

LBFS05

Basic model Motor-less Single Axis Actuator

Low-profile type

Ordering method

LBFS05

Model	Lead	Shape	Motor specification	Stroke
	20: 20 mm 12: 12 mm 6: 6 mm 2: 2 mm	S: Straight R: Right attachment L: Left attachment	Y: Y specification (see below) P: P specification (see below) A: A specification (see below) S: S specification (see below) N: N specification (see below)	50 to 800 (50 mm pitch)

Caution

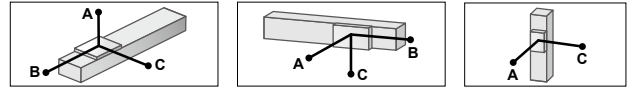
This system is provided as mechanical actuator unit and not including any adapters or electric components. Motor, driver and other components required for installation are the user's responsibility. Refer to user's manual for installation details. Refer to your motor manual for tuning or adjustment. Vibration or resonance from actuator will affect service life of actuator. The product performance may not be satisfied depending on the compatible motor. For special parts for motor installation, install and adjust on your side.

Specifications

Applicable motor	100 W			
Repeatability ^{Note 1}	±0.005 mm			
Deceleration mechanism	Rolled ball screw φ10 (C7 class)			
Stroke	50 mm to 800 mm (50 mm pitch)			
Maximum speed ^{Note 2}	1200 mm/sec	800 mm/sec	400 mm/sec	120 mm/sec
Ball screw lead	20 mm	12 mm	6 mm	2 mm
Maximum payload ^{Note 3}	Horizontal	10 kg	22 kg	30 kg
	Vertical	3 kg	4 kg	6 kg
Rated Thrust ^{Note 3}	85 N	142 N	285 N	854 N
Dinamic loading moment (MY,MP,MR)	24.6 / 24.6 / 39.4			
Maximum dimensions of cross section of main unit	W 58 mm × H 40 mm			
Overall length	Straight	ST + 214 mm		
	Bending	ST + 195 mm		
Degree of Cleanliness ^{Note 4}	Equivalent to ISO Class 4 (ISO 14644-1)			
Intake air ^{Note 5}	80 Nl/min~			
Using ambient temperature and humidity	0 to 40 °C, 35 to 80 %RH (no condensation)			

- Note 1. Positioning repeatability in one direction. ±0.01 for the Bending configuration.
 Note 2. When a moving distance is short and depending on an operation condition, it may not reach the maximum speed. If the effective stroke exceeds (A) mm, the ball screw may resonate. (Critical speed) (A):700 mm for lead 20; 600 mm for lead 2, 6, and 12.
 Note 3. The rated thrust and maximum transferable weight are values assuming the attached motor outputs the rated torque.
 Note 4. When using in a clean environment, attach a suction air joint. The degree of cleanliness is the cleanliness level achieved when using at 1000 mm/sec or less.
 Note 5. The required suction amount will vary according to the operating conditions and operating environment.

Allowable overhang^{Note}



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	Horizontal installation (Unit: mm)			Wall installation (Unit: mm)			Vertical installation (Unit: mm)	
	A	B	C	A	B	C	A	C
3kg	637	348	330	330	348	637	941	941
6kg	330	165	161	161	165	330	327	327
10kg	234	92	95	95	92	234		

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	Horizontal installation (Unit: mm)			Wall installation (Unit: mm)			Vertical installation (Unit: mm)	
	A	B	C	A	B	C	A	C
8kg	511	151	186	186	151	511	640	640
15kg	353	73	93	93	73	353	322	322
22kg	268	44	57	57	44	268		

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	Horizontal installation (Unit: mm)			Wall installation (Unit: mm)			Vertical installation (Unit: mm)	
	A	B	C	A	B	C	A	C
10kg	1178	140	208	208	140	1178	520	520
15kg	830	88	130	130	88	830	260	260
25kg	566	46	68	68	46	566		

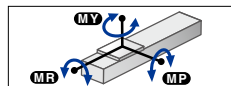
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	Horizontal installation (Unit: mm)			Wall installation (Unit: mm)			Vertical installation (Unit: mm)	
	A	B	C	A	B	C	A	C
10kg	9257	186	293	293	186	9257	406	406
20kg	6043	84	133	133	84	6043	203	203
30kg	4746	50	79	79	50	4746		

Note. Distance from center of slider top to center of gravity of object being carried at a guide service life of 10,000 km.

