LBFS03

Basic model **Motor-less Single Axis Actuator**

Low-profile type

Ordering method

LBFS03 – [ ] – [ ] – [ ] – [ ]

Model	Lead	Shape	Motor specification	Stroke
	8: 8 mm 4: 4 mm 2: 2 mm	S: Straight R: Right attachment L: Left attachment	Y: Y specification (see below)	50 to 300 (50 mm pitch)

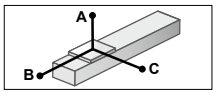
[Caution]
This system is provided as mechanical actuator unit and not including any adopters or electric components. Motor, driver and other components required for installation are the user's responsibility.
Refer to user's manual for installation details. Refer to your motor manual for tuning or adjustment. 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.

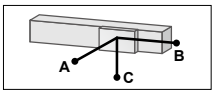
Specifications

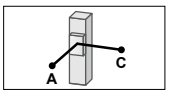
Applicable motor		30 W		
Repeatability Note 1		±0.005 mm		
Deceleration mechanism		Rolled ball screw ϕ6 (C7 class)		
Stroke		50 mm to 300 mm (50 mm pitch)		
Maximum speed Note 2		480 mm/sec	240 mm/sec	100 mm/sec
Ball screw lead		8 mm	4 mm	2 mm
Maximum payload Note 3	Horizontal	10 kg	10 kg	13 kg
	Vertical	2 kg	4 kg	5 kg
Rated Thrust Note 3		88 N	143 N	352 N
Dinamic loading moment (MY,MP,MR)		8.1 / 8.1 / 9.3		
Maximum dimensions of cross section of main unit		W 42.2 mm × H 30 mm		
Overall length	Straight	ST + 148 mm		
	Bending	ST + 133 mm		
Degree of Cleanliness Note 4		Equivalent to ISO Class 4 (ISO 14644-1)		
Intake air Note 5		50 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.
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







LBFS03-8

Horizontal installation (Unit: mm)

	A	B	C
4kg	785	113	116
7kg	492	60	61
10kg	360	38	39

Wall installation (Unit: mm)

	A	B	C
4kg	116	113	785
7kg	61	60	492
10kg	39	38	360

Vertical installation (Unit: mm)

	A	C
1kg	493	493
2kg	248	248

LBFS03-4

Horizontal installation (Unit: mm)

	A	B	C
4kg	1877	128	141
7kg	1202	68	75
10kg	912	44	49

Wall installation (Unit: mm)

	A	B	C
4kg	141	128	1877
7kg	75	68	1202
10kg	49	44	912

Vertical installation (Unit: mm)

	A	C
2kg	279	279
4kg	140	140

LBFS03-2

Horizontal installation (Unit: mm)

	A	B	C
5kg	4769	126	142
9kg	3117	65	73
13kg	2415	41	46

Wall installation (Unit: mm)

	A	B	C
5kg	142	126	4769
9kg	73	65	3117
13kg	46	41	2415

Vertical installation (Unit: mm)

	A	C
3kg	230	230
5kg	138	138

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 300 mm stroke models.

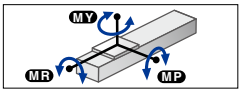
Applicable motor

- **Applicable servo motor**

Specification		
	Flange size	□ 25
	Wattage	30 W

Motor specification	Manufacturer	Model
Y	Yaskawa Electric Corp.	SGMMV-A3A
	Mitsubishi Electric Corp.	HG-AK0336

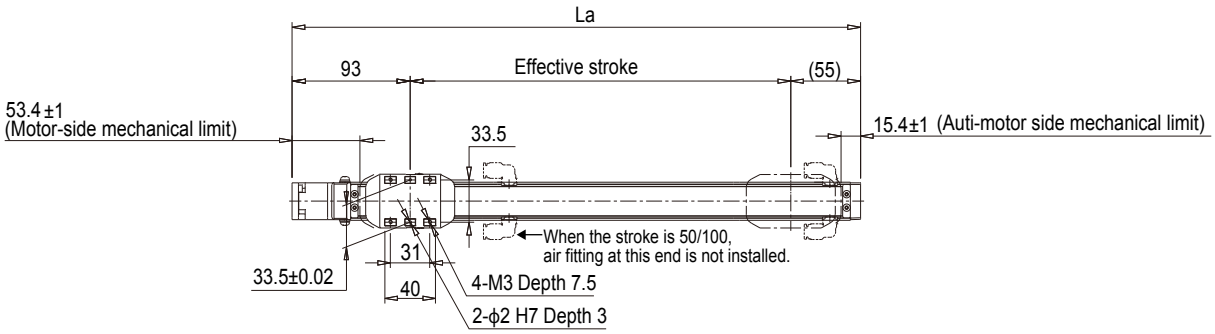
Static loading moment

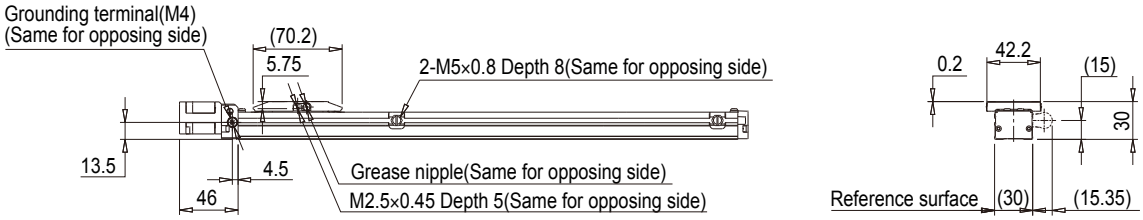


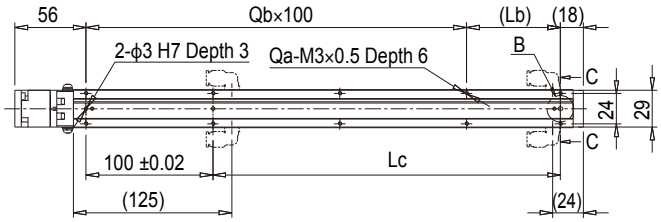
(Unit: N·m)

MY	MP	MR
13	13	15

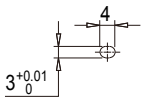
LBFS03 Straight type (S)

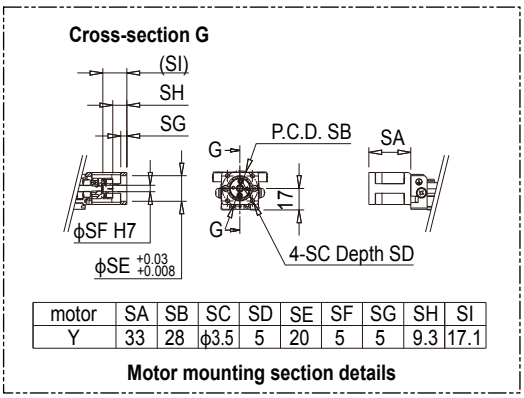






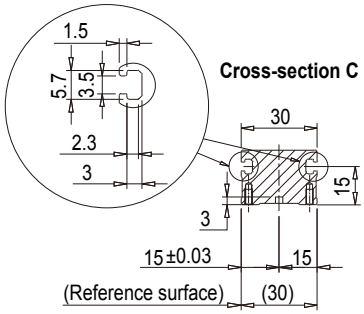
Detailed drawing B





motor	SA	SB	SC	SD	SE	SF	SG	SH	SI
Y	33	28	ϕ3.5	5	20	5	5	9.3	17.1

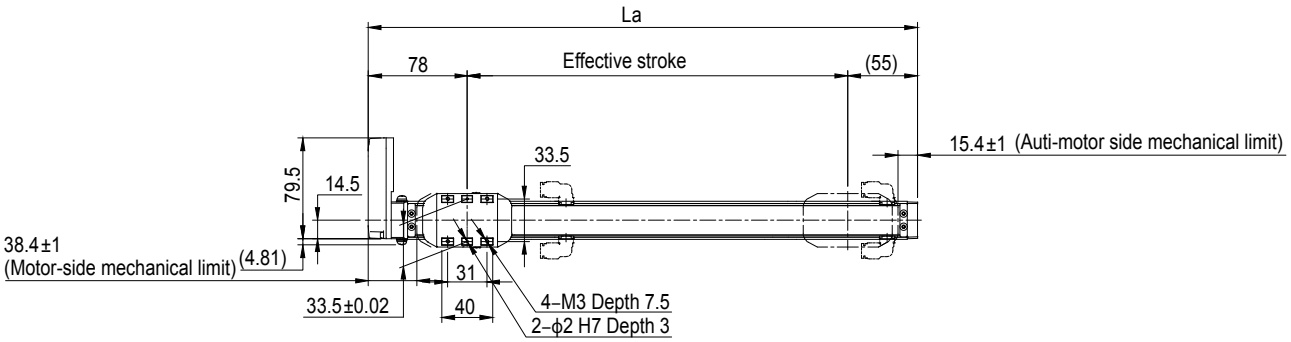
Motor mounting section details

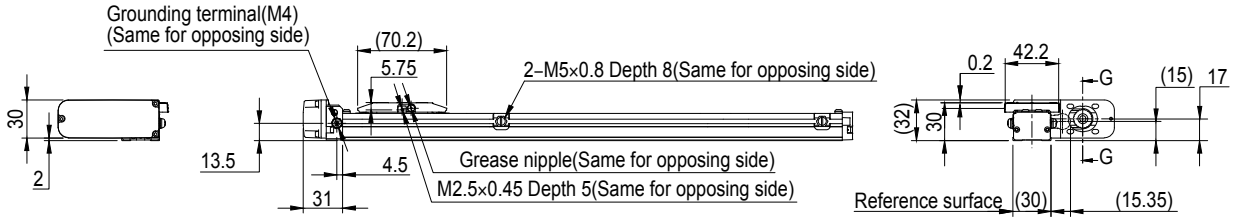


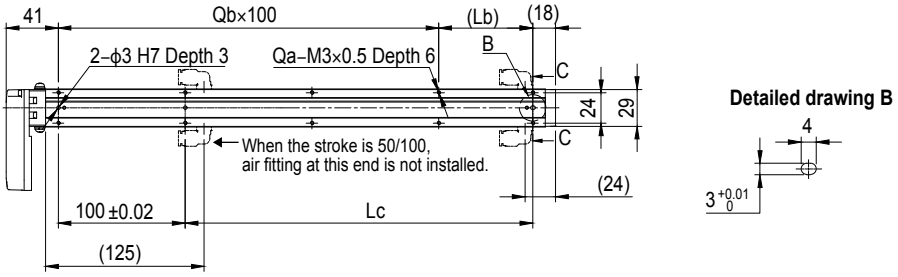
Note. In the installation tap hole, the length under head <<thickness of stand +6mm or less>> is recommended for the hex socket head bolts <M3×0.5> used to install the main unit.
Note. Grease gun nozzle (recommended) Part number: KFU-M3861-00

Effective stroke		50	100	150	200	250	300
La		198	248	298	348	398	448
Lb		24	74	24	74	24	74
Lc		24	74	124	174	224	274
Qa		6	6	8	8	10	10
Qb		1	1	2	2	3	3
Weight (kg)		0.35	0.4	0.46	0.5	0.55	0.61
Maximum speed (mm/sec)	Lead 8	480					
	Speed setting	-					
	Lead 4	240					
	Speed setting	-					
	Lead 2	100					
	Speed setting	-					

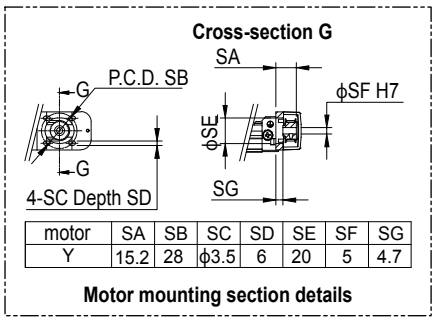
LBFS03 Bending type (R/L)





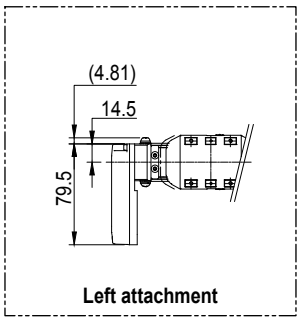


Detailed drawing B

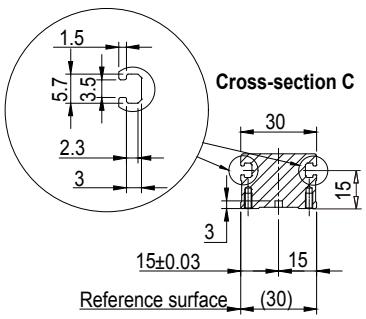


motor	SA	SB	SC	SD	SE	SF	SG
Y	15.2	28	ϕ3.5	6	20	5	4.7

Motor mounting section details



Left attachment



Note. Please perform installation and adjustment on the special parts for motor installation by the customer. For detail, refer to the manual.
Note. In the installation tap hole, the length under head <<thickness of stand +6mm or less>> is recommended for the hex socket head bolts <M3×0.5> used to install the main unit.
Note. Grease gun nozzle (recommended) Part number: KFU-M3861-00

Effective stroke		50	100	150	200	250	300
La		183	233	283	333	383	433
Lb		24	74	24	74	24	74
Lc		24	74	124	174	224	274
Qa		6	6	8	8	10	10
Qb		1	1	2	2	3	3
Weight (kg)		0.44	0.54	0.63	0.72	0.82	0.91
Maximum speed (mm/sec)	Lead 8	480					
	Speed setting	-					
	Lead 4	240					
	Speed setting	-					
	Lead 2	100					
	Speed setting	-					

LBFS04

Basic model | **Motor-less Single Axis Actuator**

Low-profile type

Ordering method

LBFS04 - [ ] - [ ] - [ ] - [ ]

Model	Lead	Shape	Motor specification	Stroke
	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 500 (50 mm pitch)

[Caution]

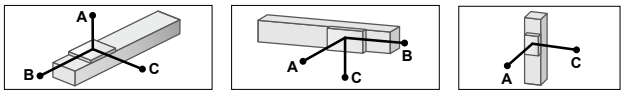
This system is provided as mechanical actuator unit and not including any adopters or electric components. Motor, driver and other components required for installation are the user's responsibility.
Refer to user's manual for installation details. Refer to your motor manual for tuning or adjustment. 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		50 W		
Repeatability Note 1		±0.005 mm		
Deceleration mechanism		Rolled ball screw ϕ 10 (C7 class)		
Stroke		50 mm to 500 mm (50 mm pitch)		
Maximum speed Note 2		720 mm/sec	360 mm/sec	120 mm/sec
Ball screw lead		12 mm	6 mm	2 mm
Maximum payload Note 3	Horizontal	12 kg	20 kg	25 kg
	Vertical	3 kg	5 kg	8 kg
Rated Thrust Note 3		71 N	141 N	424 N
Dinamic loading moment (MY,MP,MR)		17.2 / 17.2 / 23.3		
Maximum dimensions of cross section of main unit		W 49.7 mm × H 40 mm		
Overall length	Straight	ST + 220.5 mm		
	Bending	ST + 204 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.
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



