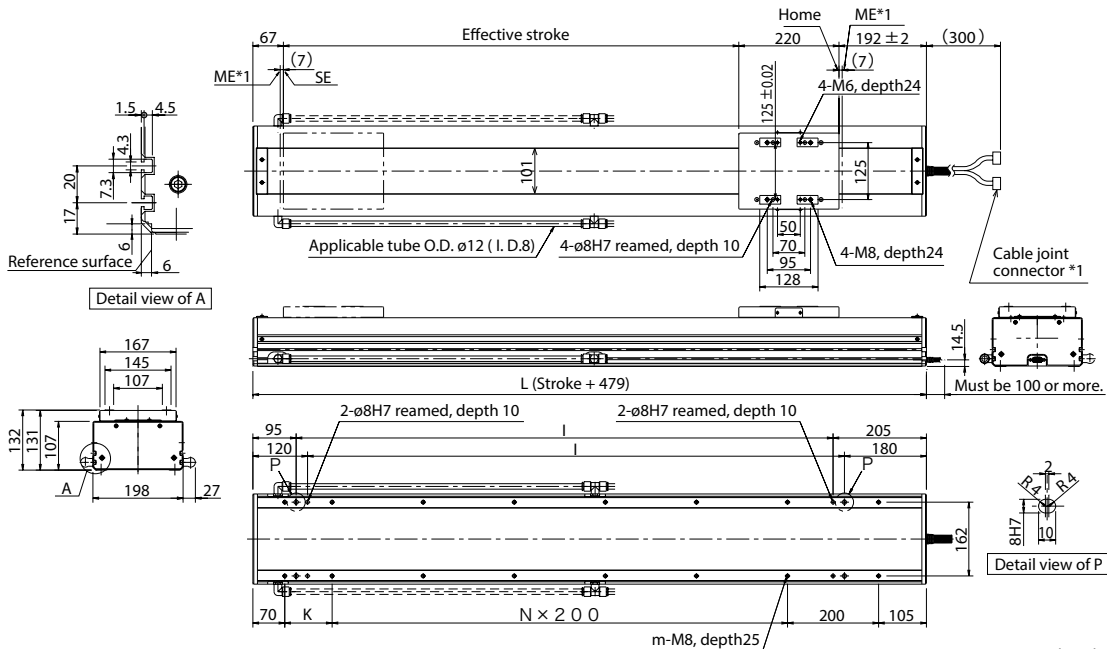
Option			
Name	Model number	Reference page	
AQ seal	AQ	→P10	
Brake	B	→P10	
Creep sensor	C	→P10	
Home limit switch (standard feature)	L	→P10	
Master axis specification	LM	→P11	
Non-motor end specification	NM	→P11	
Slave axis specification	S	→P11	
Suction tube joint on the opposite side	VR	→P11	
Double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

Diagram

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

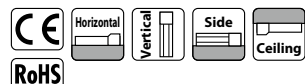


*1 When the slide is returning to its home position, please be careful of interference from surfing objects, as it will travel until it races the ME.
ME: Mechanical End
SE: Stroke End

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	2000	1000	500	1965	1605	1335	1130	970	840	980	800	665	565	485	420	490	400	330	280	240	210	210	210	210

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	●	●	-	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	-	-	●		55,000 (depend on type)	



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

● 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.

ISDACR-W-750

ISPDACR-W-750

±20µm
Standard

Clean-room
Spec

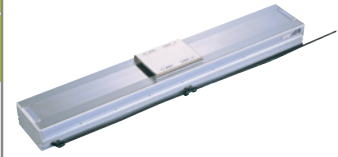
Extra
large
type

Actuator width
198
mm

750
W

High
Precision
Specification

±10µm
High precision



Model Specification Items	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options*
ISDACR: Standard specification ISPDACR: High precision specification	W	750	T2						
	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)			Rated thrust (N)	Suction flow rate (Nl/min)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)				
ISDACR[ISPDACR]-W-①-750-50-②-T2-③-L-④	750	50	60	14	255	120	100~1300 (Every 50mm)	
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

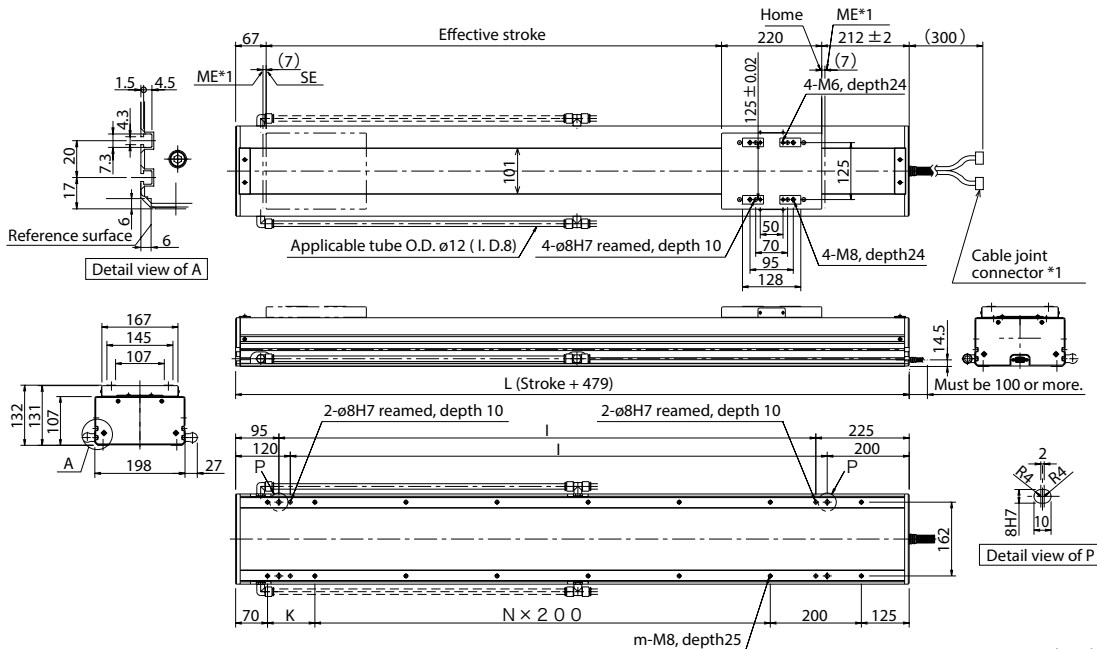
Actuator Specifications

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 (*) (**)	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.

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 83.5mm from the slider work mounting position.

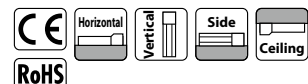
Dimensions and Mass by Stroke

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	4	4	4	4	5	5	5	5	6	6	6	6	
m	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	16	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		Lead 25		2000		1250		2000		1780		1525		1320		1050		890		760		660			

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	●	●	-	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	-	-	●		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.