Note. Service life is calculated for 500 mm stroke models.

Static loading moment



(Unit: N·m)		
MY	MP	MR
73	73	115

Applicable motor

Applicable servo motor

Specification	Flange size	Wattage
	□ 40	100 W

Note. Motor models marked with * may not be 50W, but can be installed.

Motor specification	Manufacturer	Model
Y	Yaskawa Electric Corp.	SGMJV-01
		SGMJ7-01
		SGMXJ-01
	Keyence Corp.	SV-□ 010
		SV2-□ 010
		SV3-□ 010
	Mitsubishi Electric Corp.	HG-KR13
		HK-KT13
		HK-MT13
	Omron Electronics	R88M-K10030
		R88M-1M10030
	Panasonic Corp.	MHMF01
MHMG01		
Sanyo Denki	R2 □ A04010	
	TSM3104	
Tamagawa Seiki	TSM4154	
	TSM4164	

Motor specification	Manufacturer	Model
Y	Delta Electronics	ECM-A3L-C □ 20401
	Fanuc Corp.	βiS0.3/5000
	Siemens	1FK2102-1AG
		1FL6024-2AF
	Schneider	BCH2MB013
	Beckhoff	AM3012C*
	Allen-Bradley	TLY-A130*
	Kingservo	KSMA01LI □ S
		KSMA01LG
	P	Panasonic Corp.

Applicable stepping motor

Specification	Flange size	
	□ 42	
Motor specification	Manufacturer	Model
A	Oriental Motor	AZM46
		ARM46
		RKS54
S	Oriental Motor	AZM48
N	NEMA standard	NEMA17

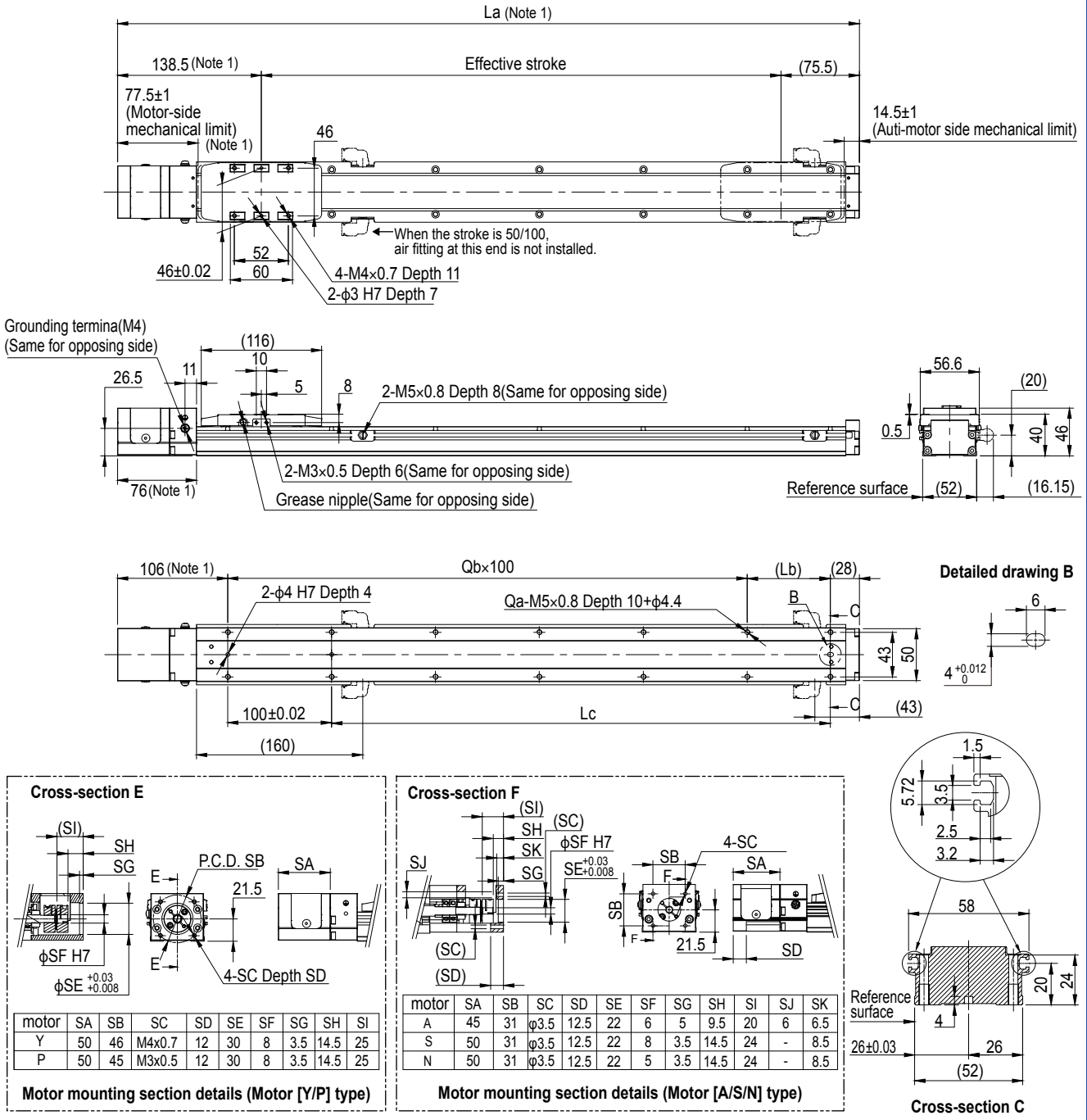
Note. Be aware that the dimensions of the NEMA standard motor may vary depending on the manufacturer.