LBFS04-12

Horizontal installation (Unit: mm)

	A	B	C
4kg	896	228	259
8kg	596	107	125
12kg	465	67	78

Wall installation (Unit: mm)

	A	B	C
4kg	256	228	864
8kg	130	107	691
12kg	84	67	619

Vertical installation (Unit: mm)

	A	C
1kg	913	913
3kg	316	316

LBFS04-6

Horizontal installation (Unit: mm)

	A	B	C
5kg	1867	209	272
10kg	1181	98	127
20kg	748	42	55

Wall installation (Unit: mm)

	A	B	C
5kg	272	209	1867
10kg	127	98	1181
20kg	55	42	748

Vertical installation (Unit: mm)

	A	C
3kg	369	369
5kg	222	222

LBFS04-2

Horizontal installation (Unit: mm)

	A	B	C
10kg	4004	128	172
18kg	2635	65	87
25kg	2088	43	58

Wall installation (Unit: mm)

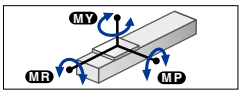
	A	B	C
10kg	172	128	4004
18kg	87	65	2635
25kg	58	43	2088

Vertical installation (Unit: mm)

	A	C
4kg	354	354
8kg	177	177

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
47	47	64

Applicable motor

• Applicable servo motor

Specification		
	Flange size	□ 40
	Wattage	50 W

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

Motor specification	Manufacturer	Model
Y	Yaskawa Electric Corp.	SGMJV-A5
		SGM7J-A5
		SGMXJ-A5
	Keyence Corp.	SV- □ 005
		SV2- □ 005
		SV3- □ 005
	Mitsubishi Electric Corp.	HG-KR053
		HK-KT053
		HK-MT033
	Omron Electronics	R88M-K05030
		R88M-1M05030
	Panasonic Corp.	MHMF5A
		MHMG5A
	Sanyo Denki	R2 □ A04005
	Tamagawa Seiki	TSM3102
		TSM4152
		TSM4162
Y	Delta Electronics	ECM-A3L-C □ 2040F
	Fanuc Corp.	βiS0.2/5000
	Siemens	1FK2102-0AG
		1FL6022-2AF
	Schneider	BCH2MBA53
	Beckhoff	AM3011B*
	Allen-Bradley	TLY-A120*
P	Panasonic Corp.	MSMF5A

• Applicable stepping motor

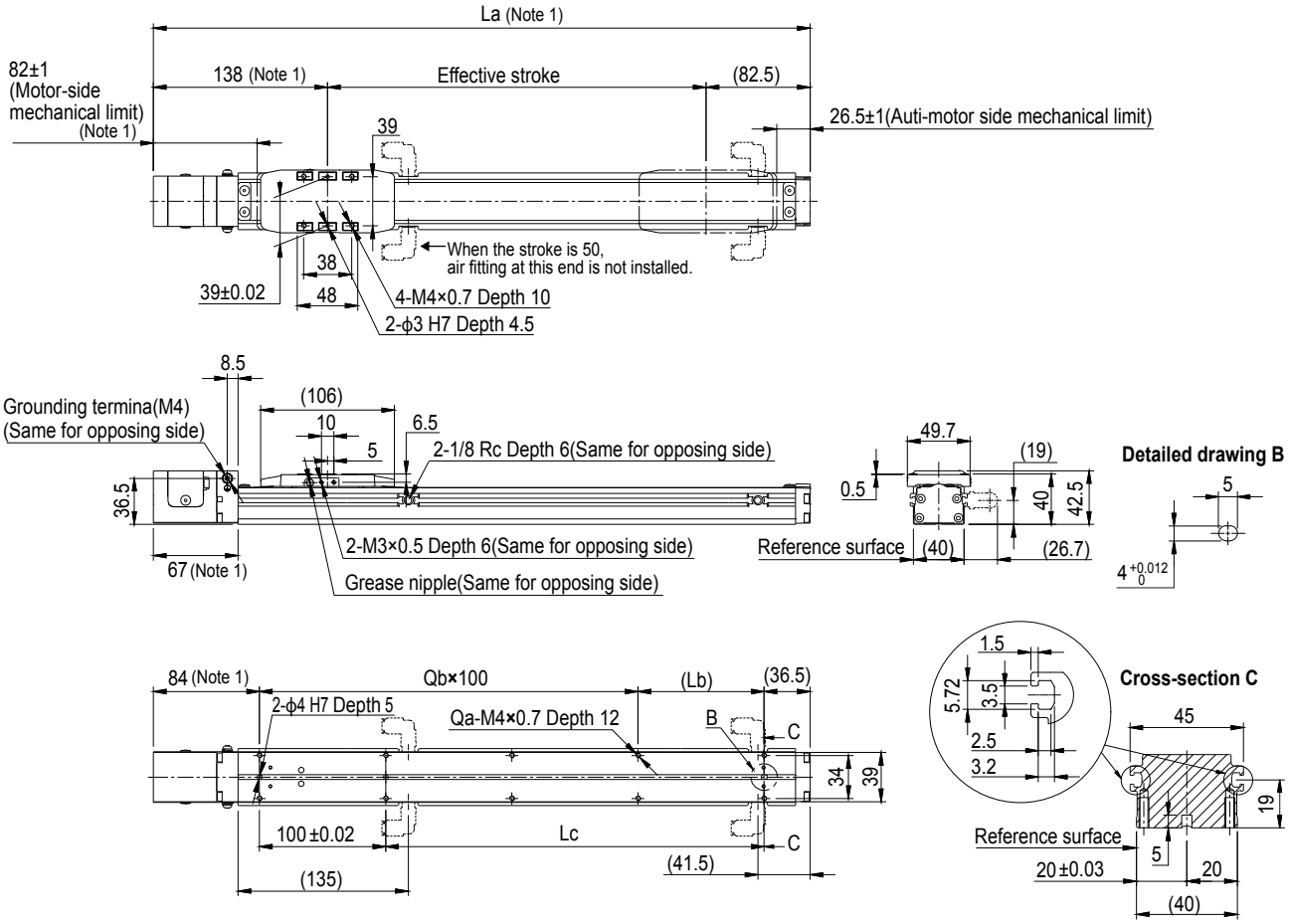
Specification	Flange size	□ 42

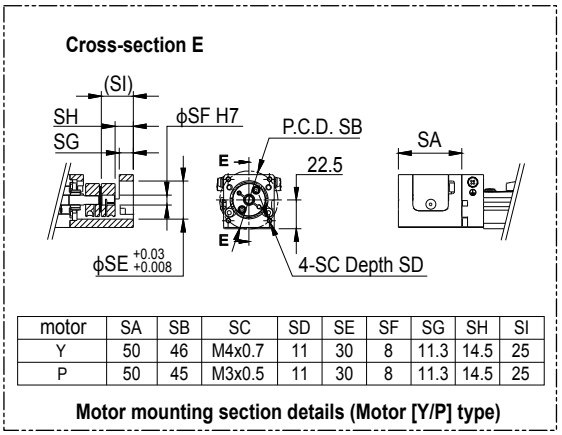
Motor specification	Manufacturer	Model
A	Oriental Motor	AZM46
		ARM46
		RKS54
S	Oriental Motor	AZM48
N	NEMA standard	NEMA17

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.

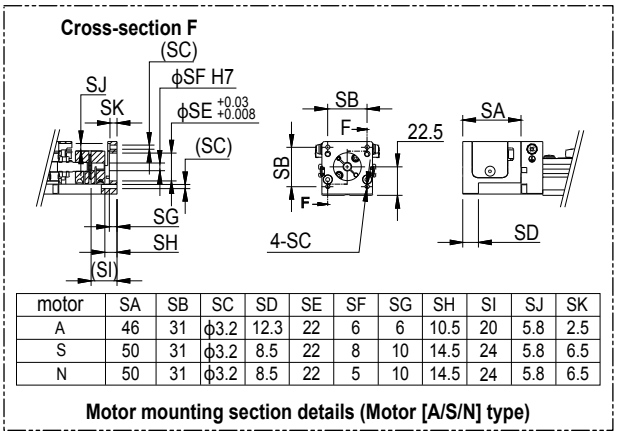
LBFS04 Straight type (S)





motor	SA	SB	SC	SD	SE	SF	SG	SH	SI
Y	50	46	M4x0.7	11	30	8	11.3	14.5	25
P	50	45	M3x0.5	11	30	8	11.3	14.5	25

Motor mounting section details (Motor [Y/P] type)



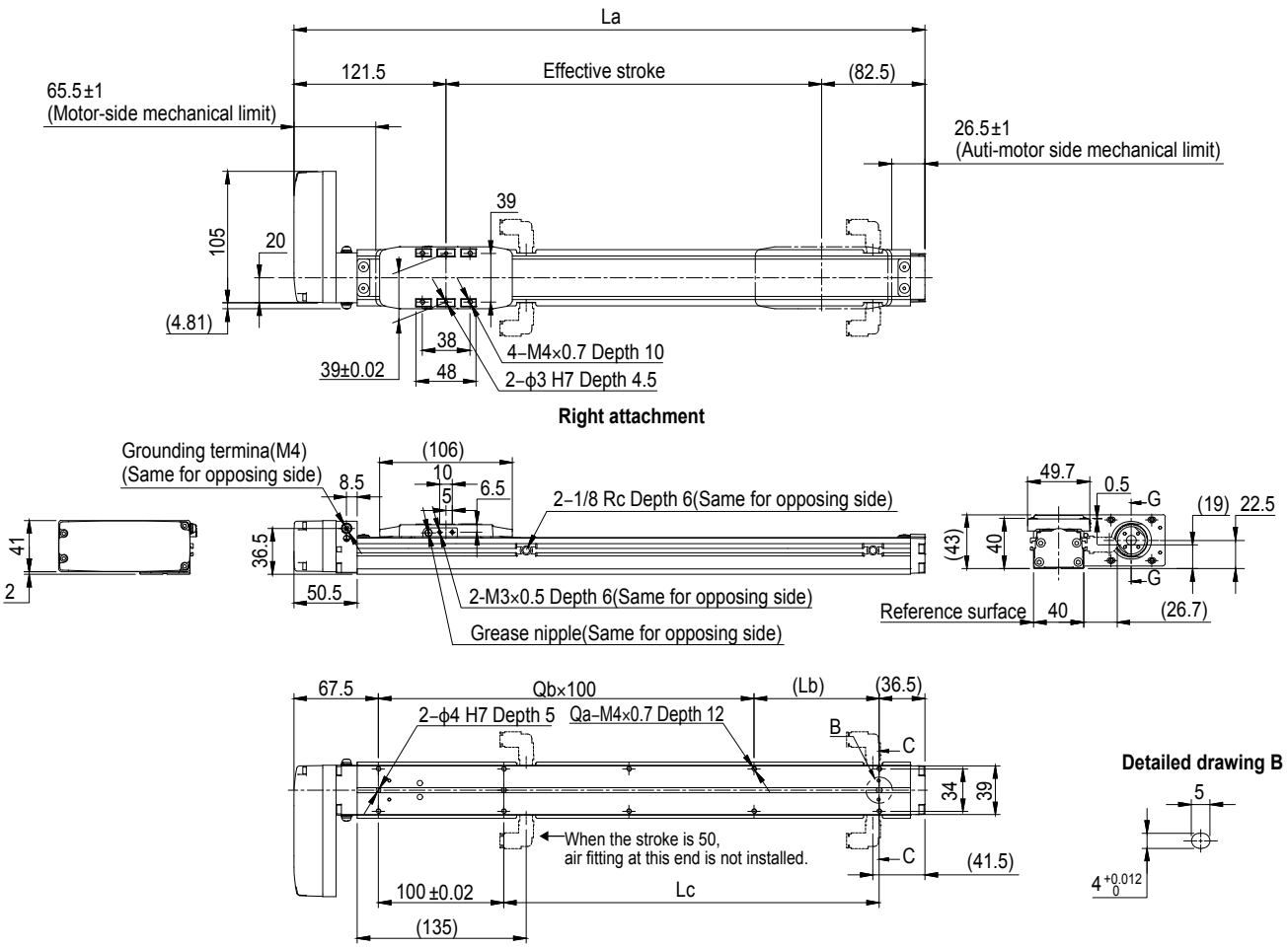
motor	SA	SB	SC	SD	SE	SF	SG	SH	SI	SJ	SK
A	46	31	ϕ3.2	12.3	22	6	6	10.5	20	5.8	2.5
S	50	31	ϕ3.2	8.5	22	8	10	14.5	24	5.8	6.5
N	50	31	ϕ3.2	8.5	22	5	10	14.5	24	5.8	6.5

Motor mounting section details (Motor [A/S/N] type)

Note 1. Motor specifications: For A, the stated dimensions will be -4mm. Please refer to the specifications table for details..
Note. In the installation tap hole, the length under head <<thickness of stand +12mm or less>> is recommended for the hex socket head bolts <M4×0.7> 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
La		270.5	320.5	370.5	420.5	470.5	520.5	570.5	620.5	670.5	720.5
Lb		50	100	50	100	50	100	50	100	50	100
Lc		50	100	150	200	250	300	350	400	450	500
Qa		6	6	8	8	10	10	12	12	14	14
Qb		1	1	2	2	3	3	4	4	5	5
Weight (kg)		0.99	1.10	1.22	1.34	1.46	1.58	1.69	1.81	1.93	2.05
Maximum speed (mm/sec)	Lead 12	720									
	Speed setting	-									
	Lead 6	360									
	Speed setting	-									
	Lead 2	120									
	Speed setting	-									

LBFS04 Bending type (R/L)



motor	SA	SB	SC	SD	SE	SF	SG
Y	26.1	46	M4x0.7	7.5	31	8	8.1
P	26.1	45	M3x0.5	7.5	31	8	8.1

Note. For special parts for motor installation, install and adjust on your side.Refer to your motor manual for tuning or adjustment.
Note. In the installation tap hole, the length under head <<thickness of stand +12mm or less>> is recommended for the hex socket head bolts <M4×0.7> 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
La		254	304	354	404	454	504	554	604	654	704
Lb		50	100	50	100	50	100	50	100	50	100
Lc		50	100	150	200	250	300	350	400	450	500
Qa		6	6	8	8	10	10	12	12	14	14
Qb		1	1	2	2	3	3	4	4	5	5
Weight (kg)		1.12	1.23	1.34	1.45	1.56	1.67	1.78	1.89	2.00	2.12
Maximum speed (mm/sec)	Lead 12	720									
	Speed setting	-									
	Lead 6	360									
	Speed setting	-									
	Lead 2	120									
	Speed setting	-									

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)

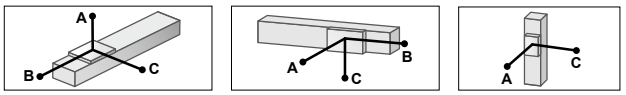
[Caution]
This system is provided as mechanical actuator unit and not including any adopters or electric components. Motor, driver and other components required for installation are the user's responsibility.
Refer to user's manual for installation details. Refer to your motor manual for tuning or adjustment. 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 ϕ 10 (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	25 kg	30 kg
	Vertical	3 kg	4 kg	6 kg	10 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