ISDACR-WX-600

ISPDACR-WX-600

±20μm
Standard

Clean-room Spec

Extra large type

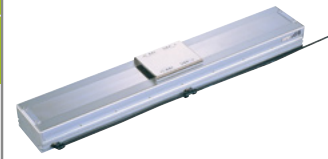
Mid-Support type

Actuator width 198 mm

600 W

High Precision Specification

±10μm
High precision



Model Specification Items	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options*
ISDACR: Standard specification ISPDACR: High precision specification	WX			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)	Horizontal Payload (kg)	Vertical Payload (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: 45N·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

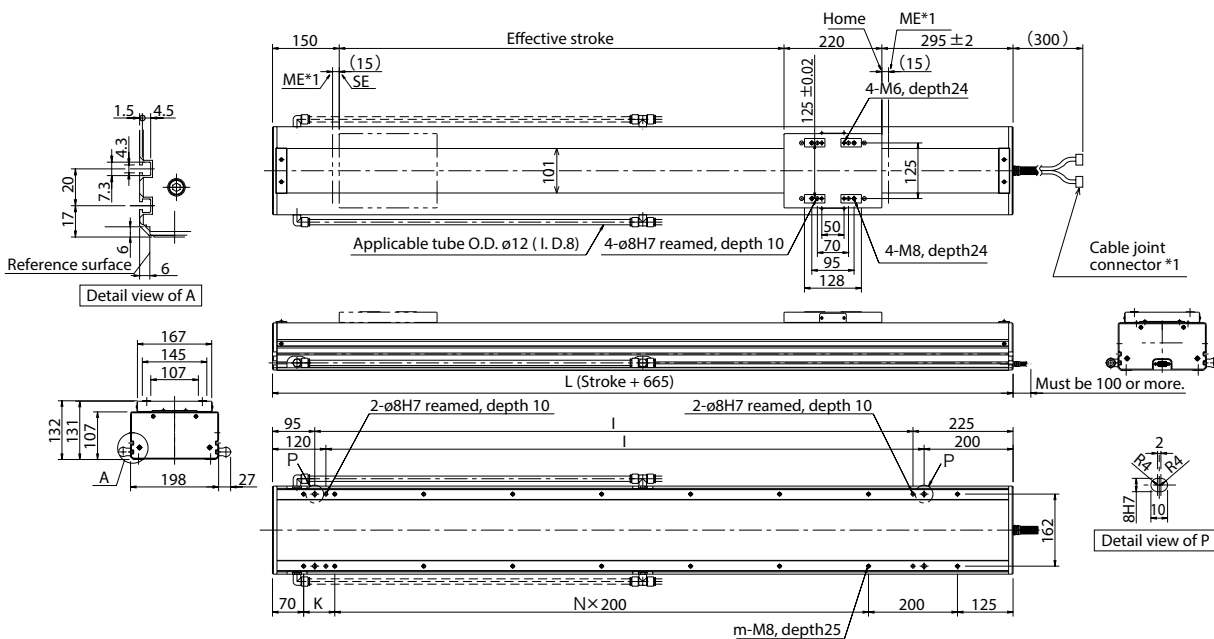
* Assumes a standard rated life of 10,000km. The operational life will vary depending on operation and installation conditions. Please refer to P16 for details on operational life.

Diagram

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

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 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						
T	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	10	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	1725	1530	1365	1225	1110	1005	915	840	770	710	655										
	Lead 20	1000																980	860	765	680	610	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
		Positioner	Pulse train control	program			
SCON-CB/CGB	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	-	-	●		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.

ISDACR-WX-750

ISPDACR-WX-750

±20μm
Standard

Clean-room Spec

Extra large type

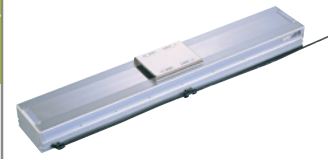
Mid-Support type

Actuator width 198 mm

750 W

High Precision Specification

±10μm
High precision



Model Specification Items	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options*
ISDACR: Standard specification ISPDACR: High precision specification	WX			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 (Nl/min)	Stroke (mm)
ISDACR[ISPDACR]-WX-①-750-50-②-T2-③-L-④	750	50	60	255	120	900~2500
ISDACR[ISPDACR]-WX-①-750-25-②-T2-③-L-④		25	120	510	60	(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

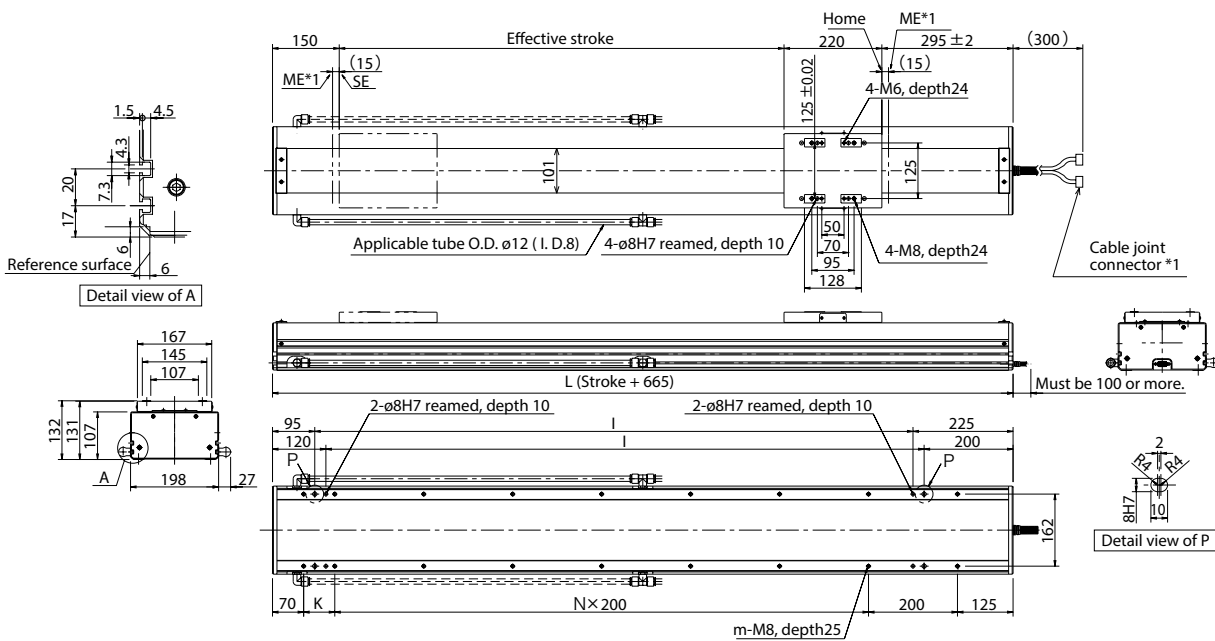
Actuator Specifications

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: 45N·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
T	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	10	10	10	10	10	11	11	11	11	11	12	12	12	12	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	28	30	30	30	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	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
		Positioner	Pulse train control	program			
SCON-CB/CGB	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	-	-	●		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.