Note. For the motor specifications A, S, and N, the parts dedicated for bending cannot be used.



▶ The cycle time simulation and service life calculation can be performed easily from our member site.

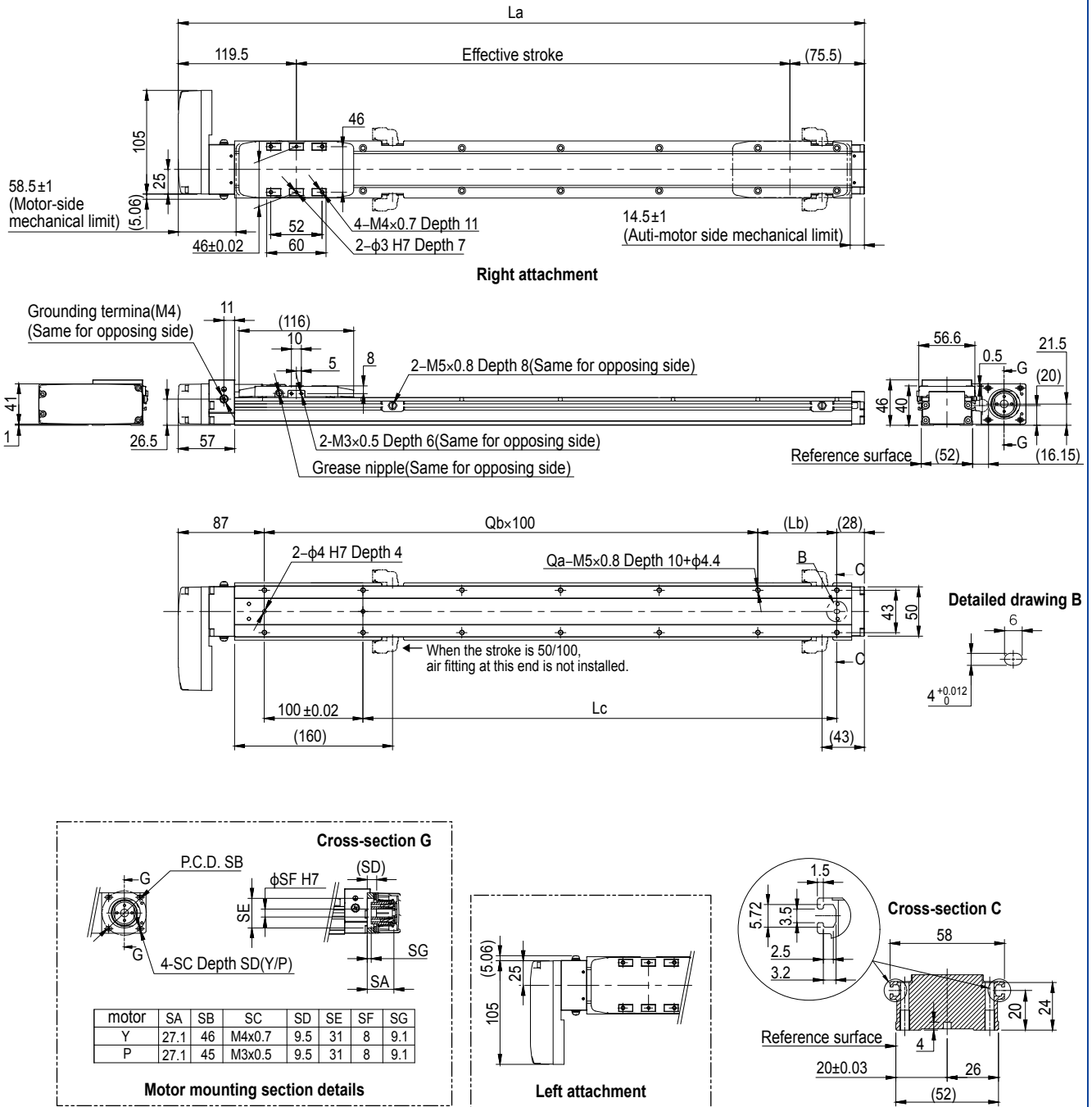
LBFS05 Straight type (S)