LBFS05-20

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

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

Vertical installation (Unit: mm)	A	C
1kg	941	941
3kg	327	327

LBFS05-12

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

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

Vertical installation (Unit: mm)	A	C
2kg	640	640
4kg	322	322

LBFS05-6

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

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

Vertical installation (Unit: mm)	A	C
3kg	520	520
6kg	260	260

LBFS05-2

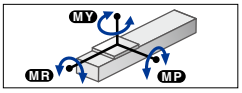
Horizontal installation (Unit: mm)	A	B	C
10kg	9257	186	293
20kg	6043	84	133
30kg	4746	50	79

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

Vertical installation (Unit: mm)	A	C
5kg	406	406
10kg	203	203

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	□ 40
	Wattage	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
		SGM7J-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
	Tamagawa Seiki	TSM3104
		TSM4154
		TSM4164
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.	MSMF01

• Applicable stepping motor

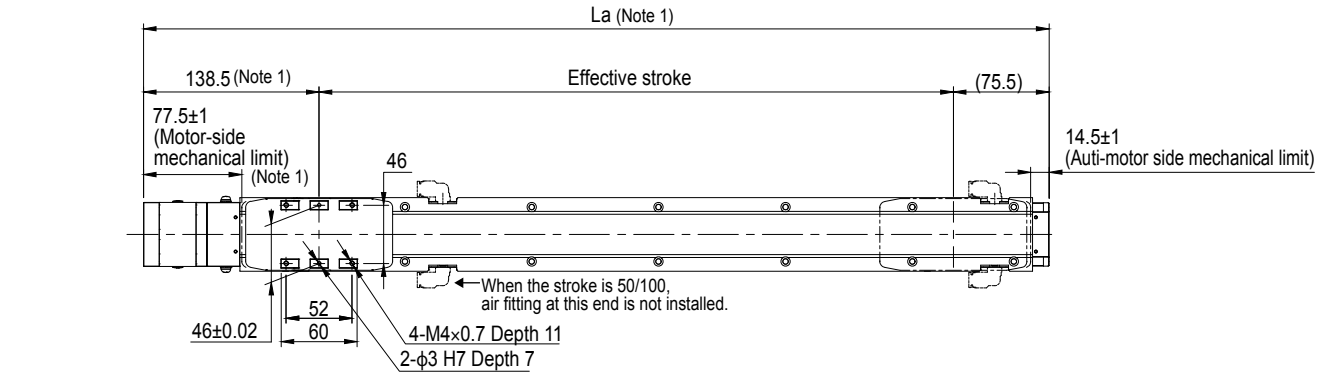
Specification	Flange size	□ 42

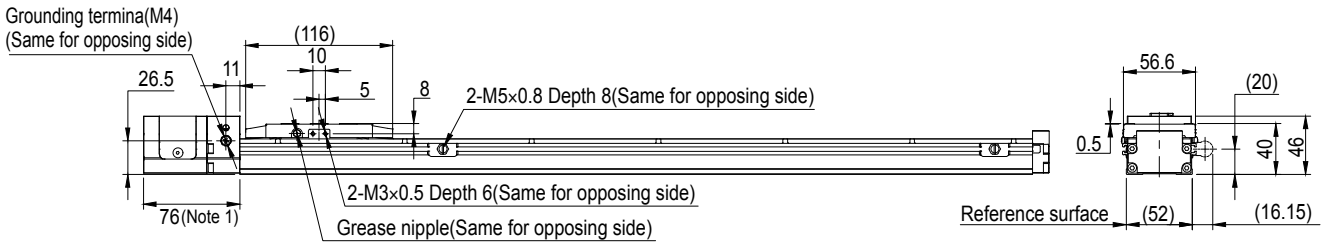
Motor specification	Manufacturer	Model
A	Oriental Motor	AZM46
		ARM46
		RKS54
S	Oriental Motor	AZM48
N	NEMA standard	NEMA17

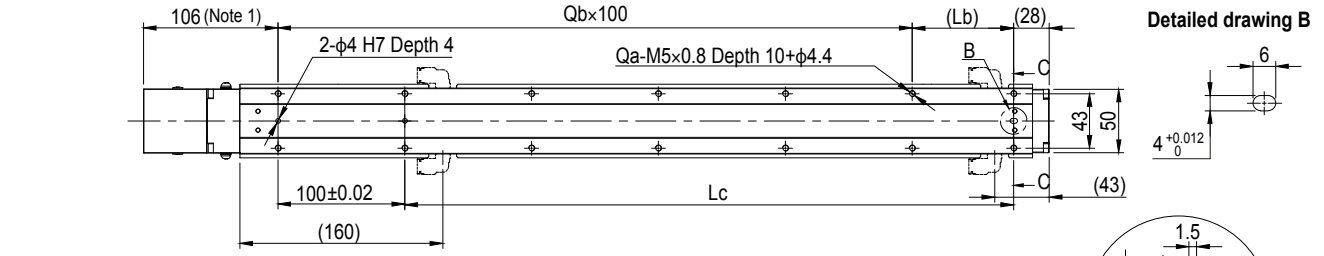
Note. Be aware that the dimensions of the NEMA standard motor may vary depending on the manufacturer.
Note. For the motor specifications A, S, and N, the parts dedicated for bending cannot be used.

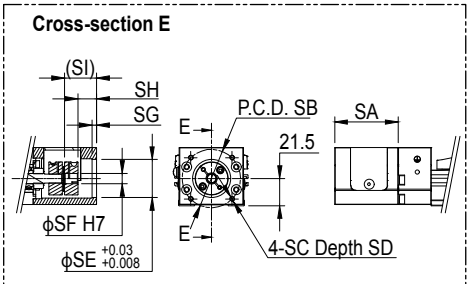
▶ The cycle time simulation and service life calculation can be performed easily from our member site.

LBFS05 Straight type (S)



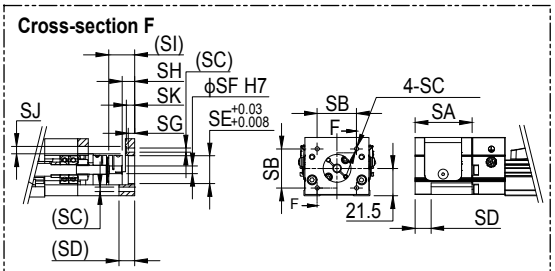






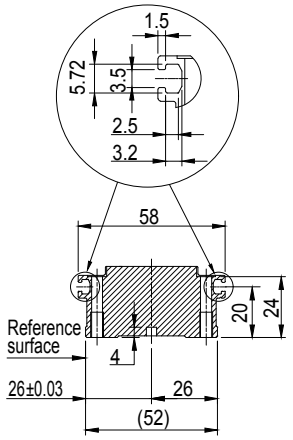
motor	SA	SB	SC	SD	SE	SF	SG	SH	SI
Y	50	46	M4x0.7	12	30	8	3.5	14.5	25
P	50	45	M3x0.5	12	30	8	3.5	14.5	25

Motor mounting section details (Motor [Y/P] type)



motor	SA	SB	SC	SD	SE	SF	SG	SH	SI	SJ	SK
A	45	31	φ3.5	12.5	22	6	5	9.5	20	6	6.5
S	50	31	φ3.5	12.5	22	8	3.5	14.5	24	-	8.5
N	50	31	φ3.5	12.5	22	5	3.5	14.5	24	-	8.5

Motor mounting section details (Motor [A/S/N] type)

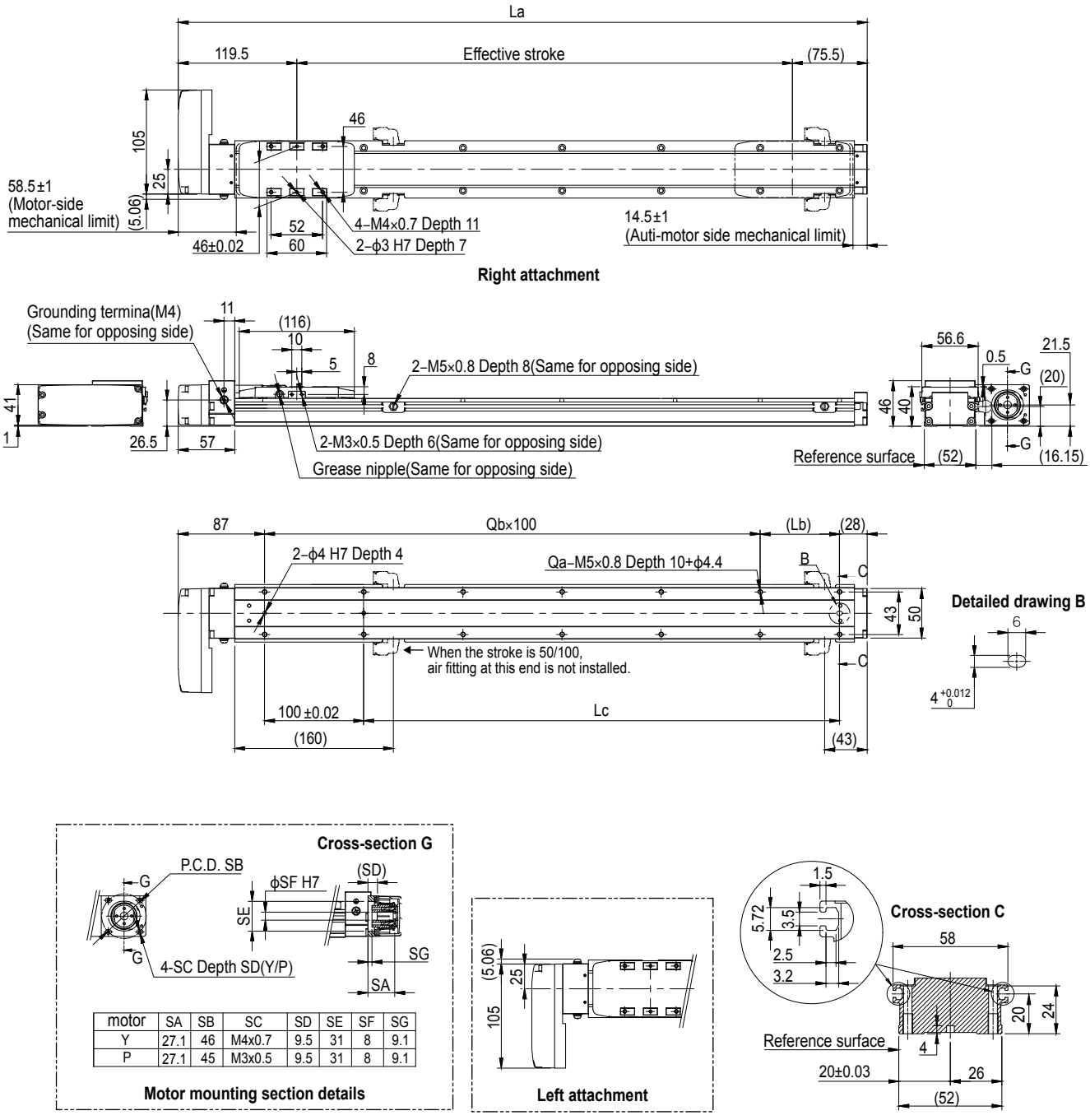


Cross-section C

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 <M4×0.7>.
Note. In the installation tap hole, the length under head <<thickness of stand +10mm or less>> is recommended for the hex socket head bolts <M5×0.8> 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)



motor	SA	SB	SC	SD	SE	SF	SG
Y	27.1	46	M4x0.7	9.5	31	8	9.1
P	27.1	45	M3x0.5	9.5	31	8	9.1

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 <M4×0.7>.In the installation tap hole, the length under head <<thickness of stand +10mm or less>> is recommended for the hex socket head bolts <M5×0.8> 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%

LBFS06

Basic model | **Motor-less Single Axis Actuator**

Low-profile type

Ordering method

LBFS06 - [ ] - [ ] - [ ] - [ ]

Model	Lead	Shape	Motor specification	Stroke
	20: 20 mm 12: 12 mm 6: 6 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]

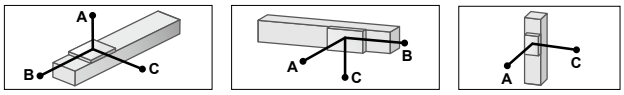
This system is provided as mechanical actuator unit and not including any adopters or electric components. Motor, driver and other components required for installation are the user's responsibility.
Refer to user's manual for installation details. Refer to your motor manual for tuning or adjustment. 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 ϕ 10 (C7 class)		
Stroke		50 mm to 800 mm (50 mm pitch)		
Maximum speed Note 2		1333 mm/sec	800 mm/sec	400 mm/sec
Ball screw lead		20 mm	12 mm	6 mm
Maximum payload Note 3	Horizontal	18 kg	30 kg	45 kg
	Vertical	6 kg	9 kg	12 kg
Rated Thrust Note 3		85 N	142 N	285 N
Dinamic loading moment (MY,MP,MR)		40.6 / 40.6 / 60.2		
Maximum dimensions of cross section of main unit		W 65 mm × H 44 mm		
Overall length	Straight	ST + 240.5 mm		
	Bending	ST + 224 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 550 mm, the ball screw may resonate. (Critical speed)
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



LBFS06-20

Horizontal installation (Unit: mm)	A	B	C
6kg	471	255	226
12kg	299	117	112
18kg	267	79	81

Wall installation (Unit: mm)	A	B	C
6kg	226	255	471
12kg	112	117	299
18kg	81	79	267

Vertical installation (Unit: mm)	A	C
3kg	477	477
6kg	255	255

LBFS06-12

Horizontal installation (Unit: mm)	A	B	C
10kg	1055	201	245
20kg	618	90	111
30kg	457	54	68

Wall installation (Unit: mm)	A	B	C
10kg	245	201	1055
20kg	111	90	618
30kg	68	54	457

Vertical installation (Unit: mm)	A	C
5kg	429	429
9kg	218	218

LBFS06-6

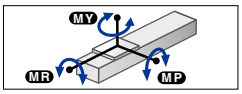
Horizontal installation (Unit: mm)	A	B	C
15kg	1830	152	213
30kg	1016	65	92
45kg	691	37	52

Wall installation (Unit: mm)	A	B	C
15kg	213	152	1830
30kg	92	65	1016
45kg	52	37	691

Vertical installation (Unit: mm)	A	C
6kg	429	429
12kg	215	215

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
99	99	176

Applicable motor

• Applicable servo motor

Specification		
	Flange size	□ 40
	Wattage	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
		SGM7J-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
	Tamagawa Seiki	TSM3104
		TSM4154
		TSM4164
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.	MSMF01