ISDBCR-S-□□□□-ESD

ISPDBCR-S-□□□□-ESD

±10µm
Standard

Clean-room Spec

Battery-less absolute

Small type

Static electricity protection specification

Actuator width 90 mm

60 W

High Precision Specification

±3µm
High precision

Model Specification Items	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options**
ISDBCR: Standard specification ISPDBCR: High precision specification	S	WA	60	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		



- 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)	Rated thrust (N)	Suction flow rate (Nl/min)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
ISDBCR[ISPDBCR]-S-WA-60-16-①-T2-②-ESD-③	60	16	13	3	53.1	100~800 (Every 50mm)
ISDBCR[ISPDBCR]-S-WA-60-8-①-T2-②-ESD-③		8	27	6	106.1	
ISDBCR[ISPDBCR]-S-WA-60-4-①-T2-②-ESD-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	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 650~800)	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			

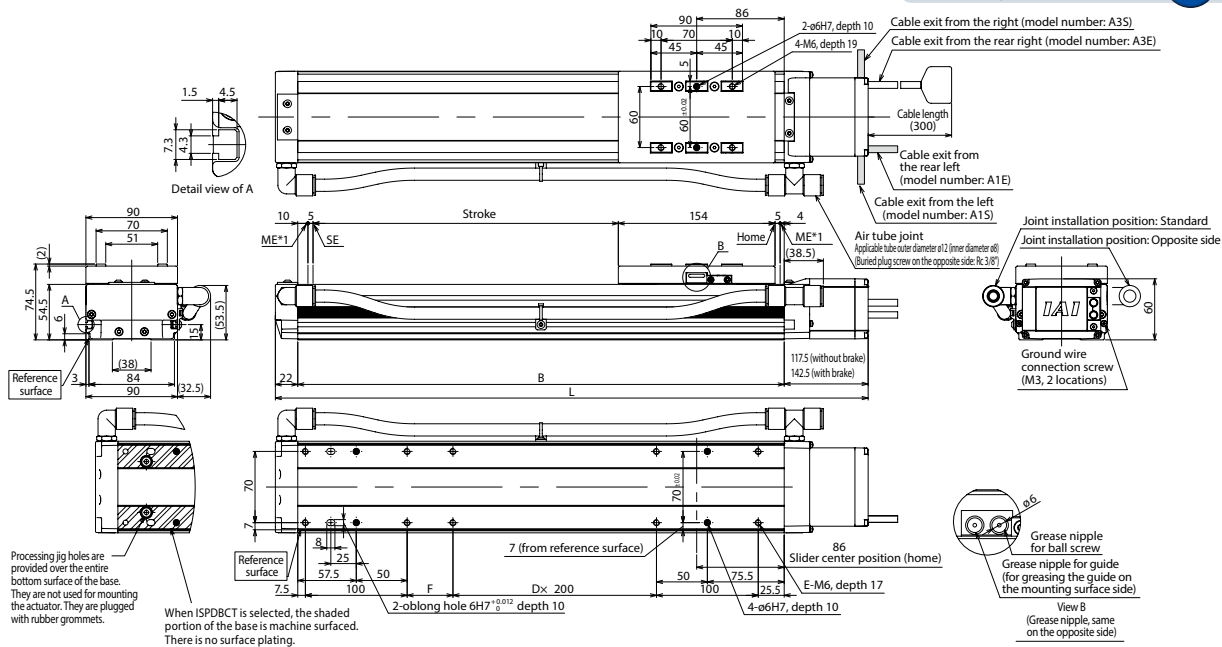
* ISPDBCR and ISDBCR (lead 16) can not select Guide with ball retention mechanism (RT).

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



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

Dimensions and Mass by Stroke

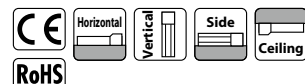
Stroke	L															
	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	
without brake	417.5	467.5	517.5	567.5	617.5	667.5	717.5	767.5	817.5	867.5	917.5	967.5	1017.5	1067.5	1117.5	
with brake	442.5	492.5	542.5	592.5	642.5	692.5	742.5	792.5	842.5	892.5	942.5	992.5	1042.5	1092.5	1142.5	
B	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			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	●	-	●		55,000 (depend on type)	
					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/side/ceiling mountings depending on the model. Please contact IAI for more information.

ISDBCR-M-□□□□-ESD

ISPDBCR-M-□□□□-ESD

±10μm
Standard

Clean-room
Spec

Battery-less
absolute

Medium
type

Static electricity
protection
specification

Actuator with
120
mm

100
W

200
W

High Precision
Specification

±3μm
High precision

Model Specification Items	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options**
ISDBCR: Standard specification ISPDBCR: High precision specification	M	WA				T2		ESD*	
	100: 100W 200: 200W	30: 30mm 20: 20mm 10: 10mm 5: 5mm	100: 100mm 20: 20mm 1100: 1100mm (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)	Horizontal Payload (kg)	Vertical Payload (kg)	Rated thrust (N)	Suction flow rate (Nl/min)	Stroke (mm)
ISDBCR[ISPDBCR]-M-WA-100-30-①-T2-②-ESD-③	100	30	15	2	56.6	180	100~1100 (Every 50mm)
ISDBCR[ISPDBCR]-M-WA-100-20-①-T2-②-ESD-③		20	23	4	84.9	120	
ISDBCR[ISPDBCR]-M-WA-100-10-①-T2-②-ESD-③		10	45	10	169.8	50	
ISDBCR[ISPDBCR]-M-WA-100-5-①-T2-②-ESD-③		5	85	20	339.7	20	
ISDBCR[ISPDBCR]-M-WA-200-30-①-T2-②-ESD-③	200	30	30	6	113.9	180	100~1100 (Every 50mm)
ISDBCR[ISPDBCR]-M-WA-200-20-①-T2-②-ESD-③		20	45	10	170.9	120	
ISDBCR[ISPDBCR]-M-WA-200-10-①-T2-②-ESD-③		10	90	20	341.8	50	
ISDBCR[ISPDBCR]-M-WA-200-5-①-T2-②-ESD-③		5	110	40	683.6	20	

