

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 (60 mm pitch)

[Caution]

This system is provided as mechanical actuator unit and not including any adaptors 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	
	24 mm	12 mm	6 mm	
	40 kg	80 kg	100 kg	
Ball screw lead	24 mm	12 mm	6 mm	
	Horizontal	40 kg	80 kg	100 kg
Maximum payload ^{Note 3}	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.

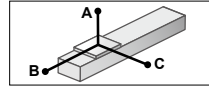
Note 2. When a moving distance is short and depending on an operation condition, it may not reach the maximum speed. If the effective stroke exceeds 650 mm, the ball screw may resonate. (Critical speed)

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.

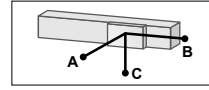
Note 5. The required suction amount will vary according to the operating conditions and operating environment.

Allowable overhang ^{Note}



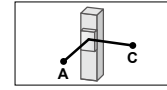
LBFS10-24(200W)

Horizontal installation (Unit: mm)	A	B	C	
	15kg	684	308	309
	25kg	759	210	251
	40kg	1496	156	235



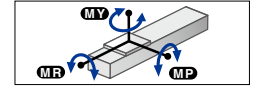
Wall installation (Unit: mm)

Wall installation (Unit: mm)	A	B	C	
	15kg	309	308	684
	25kg	251	210	759
	40kg	235	156	1496



Vertical installation (Unit: mm)

Vertical installation (Unit: mm)	A	C	
	4kg	1083	1083
	8kg	617	617
	15kg	309	308



Static loading moment (Unit: N·m)		
MY	MP	MR
349	349	625

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
	30kg	100	100

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
	60kg	144	144

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.

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	
	24 mm	12 mm	6 mm	
	50 kg	95 kg	115 kg	
Ball screw lead	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.

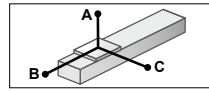
Note 2. When a moving distance is short and depending on an operation condition, it may not reach the maximum speed. If the effective stroke exceeds 650 mm, the ball screw may resonate. (Critical speed)

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.

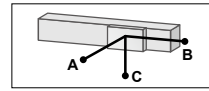
Note 5. The required suction amount will vary according to the operating conditions and operating environment.

Allowable overhang ^{Note}



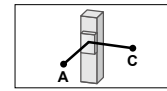
LBFS10-24(400W)

Horizontal installation (Unit: mm)	A	B	C	
	15	550	308	290
	30	579	166	197
	50	1330	121	186



Wall installation (Unit: mm)

Wall installation (Unit: mm)	A	B	C	
	15	290	308	550
	30	189	179	460
	50	186	121	1330



Vertical installation (Unit: mm)

Vertical installation (Unit: mm)	A	C	
	8	713	713
	15	321	321
	30	161	161

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
	60	136	136

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
	80	129	129

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.

Linear conveyor modules
LCMR200
Single-axis robots
GX
Linear conveyor modules
LCM100
SCARA robots
YK-X
Single-axis robots
Robonity
Linear motor single-axis robots
PHASER
Single-axis robots
FLIP-X
Single-axis robots
TRANSERO
Compact single-axis robots
XX-X
Cartesian robots
XX-X
Pick & place robots
YP-X
CLEAN
CONTROLLER
INFORMATION
LBFS
LBAS
LGXS
LBAR
LGFS
LGBS
LBFS
ABFS
AGXS
AGBS
ABAS
ABAR
AGFS
AGGS
Option

Applicable motor

Applicable servo motor

Specification	Flange size	<input type="checkbox"/> 60
	Wattage	200 W

Specification	Flange size	<input type="checkbox"/> 60
	Wattage	400 W

Motor specification	Manufacturer	Model
Y	Yaskawa Electric Corp.	SGMJV-02
		SGM7J-02
		SGMXJ-02
	Keyence Corp.	SV- <input type="checkbox"/> 020
		SV2- <input type="checkbox"/> 020
		SV3- <input type="checkbox"/> 020
	Mitsubishi Electric Corp.	HG-KR23
		HK-KT23
		HK-MT23
	Sanyo Denki	R2 <input type="checkbox"/> 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
K	Kingservo	MHMF02
		MHMG-022
		KSMA02LI
		KSMA02LG

Motor specification	Manufacturer	Model
Y	Yaskawa Electric Corp.	SGMJV-04
		SGM7J-04
		SGMXJ-04
	Keyence Corp.	SV- <input type="checkbox"/> 040
		SV2- <input type="checkbox"/> 040
		SV3- <input type="checkbox"/> 040
	Mitsubishi Electric Corp.	HG-KR43
		HK-KT43
		HK-MT43
	Sanyo Denki	R2 <input type="checkbox"/> A06040
	Tamagawa Seiki	TSM3204
		TSM4254
		TSM4264
Delta Electronics	ECM-A3H-C <input type="checkbox"/> 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	<input type="checkbox"/> 60
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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.