• Applicable stepping motor

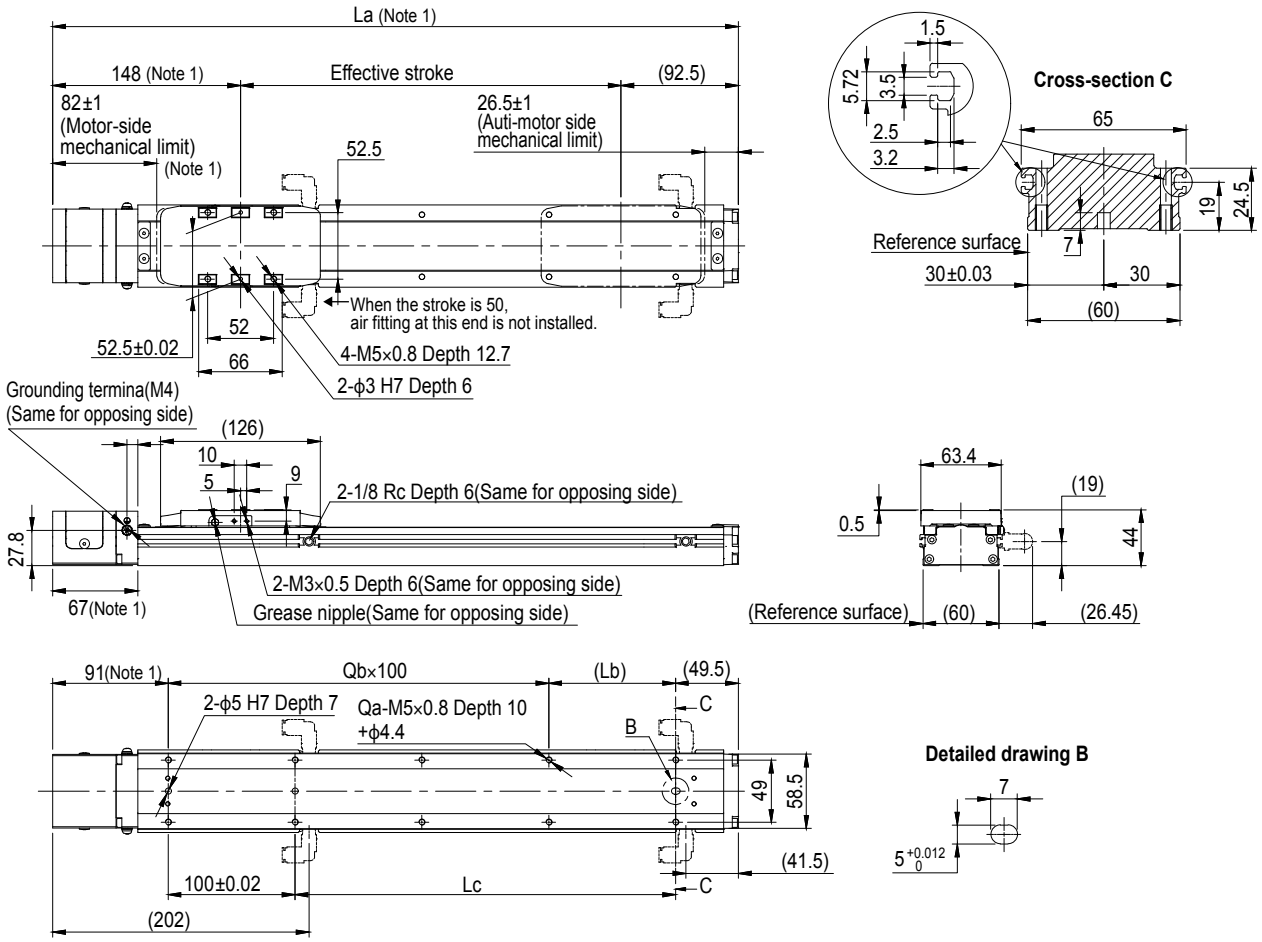
Specification	Flange size	□ 42

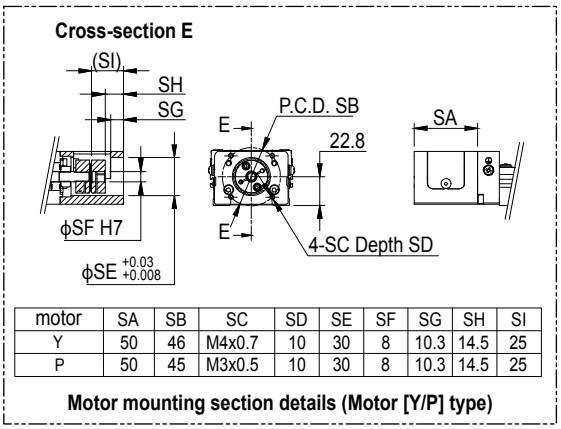
Motor specification	Manufacturer	Model
A	Oriental Motor	AZM46
		ARM46
		RKS54
S	Oriental Motor	AZM48
N	NEMA standard	NEMA17

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.**

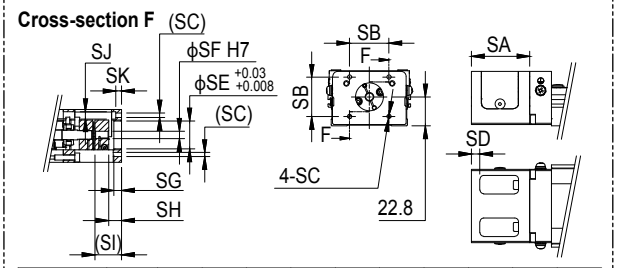
LBFS06 Straight type (S)





motor	SA	SB	SC	SD	SE	SF	SG	SH	SI
Y	50	46	M4x0.7	10	30	8	10.3	14.5	25
P	50	45	M3x0.5	10	30	8	10.3	14.5	25

Motor mounting section details (Motor [Y/P] type)



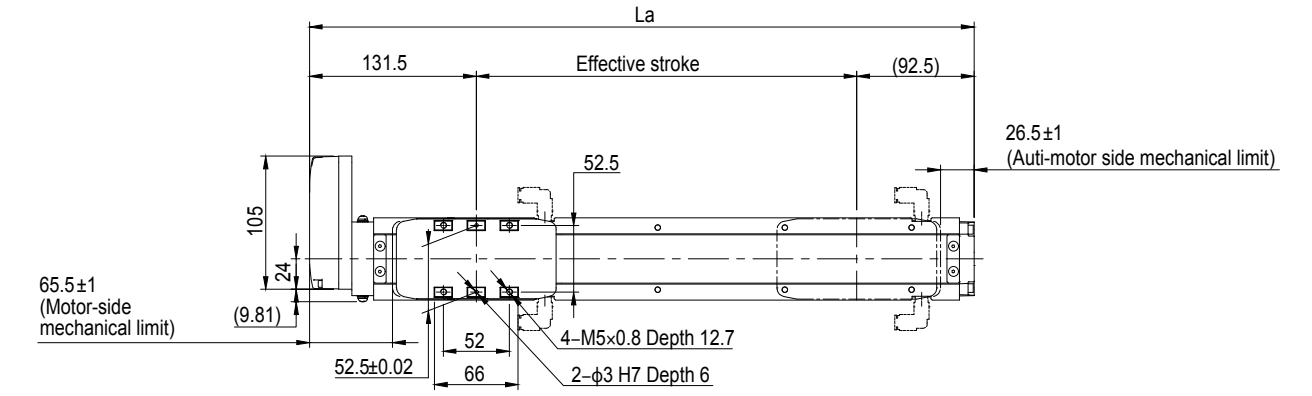
motor	SA	SB	SC	SD	SE	SF	SG	SH	SI	SJ	SK
A	46	31	φ3.5	6.5	22	6	6	10.5	20	5.8	4.5
S	50	31	φ3.5	6.5	22	8	6	14.5	24	5.8	6.5
N	50	31	φ3.5	6.5	22	5	6	14.5	24	5.8	6.5

Motor mounting section details (Motor [A/S/N] type)

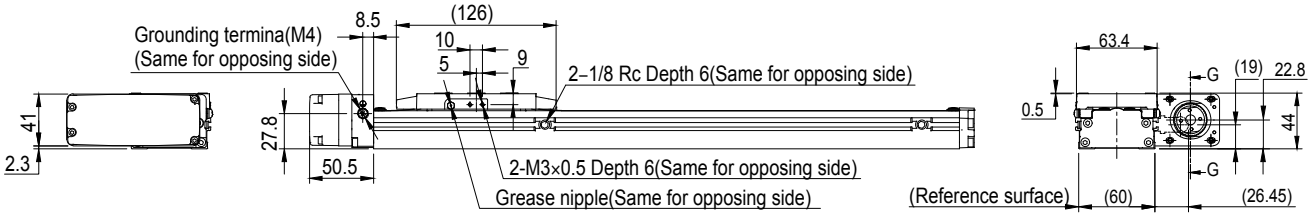
Note 1. Motor specifications: For A, the stated dimensions will be -4mm. Please refer to the specifications table for details.
Note. For the installation through hole,the length under head <<35mm or more >> is recommended for the hex socket head bolts <M4×0.7>.In the installation tap hole, the length under head <<thickness of stand +10mm or less>> is recommended for the hex socket head bolts <M5×0.8> used to install the main unit.
Note. Grease gun nozzle (recommended) Part number: KFU-M3861-00

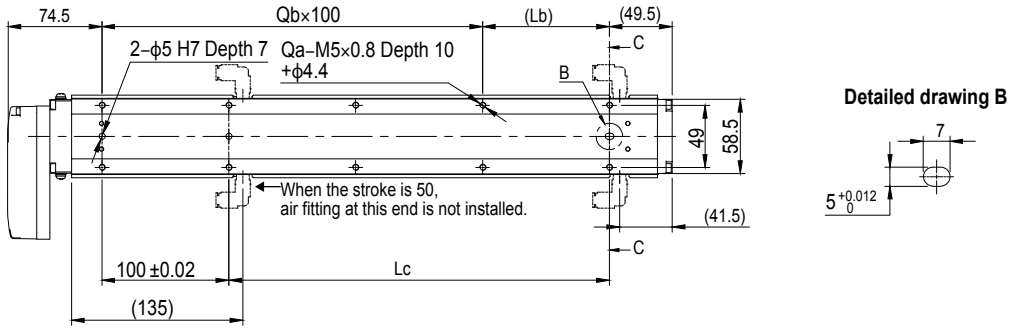
Effective stroke		50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
La		290.5	340.5	390.5	440.5	490.5	540.5	590.5	640.5	690.5	740.5	790.5	840.5	890.5	940.5	990.5	1040.5
Lb		50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100
Lc		50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
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)		1.61	1.77	1.92	2.08	2.24	2.39	2.55	2.70	2.86	3.02	3.17	3.33	3.48	3.64	3.80	3.96
Maximum speed (mm/sec)	Lead 20	1333												933	733	667	533
	Speed setting	-												70%	55%	50%	40%
	Lead 12	800										680	560	480	400	360	320
	Speed setting	-										85%	70%	60%	50%	45%	40%
	Lead 6	400										340	280	240	200	180	160
	Speed setting	-										85%	70%	60%	50%	45%	40%

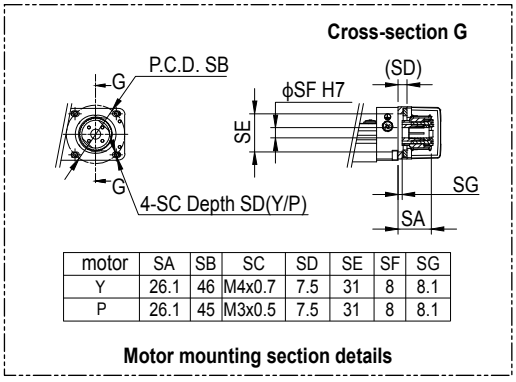
LBFS06 Bending type (R/L)



Right attachment

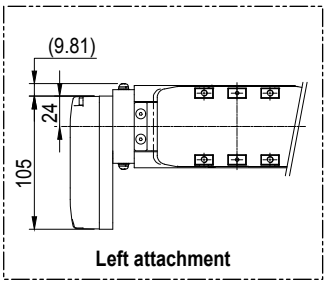




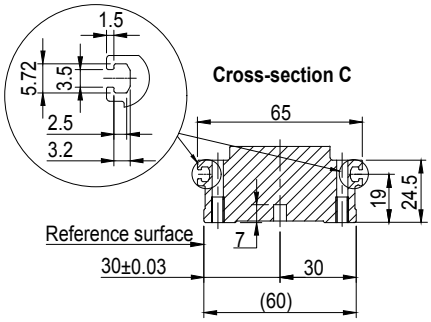


motor	SA	SB	SC	SD	SE	SF	SG
Y	26.1	46	M4x0.7	7.5	31	8	8.1
P	26.1	45	M3x0.5	7.5	31	8	8.1

Motor mounting section details



Left attachment



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 <M4×0.7>. In the installation tap hole, the length under head <<thickness of stand +10mm or less>> is recommended for the hex socket head bolts <M5×0.8> 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		274	324	374	424	474	524	574	624	674	724	774	824	874	924	974	1024
Lb		50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100
Lc		50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
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)		1.90	2.04	2.18	2.32	2.46	2.60	2.74	2.88	3.02	3.16	3.30	3.44	3.58	3.72	3.86	4.00
Maximum speed (mm/sec)	Lead 20	1333												933	733	667	533
	Speed setting	-												70%	55%	50%	40%
	Lead 12	800										680	560	480	400	360	320
	Speed setting	-										85%	70%	60%	50%	45%	40%
	Lead 6	400										340	280	240	200	180	160
	Speed setting	-										85%	70%	60%	50%	45%	40%

LBFS07

Basic model **Motor-less Single Axis Actuator**

Low-profile type

Ordering method

LBFS07 – [ ] [ ] [ ] – [ ]

Model	Lead	Shape	Motor specification	Stroke
	20: 20 mm 10: 10mm 5: 5 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 1050 (50 mm pitch)

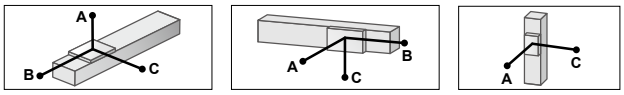
[Caution]
This system is provided as mechanical actuator unit and not including any adopters or electric components. Motor, driver and other components required for installation are the user's responsibility.
Refer to user's manual for installation details. Refer to your motor manual for tuning or adjustment. 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 ϕ 12 (C7 class)		
Stroke		50 mm to 1050 mm (50 mm pitch)		
Maximum speed Note 2		1333 mm/sec	666 mm/sec	333 mm/sec
Ball screw lead		20 mm	10 mm	5 mm
Maximum payload Note 3	Horizontal	25 kg	45 kg	85 kg
	Vertical	4 kg	10 kg	16 kg
Rated Thrust Note 3		84 N	169 N	339 N
Dinamic loading moment (MY,MP,MR)		50.4 / 50.4 / 79.4		
Maximum dimensions of cross section of main unit		W 75 mm × H 48 mm		
Overall length	Straight	ST + 241 mm		
	Bending	ST + 224 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):650 mm for lead 20; 550 mm for lead 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



LBFS07-20

Horizontal installation (Unit: mm)

	A	B	C
10kg	1330	239	290
18kg	955	129	166
25kg	800	89	118

Wall installation (Unit: mm)