Legend: ① Stroke ② Cable length ③ Options

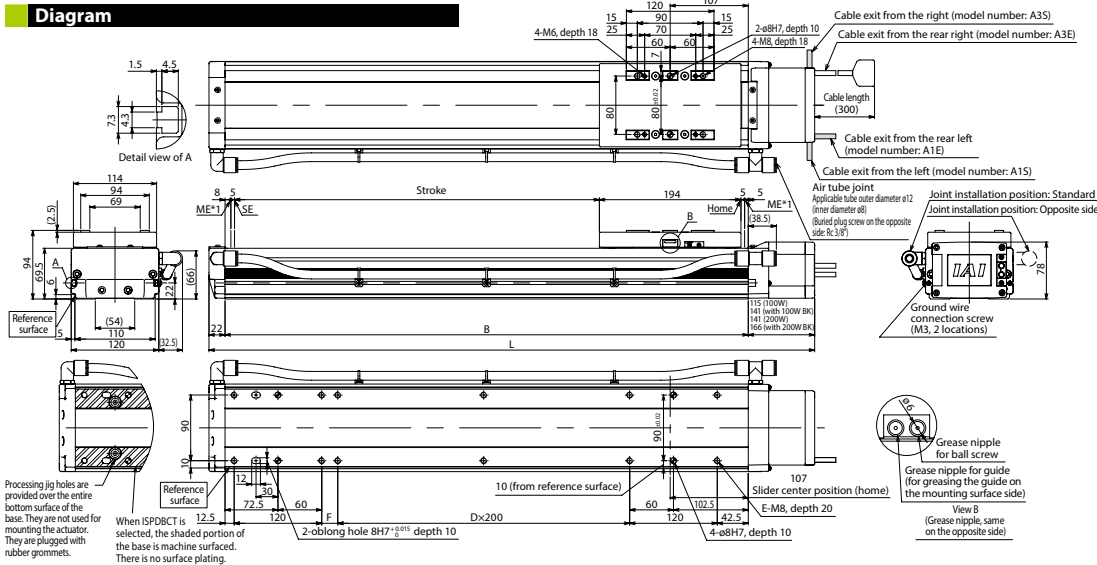
- (Note 1) The value of payload is when operating at an acceleration of 0.4G. (0.2G For 5mm lead) When the acceleration is increased, the payload will be reduced. Please contact IAI for more information.
- (Note 2, 3, 4) The values in [] apply only to the ISPDBCR series. Other specifications apply to 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	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	Double slider specification	W	→P11
Home limit switch on the opposite side	LL	→P10			

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

Diagram



CAD drawings can be downloaded from our website.

www.intelligentactuator.com



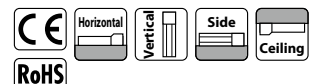
Dimensions and Mass by Stroke

Stroke	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100
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
L 200W without brake	480	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	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	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)	7.6	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
without brake	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
with brake																					
Maximum speed (mm/s)	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 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	●	-	●		55,000 (depend on type)	
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-L-□□□□-ESD

±10μm
Standard

Clean-room Spec

Battery-less absolute

Large type

Static electricity protection specification

Actuator width 150mm

200W

400W



ISPDBCR-L-□□□□-ESD

High Precision Specification

±3μm
High precision

Model Specification Items	Series	Type	Encoder type	Motor type	Lead	Stroke	Applicable controller	Cable length	Options**
ISDBCR: Standard specification	ISDBCR	L	WA	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	
ISPDBCR: High precision specification	ISPDBCR	L	WA	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[ISPDBCR]-L-WA-200-40-①-T2-②-ESD-③	200	40	15	2.5	85.5	100~1300 (Every 50mm)
20			45	9	170.9	
10			90	20	341.8	
ISDBCR[ISPDBCR]-L-WA-400-40-①-T2-②-ESD-③	400	40	40	8	169.6	100~1300 (Every 50mm)
20			90	20	339.1	
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.
- (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 and ISDBCR (lead 40) can not select Guide with ball retention mechanism (RT).

Actuator Specifications

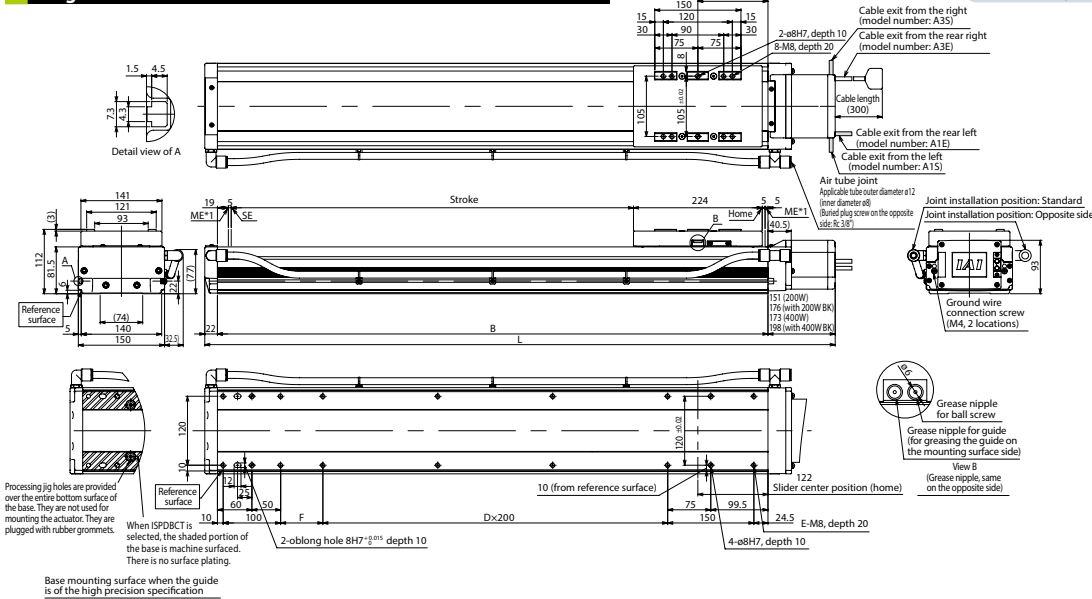
Drive method (Note 2)	Ball screw φ20mm, rolled C10 [equivalent to rolled C5]
Positioning repeatability (Note 3)	±0.01mm [±0.003mm]
Base other structural member	Material: Aluminum Electroless nickel plating treatment
Lost motion (Note 4)	0.05mm [0.02mm] max.
Dynamic allowable load moment (*)(**)	Ma: 123N·m 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



- *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 61.5mm from the slider work mounting position.

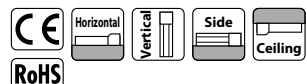
Dimensions and Mass by Stroke

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 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	1	2	2	2	2	3	3	3	3	4	4	4	5	5	5	5	5	6
E	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18	18	20	20
F	73.5	123.5	173.5	23.5	73.5	123.5	173.5	23.5	73.5	123.5	173.5	23.5	73.5	123.5	173.5	23.5	73.5	123.5	173.5	23.5	73.5	123.5	173.5	23.5	73.5
Mass (kg) 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	1800																							
	Lead 20	1165																							
	Lead 10	600																							

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	-	-	●		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.



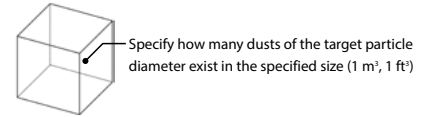
* Some limitations may apply to Vertical/side/ceiling mountings depending on the model. Please contact IAI for more information.