Linear conveyor modules
LCMR200

Single-axis robots
GX

Linear conveyor modules
LCM100

SCARA robots
YK-X

Single-axis robots
Robonity

Linear motor
PHASER

Single-axis robots
FLIP-X

Compact
single-axis robots
TRANSERO

Cartesian robots
XY-X

Pick & place robots
YP-X

CLEAN

CONTROLLER

INFORMATION

LBFS

LBAS

LGXS

LBAR

LGXS

LGFS

ABFS

ABAS

AGXS

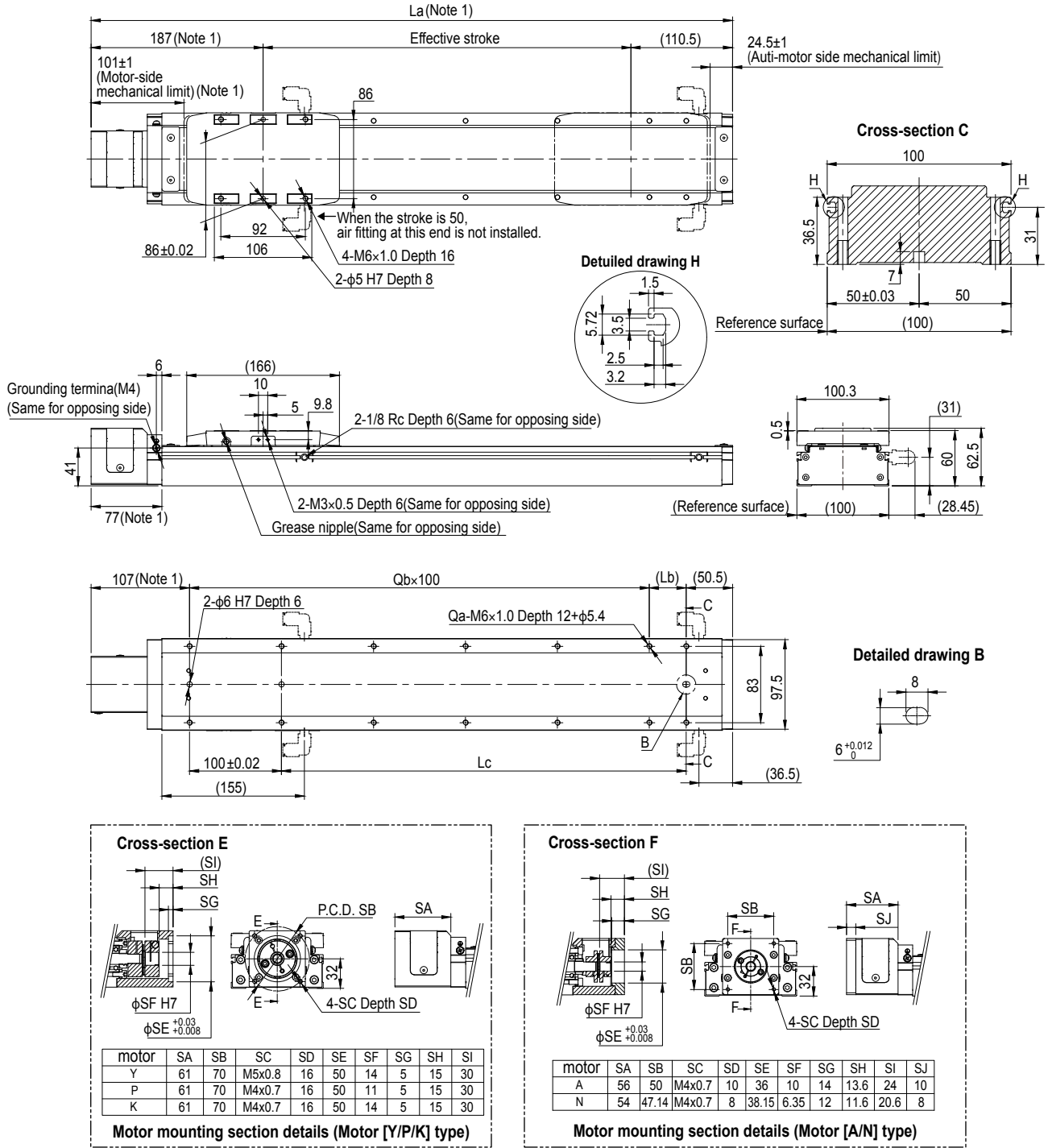
ABAR

AGXS

AGFS

Option

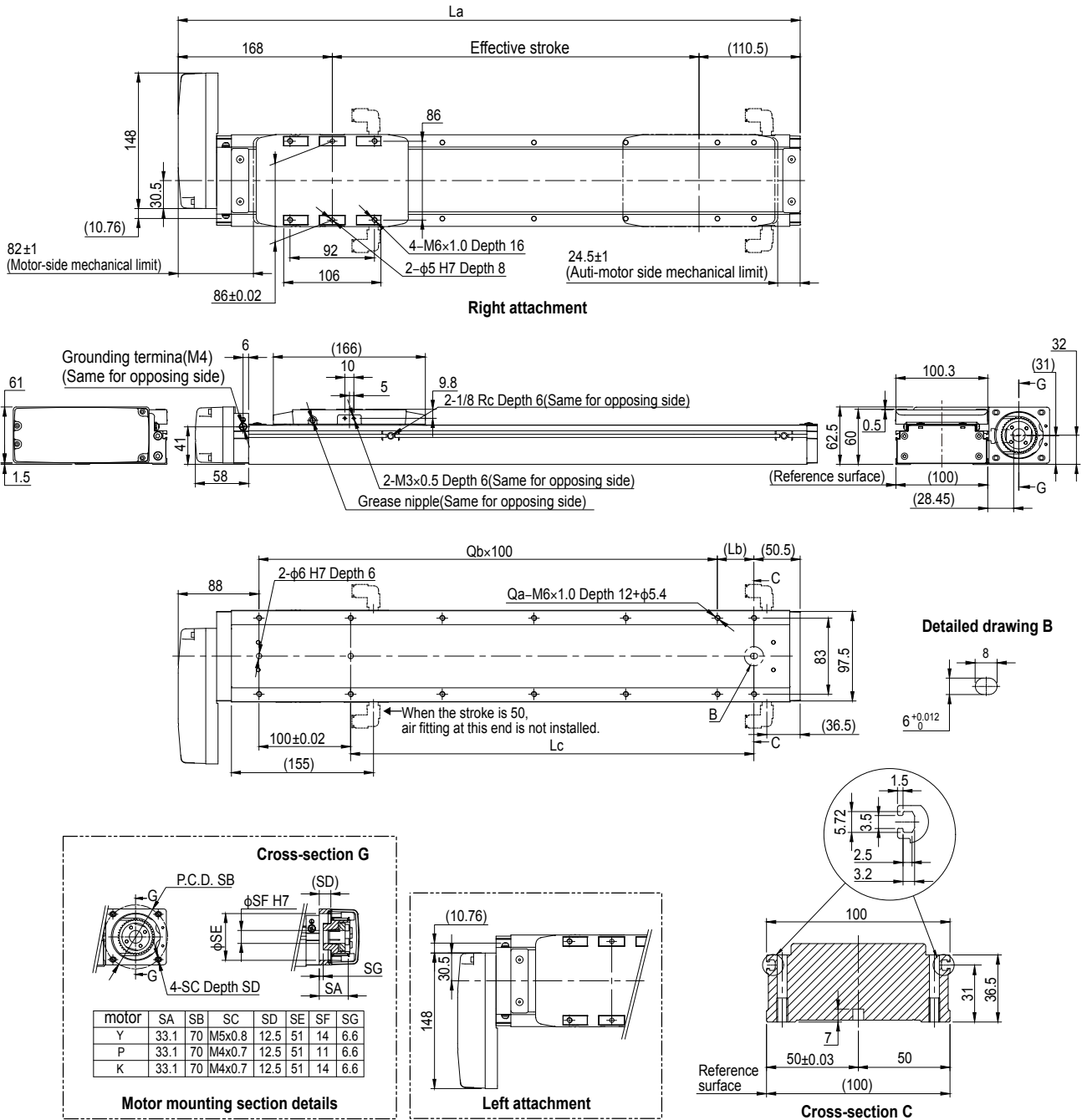
LBFS10 Straight type (S)



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 <<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: KFJ-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												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												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												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)



Cross-section G

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

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 <M5x0.8>. In the installation tap hole, the length under head <<thickness of stand +12mm or less>> is recommended for the hex socket head bolts <M6x1.0> 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												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												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												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%