	A	B	C
10kg	290	239	1330
18kg	166	129	955
25kg	118	89	800

Vertical installation (Unit: mm)

	A	C
2kg	1275	1275
4kg	653	653

LBFS07-10

Horizontal installation (Unit: mm)

	A	B	C
15kg	1199	169	228
30kg	561	73	98
45kg	339	41	55

Wall installation (Unit: mm)

	A	B	C
15kg	228	169	1199
30kg	98	73	561
45kg	55	41	339

Vertical installation (Unit: mm)

	A	C
5kg	571	571
10kg	287	287

LBFS07-5

Horizontal installation (Unit: mm)

	A	B	C
30kg	1187	86	129
60kg	565	31	47
85kg	344	15	23

Wall installation (Unit: mm)

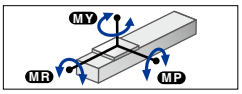
	A	B	C
30kg	129	86	1187
60kg	47	31	565
85kg	35	23	485

Vertical installation (Unit: mm)

	A	C
8kg	412	412
16kg	206	206

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
130	130	278

Applicable motor

• Applicable servo motor

Specification		
	Flange size	□ 40
	Wattage	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
		SGM7J-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
	Tamagawa Seiki	TSM3104
		TSM4154
		TSM4164
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.	MSMF01

• Applicable stepping motor

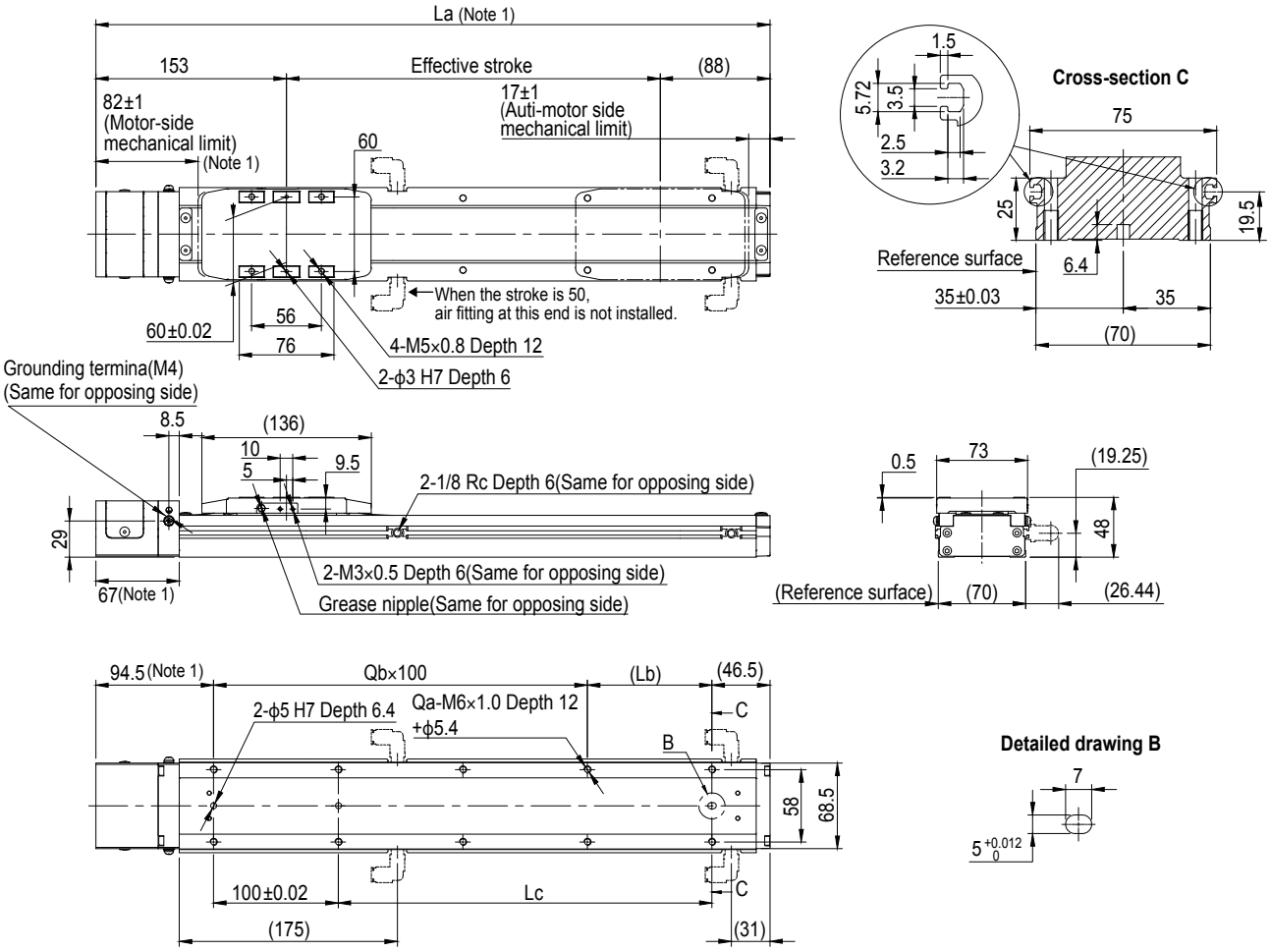
Specification		
	Flange size	□ 42

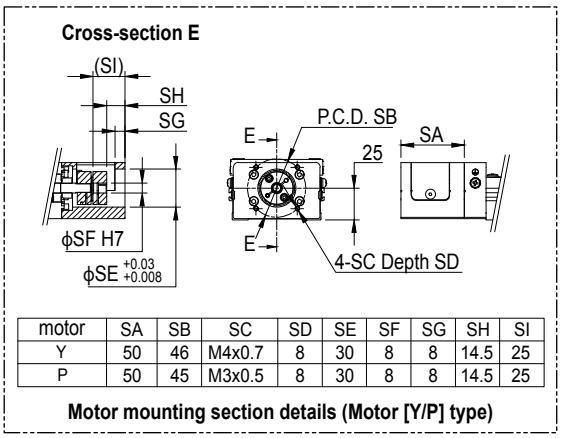
Motor specification	Manufacturer	Model
A	Oriental Motor	AZM46
		ARM46
		RKS54
S	Oriental Motor	AZM48
N	NEMA standard	NEMA17

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.**

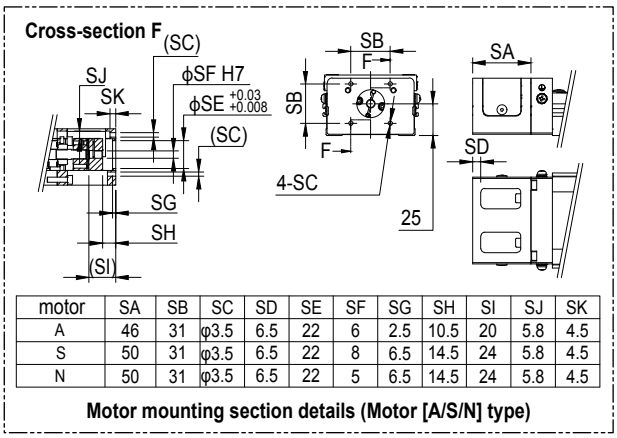
LBFS07 Straight type (S)





motor	SA	SB	SC	SD	SE	SF	SG	SH	SI
Y	50	46	M4x0.7	8	30	8	8	14.5	25
P	50	45	M3x0.5	8	30	8	8	14.5	25

Motor mounting section details (Motor [Y/P] type)



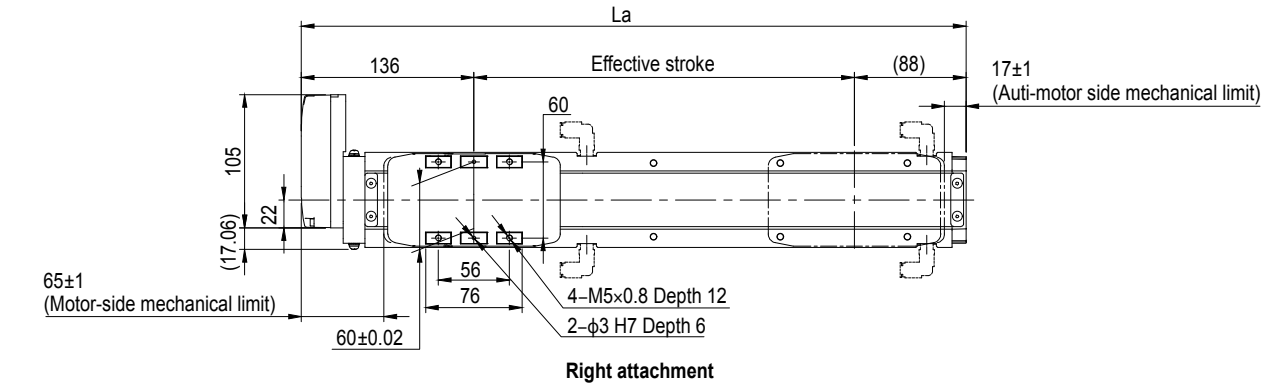
motor	SA	SB	SC	SD	SE	SF	SG	SH	SI	SJ	SK
A	46	31	ϕ3.5	6.5	22	6	2.5	10.5	20	5.8	4.5
S	50	31	ϕ3.5	6.5	22	8	6.5	14.5	24	5.8	4.5
N	50	31	ϕ3.5	6.5	22	5	6.5	14.5	24	5.8	4.5

Motor mounting section details (Motor [A/S/N] type)

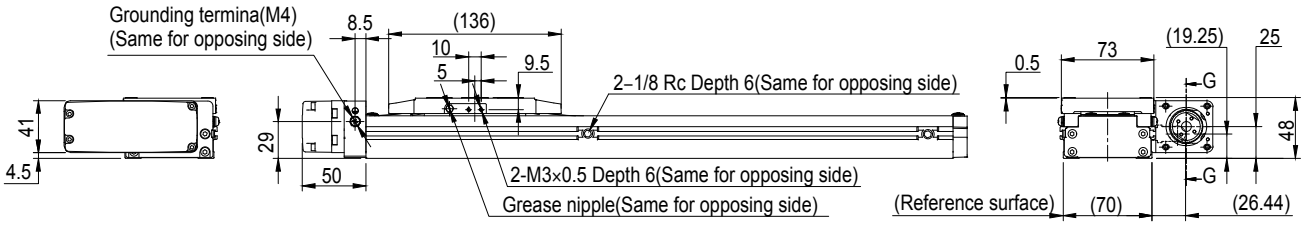
Note 1. Motor specifications: For A, the stated dimensions will be -4mm. Please refer to the specifications table for details.
Note. For the installation through hole,the length under head <<35mm or more >> is recommended for the hex socket head bolts <M5×0.8>. In the installation tap hole, the length under head <<thickness of stand +12mm or less>> is recommended for the hex socket head bolts <M6×1.0> used to install the main unit.
Note. Grease gun nozzle (recommended) Part number: KFU-M3861-00

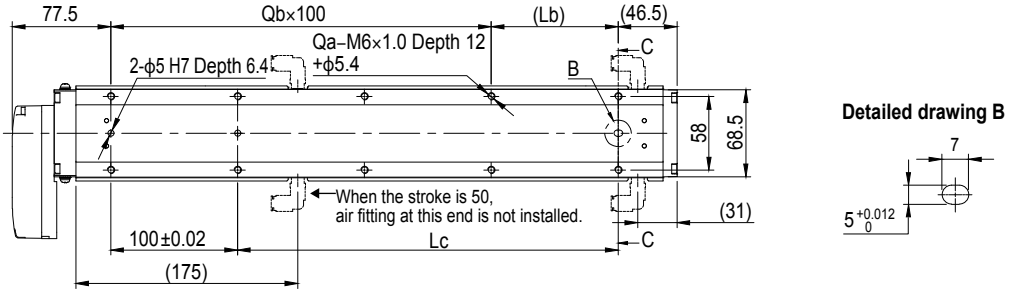
Effective stroke		50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
La		291	341	391	441	491	541	591	641	691	741	791	841	891	941	991	1041	1091	1141	1191	1241	1291
Lb		50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50
Lc		50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
Qa		6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
Qb		1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11
Weight (kg)		2.26	2.44	2.62	2.80	2.98	3.16	3.34	3.52	3.70	3.88	4.06	4.24	4.42	4.60	4.78	4.96	5.14	5.32	5.50	5.68	5.86
Maximum speed (mm/sec)	Lead 20	1333										1262	1064	932	800	664	600	532	466	400	400	332
	Speed setting	-										95%	80%	70%	60%	50%	45%	40%	35%	30%	30%	25%
	Lead 10	666										632	532	466	400	332	300	266	232	200	200	166
	Speed setting	-										95%	80%	70%	60%	50%	45%	40%	35%	30%	30%	25%
	Lead 5	333										316	266	233	200	166	150	133	116	100	100	83
	Speed setting	-										95%	80%	70%	60%	50%	45%	40%	35%	30%	30%	25%

LBFS07 Bending type (R/L)

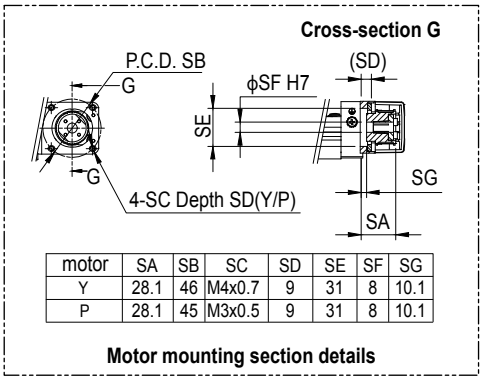


Right attachment



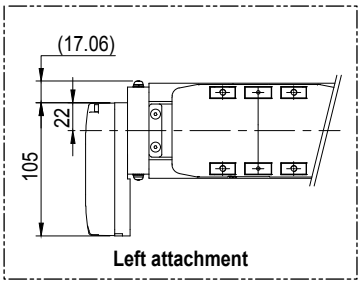


Detailed drawing B

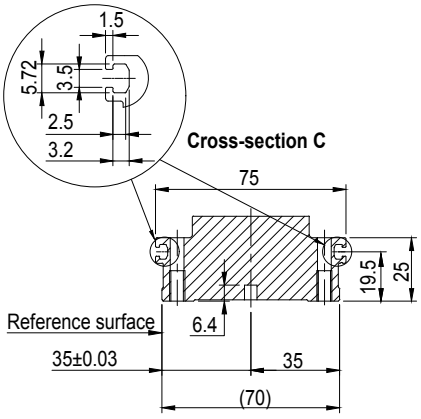


motor	SA	SB	SC	SD	SE	SF	SG
Y	28.1	46	M4x0.7	9	31	8	10.1
P	28.1	45	M3x0.5	9	31	8	10.1

Motor mounting section details



Left attachment



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 <M5×0.8>. In the installation tap hole, the length under head <<thickness of stand +12mm or less>> is recommended for the hex socket head bolts <M6×1.0> 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	850	900	950	1000	1050
La		274	324	374	424	474	524	574	624	674	724	774	824	874	924	974	1024	1074	1124	1174	1224	1274
Lb		50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50
Lc		50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
Qa		6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26
Qb		1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11
Weight (kg)		2.03	2.22	2.41	2.60	2.79	2.98	3.17	3.36	3.55	3.74	3.93	4.12	4.31	4.50	4.69	4.88	5.07	5.26	5.45	5.64	5.83
Maximum speed (mm/sec)	Lead 20	1333										1262	1064	932	800	664	600	532	466	400	400	332
	Speed setting	-										95%	80%	70%	60%	50%	45%	40%	35%	30%	30%	25%
	Lead 10	666										632	532	466	400	332	300	266	232	200	200	166
	Speed setting	-										95%	80%	70%	60%	50%	45%	40%	35%	30%	30%	25%
	Lead 5	333										316	266	233	200	166	150	133	116	100	100	83
	Speed setting	-										95%	80%	70%	60%	50%	45%	40%	35%	30%	30%	25%

LBFS08

Basic model | **Motor-less Single Axis Actuator**

Low-profile type

Ordering method

LBFS08 - [ ] [ ] [ ] - [ ]

Model	Lead	Shape	Motor specification	Stroke
	24: 24 mm 12: 12mm 6: 6 mm	S: Straight R: Right attachment L: Left attachment	Y: Y specification (see below) P: P specification (see below) K: K specification (see below) A: A specification (see below) N: N specification (see below)	50 to 1250 (50 mm pitch)

[Caution]

This system is provided as mechanical actuator unit and not including any adopters 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.