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.Std209D 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.



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 Class criteria	0.5μm or more				
	Number of particles per 1 ft ³				
	Measured particle diameter [Pieces/ft ³ (pieces/m ³)]				
Class	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 Class criteria	0.1μm					
	Power of particle count of 1 m ³					
	Upper limit concentration [pieces / m ³]					
Class	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
	Class10		(Class2.5)
		Class1	Class3
	Class100		(Class3.5)
		Class10	Class4
			(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

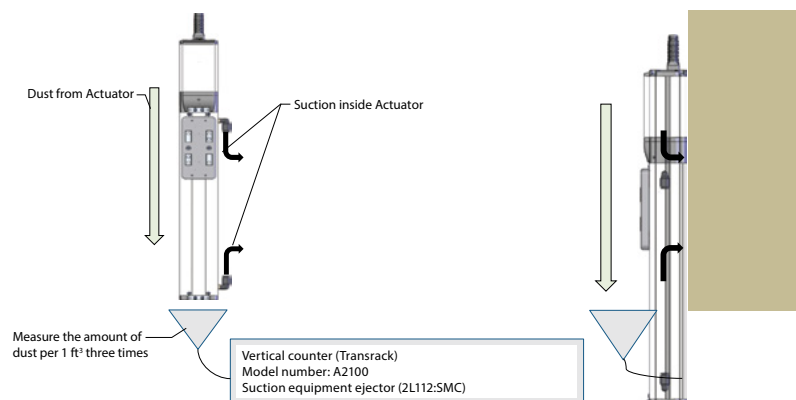
⇒ Cleanliness class in the intermediate area is specified in increments of 0.1 from 1.1 to 8.9

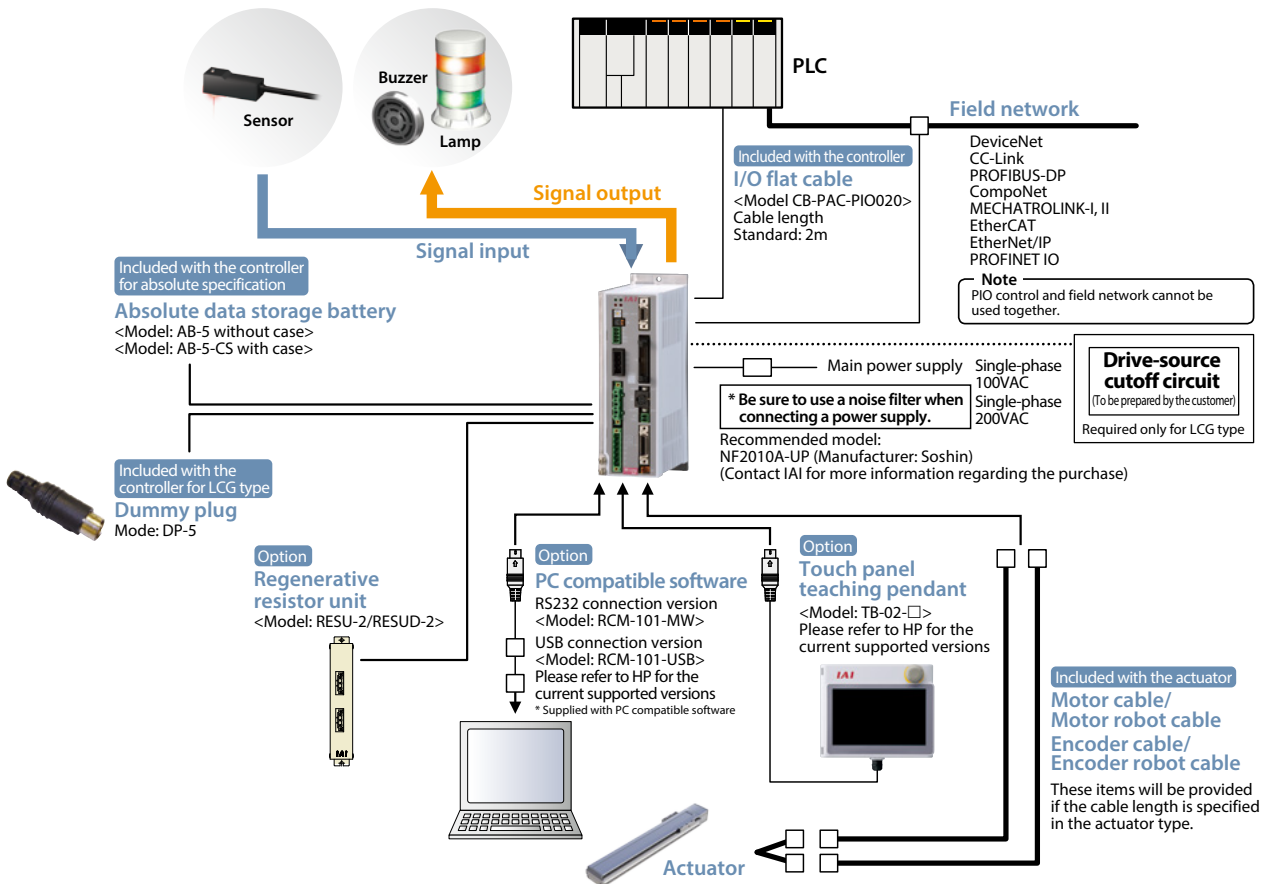
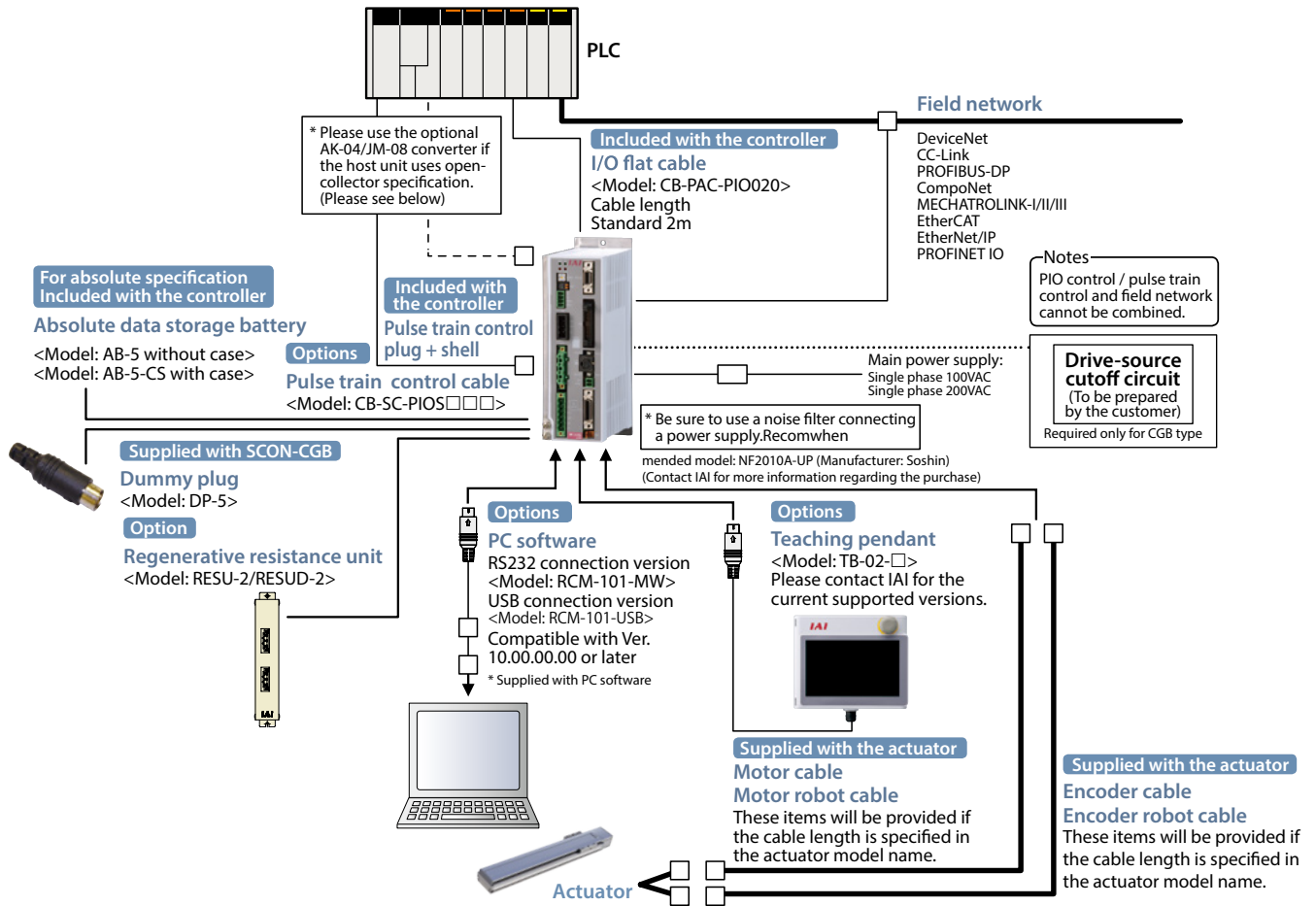
D: particle diameter [μm]