Note 1. Motor specifications: For A, the stated dimensions will be -5mm. Please refer to the specifications table for details.
 Note. For the installation through hole, the length under head <<35mm or more >> is recommended for the hex socket head bolts <M4x0.7>.
 Note. In the installation tap hole, the length under head <<thickness of stand +10mm or less>> is recommended for the hex socket head bolts <M5x0.8> used to install the main unit.
 Note. Grease gun nozzle (recommended) Part number: KFU-M3861-00

Effective stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800			
La	264	314	364	414	464	514	564	614	664	714	764	814	864	914	964	1014			
Lb	30	80	30	80	30	80	30	80	30	80	30	80	30	80	30	80			
Lc	30	80	130	180	230	280	330	380	430	480	530	580	630	680	730	780			
Qa	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20			
Qb	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8			
Weight (kg)	0.93	1.17	1.42	1.66	1.9	2.15	2.39	2.63	2.88	3.12	3.36	3.6	3.85	4.09	4.33	4.58			
Maximum speed (mm/sec)	Lead 20	1200													780	720	600		
	Speed setting	-													65%	60%	50%		
	Lead 12	800													680	560	480	400	360
	Speed setting	-													85%	70%	60%	50%	45%
	Lead 6	400													340	280	240	200	180
	Speed setting	-													85%	70%	60%	50%	45%
Lead 2	120													102	90	78	66	60	
	Speed setting	-													85%	75%	65%	55%	50%

LBFS05 Bending type (R/L)



Note. For special parts for motor installation, install and adjust on your side. Refer to your motor manual for tuning or adjustment.

Note. For the installation through hole, the length under head <<35mm or more >> is recommended for the hex socket head bolts <M4x0.7>. In the installation tap hole, the length under head <<thickness of stand +10mm or less >> is recommended for the hex socket head bolts <M5x0.8> used to install the main unit.

Note. Grease gun nozzle (recommended) Part number: KFU-M3861-00

Effective stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800			
La	245	295	345	395	445	495	545	595	645	695	745	795	845	895	945	995			
Lb	30	80	30	80	30	80	30	80	30	80	30	80	30	80	30	80			
Lc	30	80	130	180	230	280	330	380	430	480	530	580	630	680	730	780			
Qa	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20			
Qb	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8			
Weight (kg)	0.84	1.01	1.17	1.34	1.51	1.68	1.84	2.01	2.18	2.35	2.51	2.68	2.85	3.02	3.18	3.35			
Maximum speed (mm/sec)	Lead 20	1200													780	720	600		
	Speed setting	-													65%	60%	50%		
	Lead 12	800													680	560	480	400	360
	Speed setting	-													85%	70%	60%	50%	45%
	Lead 6	400													340	280	240	200	180
	Speed setting	-													85%	70%	60%	50%	45%
	Lead 2	120													102	90	78	66	60
	Speed setting	-													85%	75%	65%	55%	50%