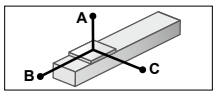
LBFS08 (200W)

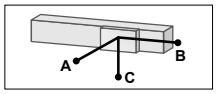
Specifications

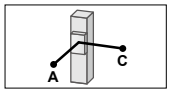
Applicable motor		200 W		
Repeatability Note 1		±0.005 mm		
Deceleration mechanism		Rolled ball screw ϕ 14 (C7 class)		
Stroke		50 mm to 1250 mm (50 mm pitch)		
Maximum speed Note 2		1440 mm/sec	720 mm/sec	360 mm/sec
Ball screw lead		24 mm	12 mm	6 mm
Maximum payload Note 3	Horizontal	40 kg	80 kg	100 kg
	Vertical	8 kg	18 kg	30 kg
Rated Thrust Note 3		142 N	284 N	569 N
Dinamic loading moment (MY,MP,MR)		99.4 / 99.4 / 158.3		
Maximum dimensions of cross section of main unit		W 83 mm × H 56 mm		
Overall length	Straight	ST + 287.5 mm		
	Bending	ST + 268.5 mm		
Degree of cleanliness Note 4		Equivalent to ISO Class 4 (ISO 14644-1)		
Intake air Note 5		130 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 650 mm, the ball screw may resonate. (Critical speed)
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







LBFS08-24(200W)

Horizontal installation (Unit: mm)

	A	B	C
15kg	505	228	213
25kg	557	154	169
45kg	1089	113	154

Wall installation (Unit: mm)

	A	B	C
15kg	213	228	505
25kg	169	154	557
45kg	154	113	1089

Vertical installation (Unit: mm)

	A	C
4kg	810	810
8kg	461	461

LBFS08-12(200W)

Horizontal installation (Unit: mm)

	A	B	C
30kg	739	160	208
50kg	531	85	113
80kg	339	43	58

Wall installation (Unit: mm)

	A	B	C
30kg	208	160	739
50kg	113	85	531
80kg	58	43	339

Vertical installation (Unit: mm)

	A	C
10kg	543	543
18kg	304	304

LBFS08-6(200W)

Horizontal installation (Unit: mm)

	A	B	C
30kg	2623	188	284
60kg	1436	81	122
100kg	936	38	57

Wall installation (Unit: mm)

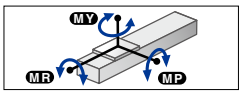
	A	B	C
30kg	284	188	2623
60kg	122	81	1436
100kg	57	38	936

Vertical installation (Unit: mm)

	A	C
15kg	428	428
30kg	214	214

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
249	249	393

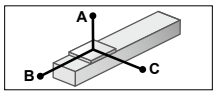
LBFS08 (400W)

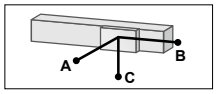
Specifications

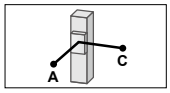
Applicable motor		400 W		
Repeatability Note 1		±0.005 mm		
Deceleration mechanism		Rolled ball screw ϕ 14 (C7 class)		
Stroke		50 mm to 1250 mm (50 mm pitch)		
Maximum speed Note 2		1440 mm/sec	720 mm/sec	360 mm/sec
Ball screw lead		24 mm	12 mm	6 mm
Maximum payload Note 3	Horizontal	50 kg	95 kg	115 kg
	Vertical	15 kg	28 kg	37 kg
Rated Thrust Note 3		289 N	578 N	1156 N
Dinamic loading moment (MY,MP,MR)		99.4 / 99.4 / 158.3		
Maximum dimensions of cross section of main unit		W 83 mm × H 56 mm		
Overall length	Straight	ST + 287.5 mm		
	Bending	ST + 268.5 mm		
Degree of cleanliness Note 4		Equivalent to ISO Class 4 (ISO 14644-1)		
Intake air Note 5		130 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 650 mm, the ball screw may resonate. (Critical speed)
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







LBFS08-24(400W)

Horizontal installation (Unit: mm)

	A	B	C
15kg	407	228	201
30kg	422	121	132
50kg	961	87	121

Wall installation (Unit: mm)

	A	B	C
15kg	201	228	407
30kg	128	131	336
50kg	121	87	961

Vertical installation (Unit: mm)

	A	C
8kg	400	400
15kg	240	240

LBFS08-12(400W)

Horizontal installation (Unit: mm)

	A	B	C
30kg	616	160	205
60kg	386	66	88
95kg	245	32	43

Wall installation (Unit: mm)

	A	B	C
30kg	205	160	616
60kg	88	66	386
95kg	43	32	245

Vertical installation (Unit: mm)

	A	C
14kg	386	386
28kg	195	195

LBFS08-6(400W)

Horizontal installation (Unit: mm)

	A	B	C
40kg	1538	134	202
80kg	988	54	81
115kg	702	29	44

Wall installation (Unit: mm)

	A	B	C
40kg	202	134	1538
80kg	81	54	988
115kg	44	29	702

Vertical installation (Unit: mm)

	A	C
18kg	356	356
37kg	174	174

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.

Applicable motor

• Applicable servo motor

Specification	Flange size	□ 60
	Wattage	200 W

Motor specification	Manufacturer	Model
Y	Yaskawa Electric Corp.	SGMJV-02
		SGM7J-02
		SGMXJ-02
	Keyence Corp.	SV- □ 020
		SV2- □ 020
		SV3- □ 020
	Mitsubishi Electric Corp.	HG-KR23
		HK-KT23
		HK-MT23
	Sanyo Denki	R2 □ A06020
	Tamagawa Seiki	TSM3202
		TSM4252
		TSM4262
	Delta Electronics	ECM-A3L-C□20401
	Siemens	1FL6032-2AF
	Schneider	BCH2LD023
P	Omron Electronics	R88M-K20030
		R88M-1M20030
	Panasonic Corp.	MSMF02
		MHMF02
		MHMG-022
K	Kingservo	KSMA02LI
		KSMA02LG

Specification	Flange size	□ 60
	Wattage	400 W

Motor specification	Manufacturer	Model
Y	Yaskawa Electric Corp.	SGMJV-04
		SGM7J-04
		SGMXJ-04
	Keyence Corp.	SV- □ 040
		SV2- □ 040
		SV3- □ 040
	Mitsubishi Electric Corp.	HG-KR43
		HK-KT43
		HK-MT43
	Sanyo Denki	R2 □ A06040
	Tamagawa Seiki	TSM3204
		TSM4254
		TSM4264
	Delta Electronics	ECM-A3H-C □ 20604
	Siemens	1FL6034-2AF
	Schneider	BCH2LD043
	Fanuc Corp.	βiS1/6000-B
K	Kingservo	KSMA04LI
		KSMA04LG
	Omron Electronics	R88M-K40030
		R88M-1M40030
	Panasonic Corp.	MSMF04
		MHMF04
		MHMG-042

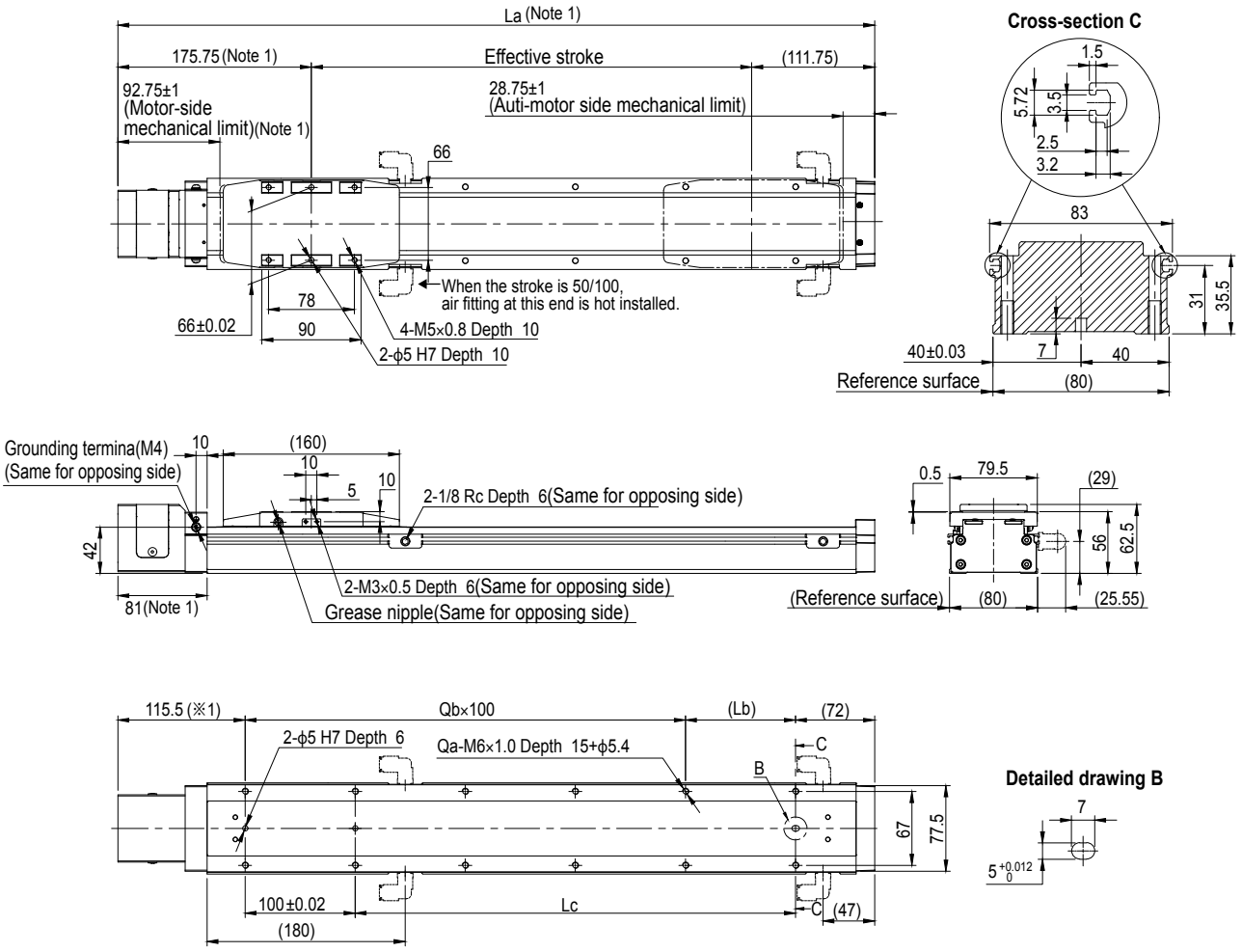
• Applicable stepping motor

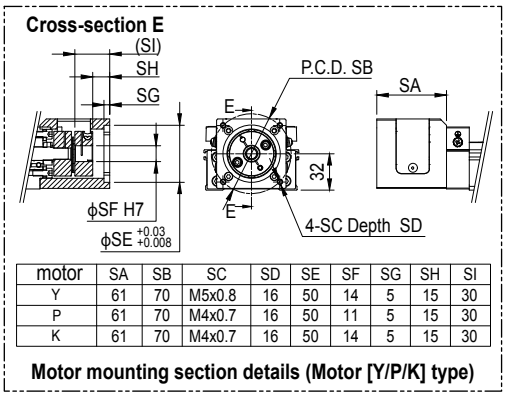
Specification	Flange size	□ 60

Motor specification	Manufacturer	Model
A	Oriental Motor	AZM66
		AZM69
		ARM66
		ARM69
		RKS56
N	NEMA standard	NEMA23

Note. Be aware that the dimensions of the NEMA standard motor may vary depending on the manufacturer.
Note. For the motor specifications A and N, the parts dedicated for bending cannot be used.