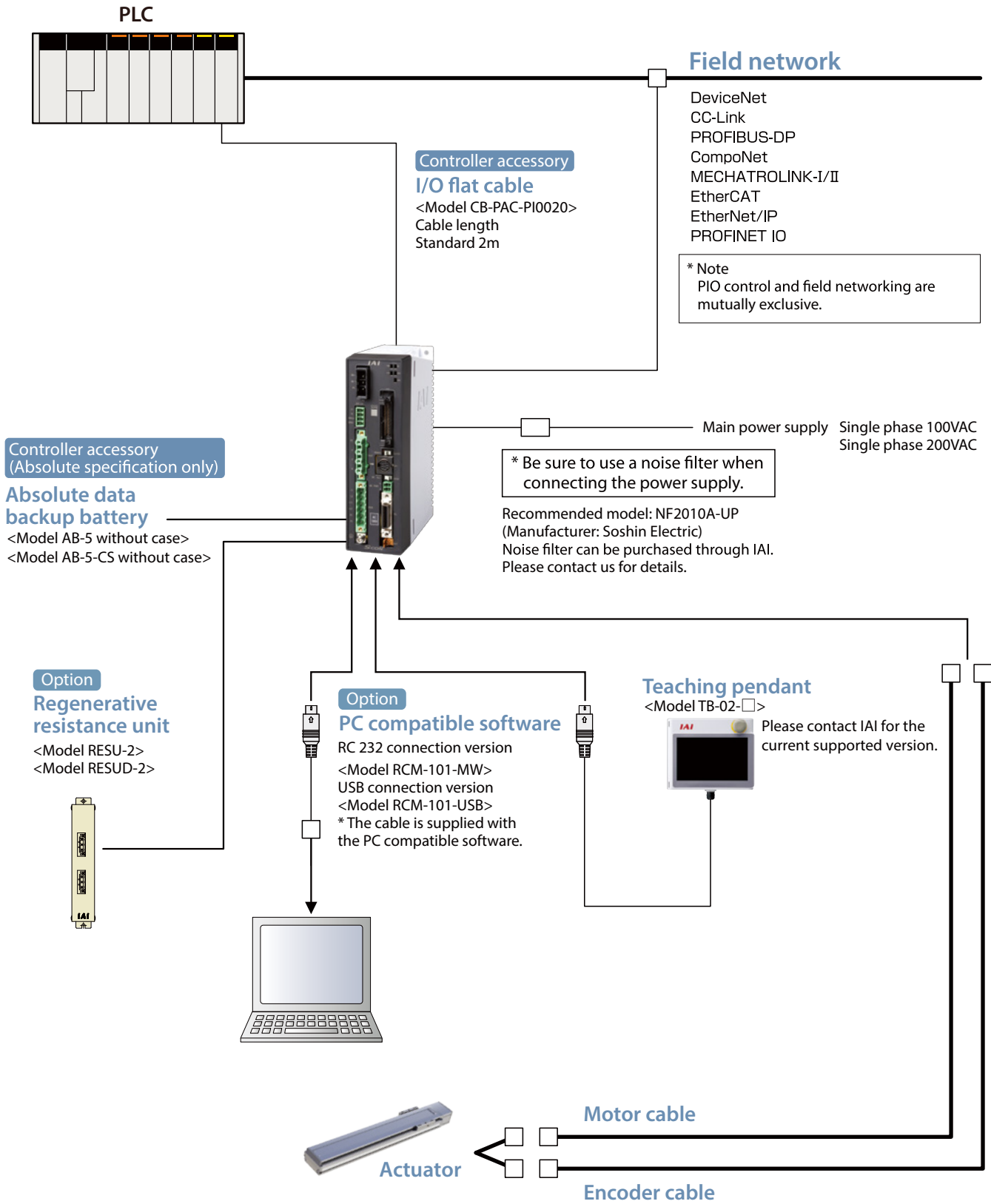
<Cleanness Measurement Method in IAI>

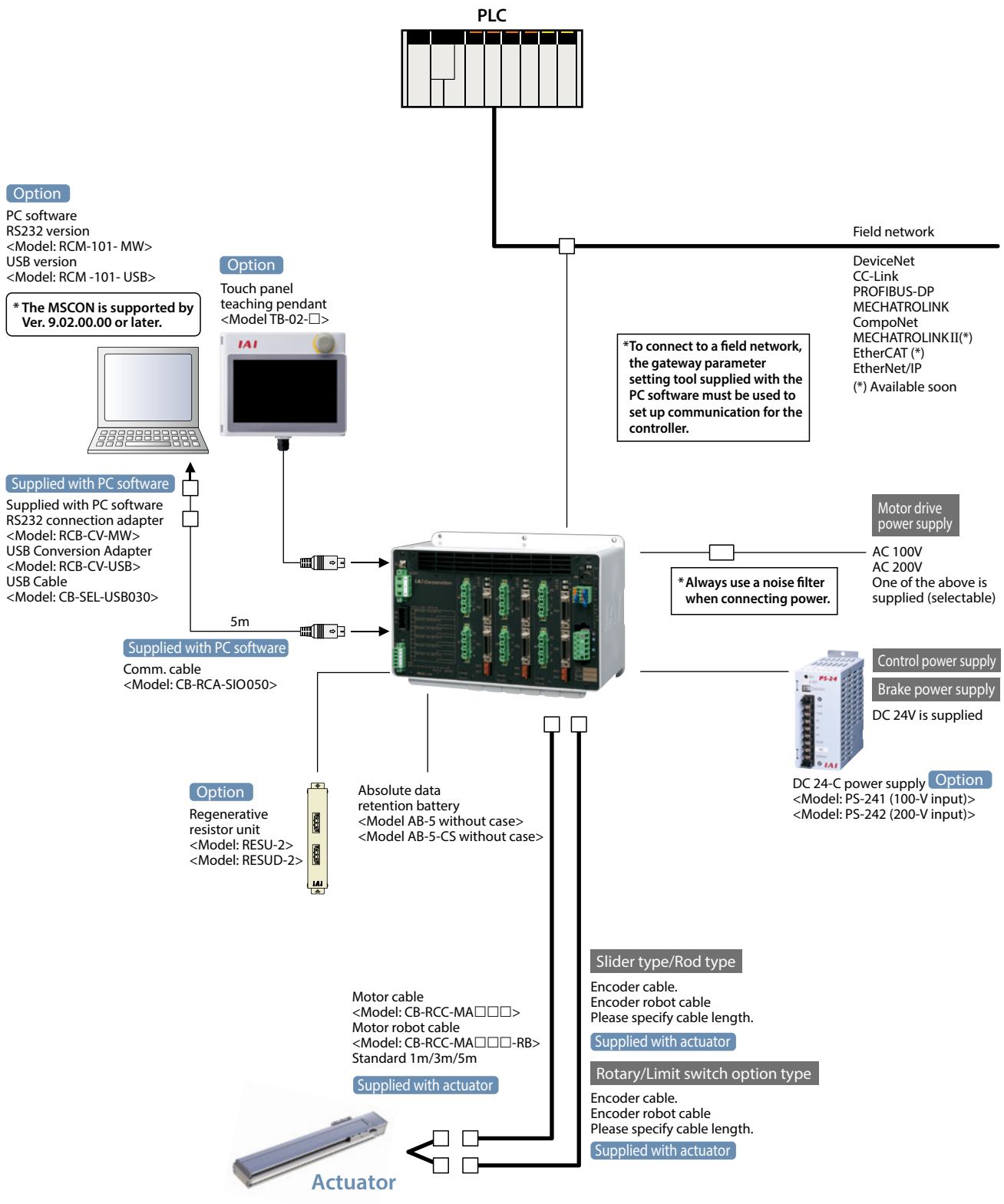
Measurement conditions for IAI are shown in the figure below.