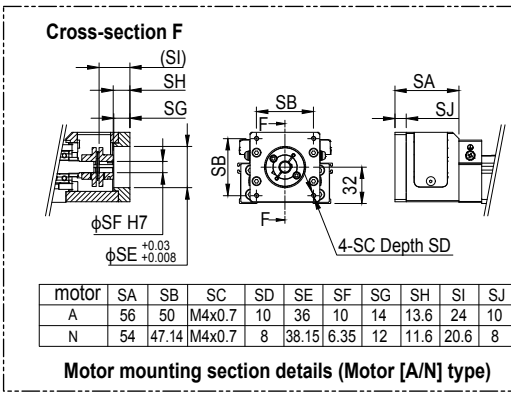
LBFS08 Straight type (S)





motor	SA	SB	SC	SD	SE	SF	SG	SH	SI
Y	61	70	M5x0.8	16	50	14	5	15	30
P	61	70	M4x0.7	16	50	11	5	15	30
K	61	70	M4x0.7	16	50	14	5	15	30

Motor mounting section details (Motor [Y/P/K] type)



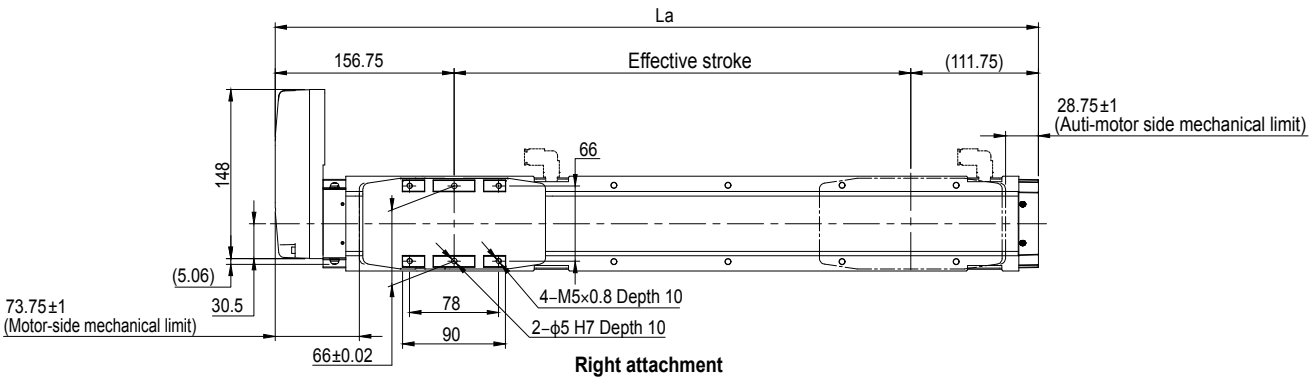
motor	SA	SB	SC	SD	SE	SF	SG	SH	SI	SJ
A	56	50	M4x0.7	10	36	10	14	13.6	24	10
N	54	47.14	M4x0.7	8	38.15	6.35	12	11.6	20.6	8

Motor mounting section details (Motor [A/N] type)

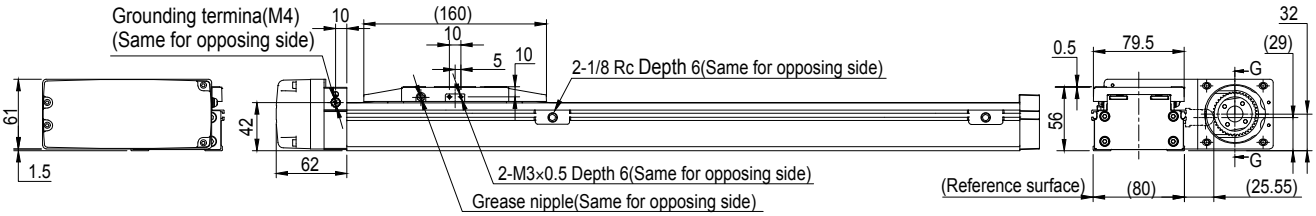
Note 1. Motor specifications: For A, the stated dimensions will be -5mm. Please refer to the specifications table for details.
Note. For the installation through hole,the length under head <<45mm or more >> is recommended for the hex socket head bolts <M5×0.8>. In the installation tap hole, the length under head <<thickness of stand +15mm or less>> is recommended for the hex socket head bolts <M6×1.0> used to install the main unit.
Note. Grease gun nozzle (recommended) Part number: KFU-M3861-00

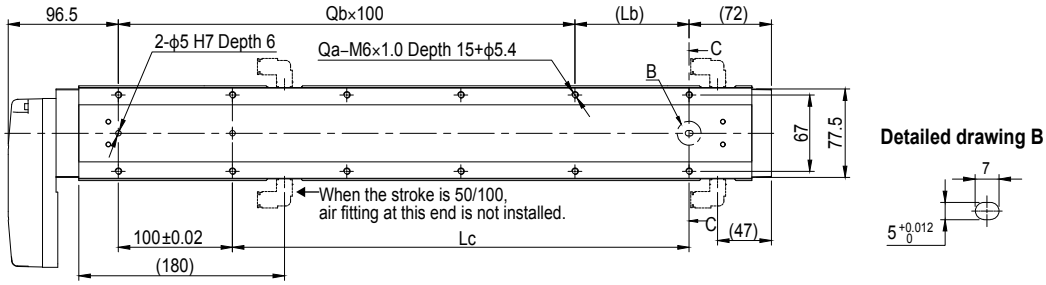
Effective stroke		50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250
La		337.5	387.5	437.5	487.5	537.5	587.5	637.5	687.5	737.5	787.5	837.5	887.5	937.5	987.5	1037.5	1087.5	1137.5	1187.5	1237.5	1287.5	1337.5	1387.5	1437.5	1487.5	1537.5
Lb		50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50
Lc		50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250
Qa		6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30
Qb		1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13
Weight (kg)		3.25	3.52	3.79	4.06	4.33	4.60	4.87	5.14	5.41	5.68	5.95	6.22	6.49	6.76	7.02	7.29	7.56	7.83	8.10	8.37	8.64	8.91	9.18	9.45	9.72
Maximum speed (mm/sec)	Lead 24	1440												1224	1080	936	864	792	720	648	576	512	432	432	360	360
	Speed setting	-												85%	75%	65%	60%	55%	50%	45%	40%	36%	30%	30%	25%	25%
	Lead 12	720												612	540	468	432	396	360	324	288	256	216	216	180	180
	Speed setting	-												85%	75%	65%	60%	55%	50%	45%	40%	36%	30%	30%	25%	25%
	Lead 6	360												306	270	234	216	198	180	162	144	126	108	108	90	90
	Speed setting	-												85%	75%	65%	60%	55%	50%	45%	40%	35%	30%	30%	25%	25%

LBFS08 Bending type (R/L)

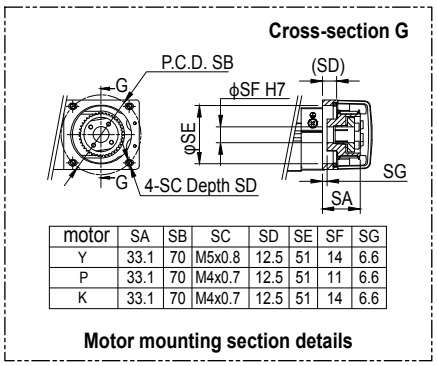


Right attachment



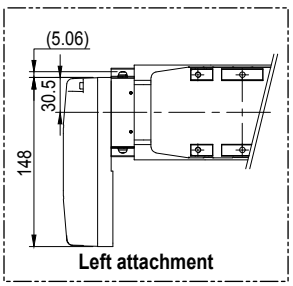


Detailed drawing B

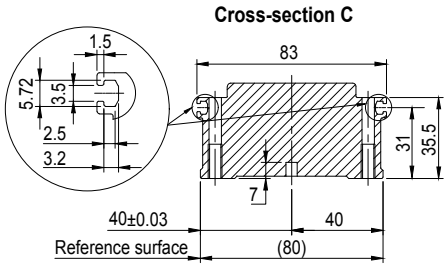


motor	SA	SB	SC	SD	SE	SF	SG
Y	33.1	70	M5x0.8	12.5	51	14	6.6
P	33.1	70	M4x0.7	12.5	51	11	6.6
K	33.1	70	M4x0.7	12.5	51	14	6.6

Motor mounting section details



Left attachment



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 <<45mm or more >> is recommended for the hex socket head bolts <M5×0.8>. In the installation tap hole, the length under head <<thickness of stand +15mm or less>> is recommended for the hex socket head bolts <M6×1.0> 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	850	900	950	1000	1050	1100	1150	1200	1250
La		318.5	368.5	418.5	468.5	518.5	568.5	618.5	668.5	718.5	768.5	818.5	868.5	918.5	968.5	1018.5	1068.5	1118.5	1168.5	1218.5	1268.5	1318.5	1368.5	1418.5	1468.5	1518.5
Lb		50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50
Lc		50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250
Qa		6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30
Qb		1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13
Weight (kg)		3.06	3.35	3.63	3.92	4.21	4.50	4.78	5.07	5.36	5.65	5.93	6.22	6.51	6.80	7.08	7.37	7.66	7.95	8.23	8.52	8.81	9.10	9.38	9.67	9.96
Maximum speed (mm/sec)	Lead 24	1440												1224	1080	936	864	792	720	648	576	512	432	432	360	360
	Speed setting	-												85%	75%	65%	60%	55%	50%	45%	40%	36%	30%	30%	25%	25%
	Lead 12	720												612	540	468	432	396	360	324	288	256	216	216	180	180
	Speed setting	-												85%	75%	65%	60%	55%	50%	45%	40%	36%	30%	30%	25%	25%
	Lead 6	360												306	270	234	216	198	180	162	144	126	108	108	90	90
	Speed setting	-												85%	75%	65%	60%	55%	50%	45%	40%	35%	30%	30%	25%	25%

LBFS10

Basic model | **Motor-less Single Axis Actuator**

Low-profile type

Ordering method

LBFS10 - [ ] [ ] [ ] - [ ]

Model	Lead	Shape	Motor specification	Stroke
	24: 24 mm 12: 12mm 6: 6 mm	S: Straight R: Right attachment L: Left attachment	Y: Y specification (see below) P: P specification (see below) K: K specification (see below) A: A specification (see below) N: N specification (see below)	50 to 1250 (50 mm pitch)

[Caution]

This system is provided as mechanical actuator unit and not including any adopters 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.

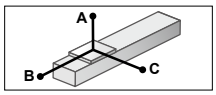
LBFS10 (200W)

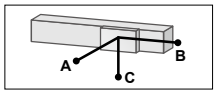
Specifications

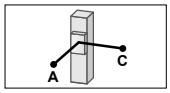
Applicable motor		200 W		
Repeatability Note 1		±0.005 mm		
Deceleration mechanism		Rolled ball screw ϕ 14 (C7 class)		
Stroke		50 mm to 1250 mm (50 mm pitch)		
Maximum speed Note 2		1440 mm/sec	720 mm/sec	360 mm/sec
Ball screw lead		24 mm	12 mm	6 mm
Maximum payload Note 3	Horizontal	40 kg	80 kg	100 kg
	Vertical	8 kg	18 kg	30 kg
Rated Thrust Note 3		142 N	284 N	569 N
Dinamic loading moment (MY,MP,MR)		132.9 /132.9 / 237.4		
Maximum dimensions of cross section of main unit		W 100.3 mm × H 60 mm		
Overall length	Straight	ST + 297.5 mm		
	Bending	ST + 278.5 mm		
Degree of cleanliness Note 4		Equivalent to ISO Class 4 (ISO 14644-1)		
Intake air Note 5		130 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 650 mm, the ball screw may resonate. (Critical speed)
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







LBFS10-24(200W)

Horizontal installation (Unit: mm)

	A	B	C
15kg	684	308	309
25kg	759	210	251
40kg	1496	156	235

Wall installation (Unit: mm)

	A	B	C
15kg	309	308	684
25kg	251	210	759
40kg	235	156	1496

Vertical installation (Unit: mm)

	A	C
4kg	1083	1083
8kg	617	617

LBFS10-12(200W)

Horizontal installation (Unit: mm)

	A	B	C
30kg	1000	218	312
50kg	730	118	174
80kg	481	62	92

Wall installation (Unit: mm)

	A	B	C
30kg	312	218	1000
50kg	174	118	730
80kg	92	62	481

Vertical installation (Unit: mm)

	A	C
10kg	726	726
18kg	406	406

LBFS10-6(200W)

Horizontal installation (Unit: mm)

	A	B	C
30kg	3539	256	434
60kg	1965	112	190
100kg	1326	54	93

Wall installation (Unit: mm)

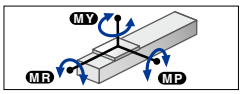
	A	B	C
30kg	434	256	3539
60kg	190	112	1965
100kg	93	54	1326

Vertical installation (Unit: mm)

	A	C
15kg	573	573
30kg	287	287

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
349	349	625

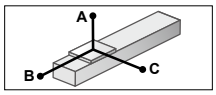
LBFS10 (400W)

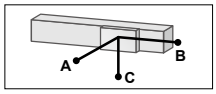
Specifications

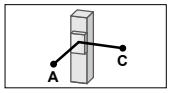
Applicable motor		400 W		
Repeatability Note 1		±0.005 mm		
Deceleration mechanism		Rolled ball screw ϕ 14 (C7 class)		
Stroke		50 mm to 1250 mm (50 mm pitch)		
Maximum speed Note 2		1440 mm/sec	720 mm/sec	360 mm/sec
Ball screw lead		24 mm	12 mm	6 mm
Maximum payload Note 3	Horizontal	50 kg	95 kg	115 kg
	Vertical	15 kg	28 kg	37 kg
Rated Thrust Note 3		289 N	578 N	1156 N
Dinamic loading moment (MY,MP,MR)		132.9 / 132.9 / 237.4		
Maximum dimensions of cross section of main unit		W 100.3 mm × H 60 mm		
Overall length	Straight	ST + 297.5 mm		
	Bending	ST + 278.5 mm		
Degree of cleanliness Note 4		Equivalent to ISO Class 4 (ISO 14644-1)		
Intake air Note 5		130 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 650 mm, the ball screw may resonate. (Critical speed)
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







LBFS10-24(400W)

Horizontal installation (Unit: mm)

	A	B	C
15	550	308	290
30	579	166	197
50	1330	121	186

Wall installation (Unit: mm)

	A	B	C
15	290	308	550
30	189	179	460
50	186	121	1330

Vertical installation (Unit: mm)

	A	C
8	713	713
15	321	321

LBFS10-12(400W)

Horizontal installation (Unit: mm)

	A	B	C
30	833	218	305
60	533	93	136
95	354	47	70

Wall installation (Unit: mm)

	A	B	C
30	305	218	833
60	136	93	533
95	70	47	354

Vertical installation (Unit: mm)

	A	C
14	516	516
28	261	261

LBFS10-6(400W)

Horizontal installation (Unit: mm)

	A	B	C
40	2079	184	311
80	1367	76	129
115	1009	43	74

Wall installation (Unit: mm)

	A	B	C
40	311	184	2079
80	129	76	1367
115	74	43	1009

Vertical installation (Unit: mm)

	A	C
18	476	476
37	232	232

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.

Applicable motor

• Applicable servo motor

Specification	Flange size	□ 60
	Wattage	200 W

Motor specification	Manufacturer	Model
Y	Yaskawa Electric Corp.	SGMJV-02
		SGM7J-02
		SGMXJ-02
	Keyence Corp.	SV- □ 020
		SV2- □ 020
		SV3- □ 020
	Mitsubishi Electric Corp.	HG-KR23
		HK-KT23
		HK-MT23
	Sanyo Denki	R2 □ A06020
	Tamagawa Seiki	TSM3202
		TSM4252
		TSM4262
	Delta Electronics	ECMA-C10602
	Siemens	1FL6032-2AF
	Schneider	BCH2LD023
P	Omron Electronics	R88M-K20030
		R88M-1M20030
	Panasonic Corp.	MSMF02
		MHMF02
		MHMG-022
K	Kingservo	KSMA02LI
		KSMA02LG

Specification	Flange size	□ 60
	Wattage	400 W

Motor specification	Manufacturer	Model
Y	Yaskawa Electric Corp.	SGMJV-04
		SGM7J-04
		SGMXJ-04
	Keyence Corp.	SV- □ 040
		SV2- □ 040
		SV3- □ 040
	Mitsubishi Electric Corp.	HG-KR43
		HK-KT43
		HK-MT43
	Sanyo Denki	R2 □ A06040
	Tamagawa Seiki	TSM3204
		TSM4254
		TSM4264
	Delta Electronics	ECM-A3H-C □ 20604
	Siemens	1FL6034-2AF
	Schneider	BCH2LD043
	Fanuc Corp.	βiS1/6000-B
K	Kingservo	KSMA04LI
		KSMA04LG
	Omron Electronics	R88M-K40030
		R88M-1M40030
	Panasonic Corp.	MSMF04
		MHMF04
		MHMG-042

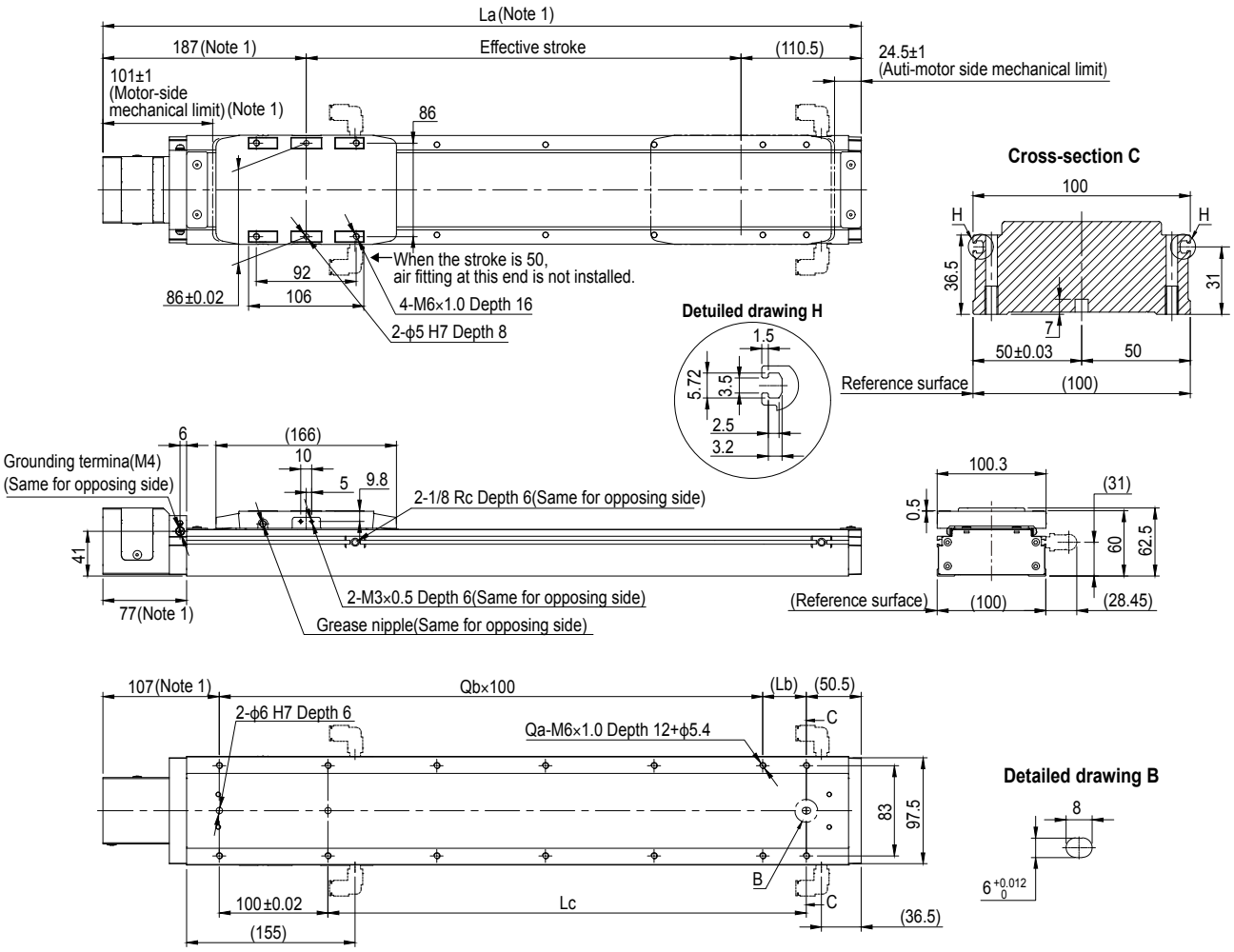
• Applicable stepping motor

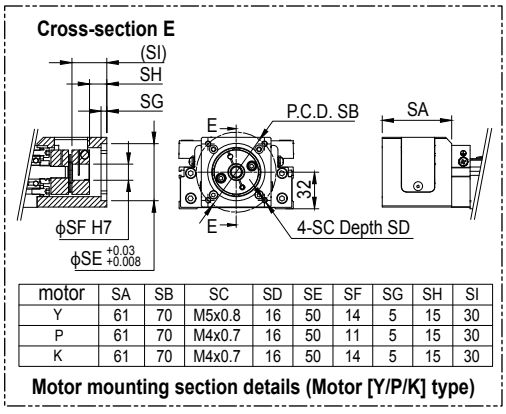
Specification	Flange size	□ 60

Motor specification	Manufacturer	Model
A	Oriental Motor	AZM66
		AZM69
		ARM66
		ARM69
		RKS56
N	NEMA standard	NEMA23

Note. Be aware that the dimensions of the NEMA standard motor may vary depending on the manufacturer.
Note. For the motor specifications A and N, the parts dedicated for bending cannot be used.

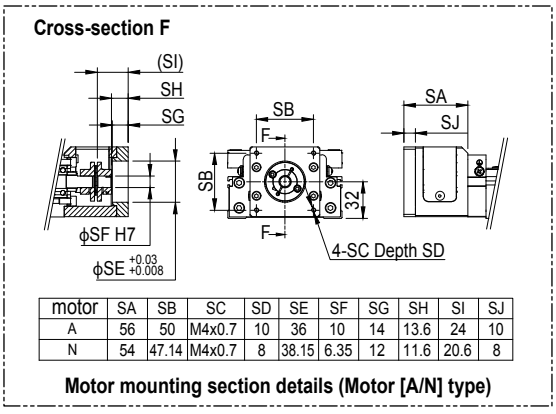
LBFS10 Straight type (S)





motor	SA	SB	SC	SD	SE	SF	SG	SH	SI
Y	61	70	M5x0.8	16	50	14	5	15	30
P	61	70	M4x0.7	16	50	11	5	15	30
K	61	70	M4x0.7	16	50	14	5	15	30

Motor mounting section details (Motor [Y/P/K] type)



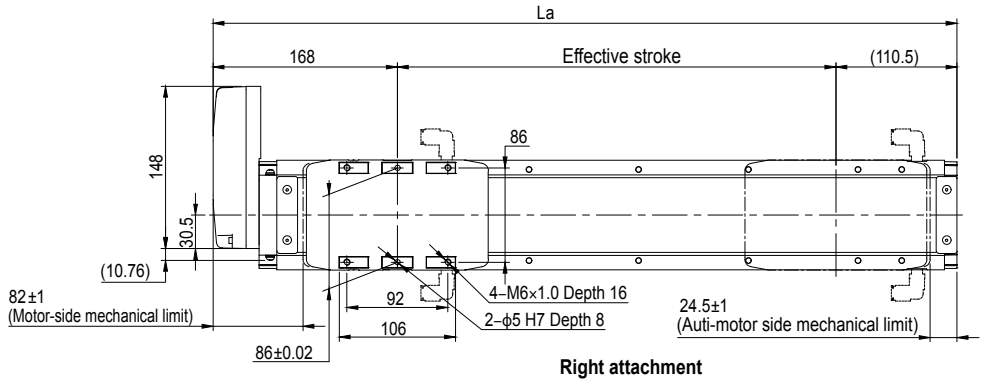
motor	SA	SB	SC	SD	SE	SF	SG	SH	SI	SJ
A	56	50	M4x0.7	10	36	10	14	13.6	24	10
N	54	47.14	M4x0.7	8	38.15	6.35	12	11.6	20.6	8

Motor mounting section details (Motor [A/N] type)

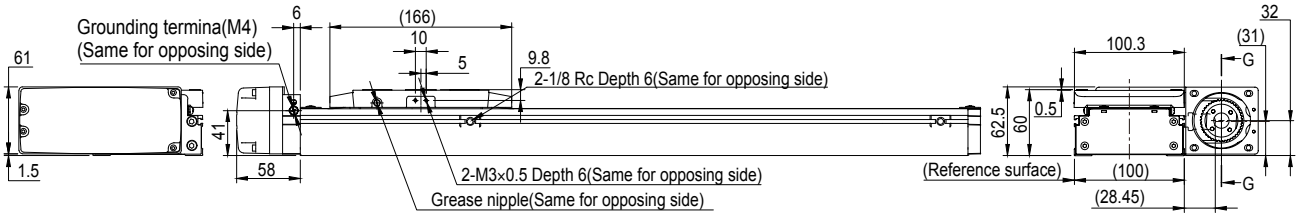
Note 1. Motor specifications: For A, the stated dimensions will be -5mm. Please refer to the specifications table for details.
Note. For the installation through hole,the length under head <<45mm or more >> is recommended for the hex socket head bolts <M5×0.8>. In the installation tap hole, the length under head <<thickness of stand +12mm or less>> is recommended for the hex socket head bolts <M6×1.0> used to install the main unit.
Note. Grease gun nozzle (recommended) Part number: KFU-M3861-00

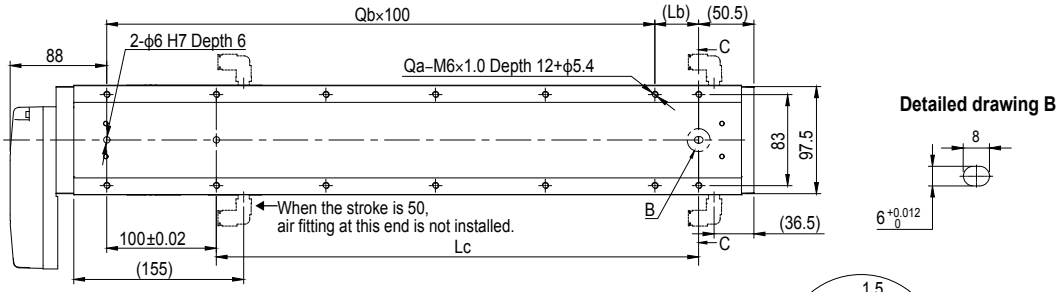
Effective stroke		50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250
La		347.5	397.5	447.5	497.5	547.5	597.5	647.5	697.5	747.5	797.5	847.5	897.5	947.5	997.5	1047.5	1097.5	1147.5	1197.5	1247.5	1297.5	1347.5	1397.5	1447.5	1497.5	1547.5
Lb		90	40	90	40	90	40	90	40	90	40	90	40	90	40	90	40	90	40	90	40	90	40	90	40	90
Lc		90	140	190	240	290	340	390	440	490	540	590	640	690	740	790	840	890	940	990	1040	1090	1140	1190	1240	1290
Qa		6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30	30
Qb		1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13	13
Weight (kg)		3.39	3.70	4.02	4.34	4.66	4.98	5.29	5.61	5.93	6.25	6.57	6.88	7.21	7.53	7.85	8.17	8.49	8.80	9.12	9.44	9.76	10.08	10.39	10.71	11.03
Maximum speed (mm/sec)	Lead 24	1440												1224	1080	936	864	792	720	648	576	512	432	432	360	360
	Speed setting	-												85%	75%	65%	60%	55%	50%	45%	40%	36%	30%	30%	25%	25%
	Lead 12	720												612	540	468	432	396	360	324	288	256	216	216	180	180
	Speed setting	-												85%	75%	65%	60%	55%	50%	45%	40%	36%	30%	30%	25%	25%
	Lead 6	360												306	270	234	216	198	180	162	144	126	108	108	90	90
	Speed setting	-												85%	75%	65%	60%	55%	50%	45%	40%	35%	30%	30%	25%	25%

LBFS10 Bending type (R/L)

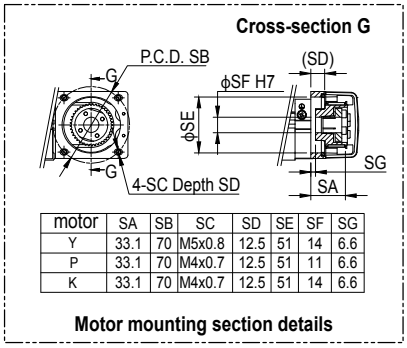


Right attachment



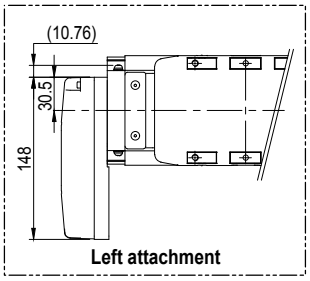


Detailed drawing B

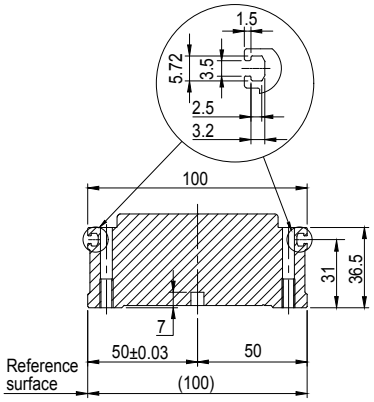


motor	SA	SB	SC	SD	SE	SF	SG
Y	33.1	70	M5x0.8	12.5	51	14	6.6
P	33.1	70	M4x0.7	12.5	51	11	6.6
K	33.1	70	M4x0.7	12.5	51	14	6.6

Motor mounting section details



Left attachment



Cross-section C

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 <<45mm or more >> is recommended for the hex socket head bolts <M5×0.8>. In the installation tap hole, the length under head <<thickness of stand +12mm or less>> is recommended for the hex socket head bolts <M6×1.0> 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	850	900	950	1000	1050	1100	1150	1200	1250
La		328.5	378.5	428.5	478.5	528.5	578.5	628.5	678.5	728.5	778.5	828.5	878.5	928.5	978.5	1028.5	1078.5	1128.5	1178.5	1228.5	1278.5	1328.5	1378.5	1428.5	1478.5	1528.5
Lb		90	40	90	40	90	40	90	40	90	40	90	40	90	40	90	40	90	40	90	40	90	40	90	40	90
Lc		90	140	190	240	290	340	390	440	490	540	590	640	690	740	790	840	890	940	990	1040	1090	1140	1190	1240	1290
Qa		6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30	30
Qb		1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13	13
Weight (kg)		3.36	3.70	4.04	4.38	4.72	5.06	5.40	5.74	6.08	6.42	6.76	7.10	7.44	7.78	8.12	8.46	8.80	9.14	9.48	9.82	10.16	10.50	10.84	11.18	11.52
Maximum speed (mm/sec)	Lead 24	1440												1224	1080	936	864	792	720	648	576	512	432	432	360	360
	Speed setting	-												85%	75%	65%	60%	55%	50%	45%	40%	36%	30%	30%	25%	25%
	Lead 12	720												612	540	468	432	396	360	324	288	256	216	216	180	180
	Speed setting	-												85%	75%	65%	60%	55%	50%	45%	40%	36%	30%	30%	25%	25%
	Lead 6	360												306	270	234	216	198	180	162	144	126	108	108	90	90
	Speed setting	-												85%	75%	65%	60%	55%	50%	45%	40%	35%	30%	30%	25%	25%