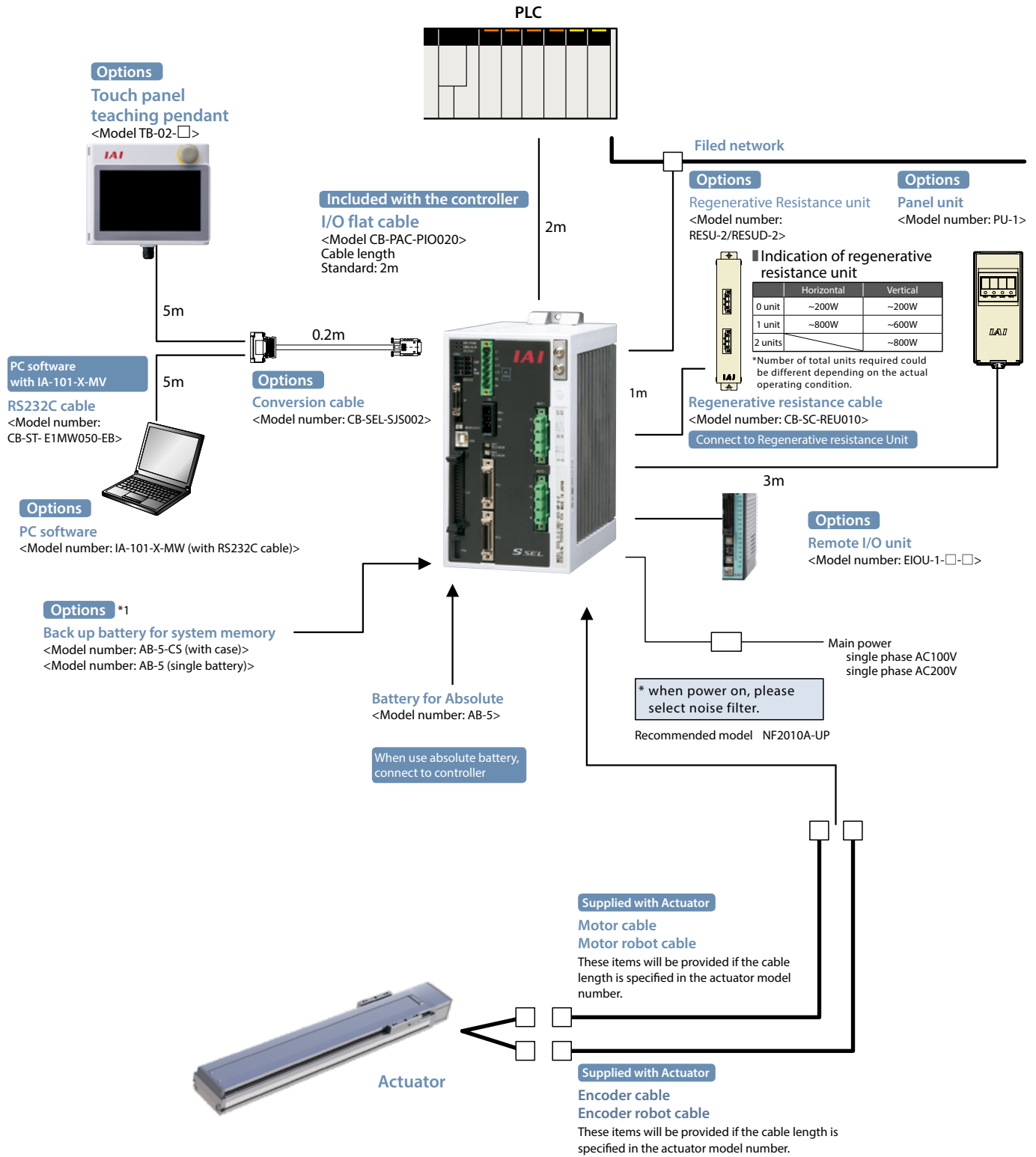
Measure with vertical installation, measure the amount of dust per 1 ft³ three times, and set the maximum value as the cleanliness.







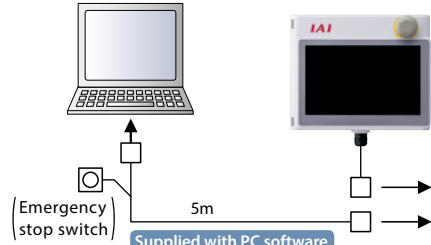




Option

PC software

* (P)=PC side, (C)=controller side
 (P)RS232-(C)RS232
 <Model IA-101-X-MW>
 (P)USB-(C)RS232
 <Model IA-101-X-USBMW>
 (P)USB-(C)USB/Ethernet
 <Model Number IA-101-N>
 * Ver. 13.00.00.00 or later



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)

Field network

DeviceNet
 CC-Link
 PROFIBUS-DP
 EtherCAT
 EtherNet/IP
 EtherNet/IP specification corresponds EtherNet.

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>

Connect to regenerative resistance unit
 Regenerative resistance unit cable 1m

Regenerative resistance unit
 Please contact IAI for more details.

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

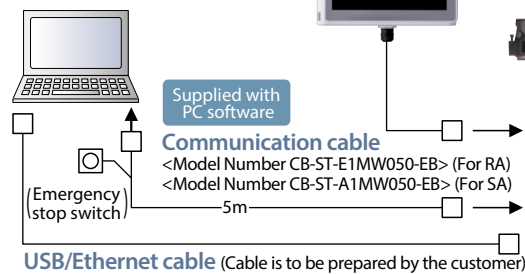
Power supply for brake release
 24VDC

I/O power supply
 24VDC

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



Option

Teaching pendant
 <Model Number TB-02-□>
 * Ver. 1.30 or later

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)

Field network

DeviceNet
 CC-Link
 PROFIBUS-DP
 EtherCAT
 EtherNet/IP

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.

Connectable actuators
 <Single-axis Robot, Cartesian Robot, Linear Servo, RCS2/RCS3 Series>

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.

Expanded motion control
 (Cable is to be prepared by the customer)

PCON/ACON/
 SCON-CB, MCON
 (MECHATROLINK III specification)

Drive-source cutoff circuit
 (To be prepared by the customer)

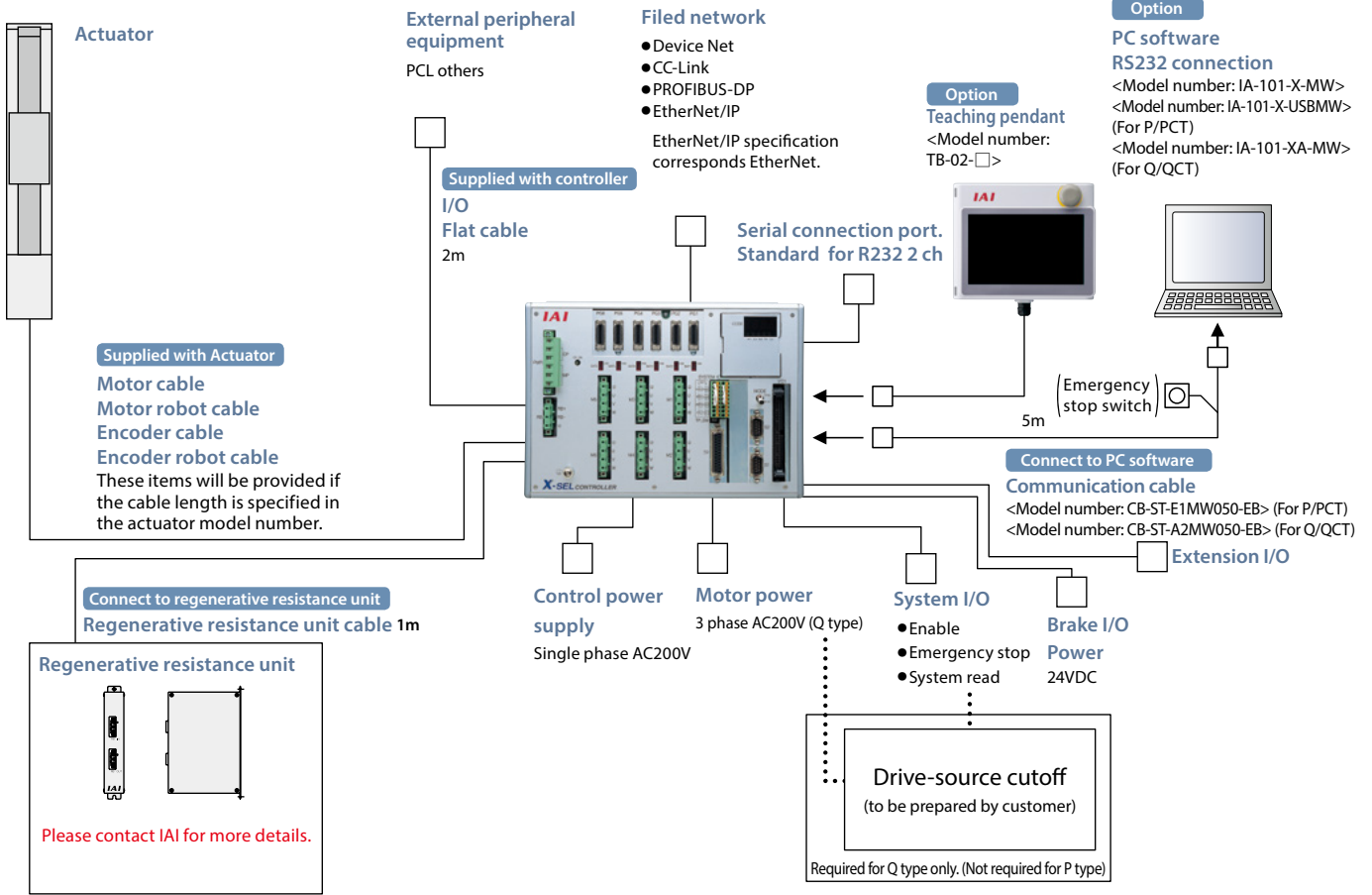
* Please contact IAI for more information regarding the drive-source cutoff circuit.
 * Required for SA type only (Not required for RA type)

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



Network selection



* The type of compatible networks may vary depending on the controller. Please contact IAI for more detail.

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The information contained in this product brochure may change without prior notice due to product improvements. Please contact IAI for latest information.

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