LGFS14

Advanced model | **Motor-less Single Axis Actuator** | **Long-stroke type**

Ordering method

LGFS14 – [ ] – [ ] – [ ] – [ ]

Model	Lead	Motor specification	OP.1	Stroke
	30: 30 mm 20: 20 mm 10: 10 mm 5: 5 mm	Y: Y specification (see below) P: P specification (see below) K: K specification (see below)	No entry: Standard M: Centeraized lubrication	100 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.

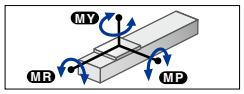
LGFS14 (200W)

Specifications

Applicable motor		200 W			
Repeatability Note 1		±0.01 mm			
Deceleration mechanism		Rolled ball screw ϕ 15 (C7 class)			
Stroke		100 mm to 1050 mm (50 mm pitch)			
Maximum speed Note 2		1800 mm/sec	1200 mm/sec	600 mm/sec	300 mm/sec
Ball screw lead		30 mm	20 mm	10 mm	5 mm
Maximum payload Note 3	Horizontal	30 kg	45 kg	90 kg	120 kg
	Vertical	3 kg	6 kg	16 kg	30 kg
Rated Thrust Note 3		113 N	170 N	341 N	683 N
Maximum dimensions of cross section of main unit		W 140 mm × H 83 mm			
Overall length Straight		ST + 394.5 mm			
Degree of Cleanliness Note 4		Equivalent to ISO Class 3 (ISO 14644-1)			
Intake air Note 5		90 Nℓ/min to 100 Nℓ/min			
Using ambient temperature and humidity		0 to 40 °C, 35 to 80 %RH (no condensation)			

Note 1. Positioning repeatability in one direction.
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 600 mm, the ball screw may resonate. (Critical speed) At this time, make the adjustment to decrease the speed while referring to the maximum speed shown in the table.
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.

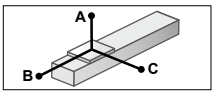
Static loading moment

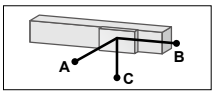


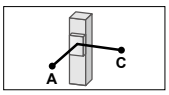
(Unit: N·m)

MY	MP	MR
441	543	478

Allowable overhang Note







LGFS14-30(200W)

Horizontal installation (Unit: mm)

	A	B	C
5kg	4905	3005	2651
15kg	2257	988	954
30kg	2045	558	627

Wall installation (Unit: mm)

	A	B	C
5kg	2683	2966	4862
15kg	971	949	2185
30kg	632	519	1930

Vertical installation (Unit: mm)

	A	C
1kg	11158	11158
3kg	3983	3983

LGFS14-20(200W)

Horizontal installation (Unit: mm)

	A	B	C
15kg	3254	1258	1400
30kg	2079	614	714
45kg	1637	400	474

Wall installation (Unit: mm)

	A	B	C
15kg	1400	1219	3197
30kg	704	575	1993
45kg	459	361	1523

Vertical installation (Unit: mm)

	A	C
2kg	8093	8093
4kg	4175	4175
6kg	2872	2872

LGFS14-10(200W)

Horizontal installation (Unit: mm)

	A	B	C
30kg	4186	855	1158
60kg	2619	413	566
90kg	2042	266	367

Wall installation (Unit: mm)

	A	B	C
30kg	1124	816	4112
60kg	525	374	2511
90kg	322	227	1897

Vertical installation (Unit: mm)

	A	C
5kg	5041	5041
10kg	2519	2519
16kg	1572	1572

LGFS14-5(200W)

Horizontal installation (Unit: mm)

	A	B	C
40kg	7737	681	982
80kg	4818	326	471
120kg	3749	208	301

Wall installation (Unit: mm)

	A	B	C
40kg	932	641	7609
80kg	418	287	4627
120kg	246	169	3487

Vertical installation (Unit: mm)

	A	C
10kg	2781	2781
20kg	1374	1374
30kg	905	905

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 600 mm stroke models.
Note. When using it suspended from the ceiling, the overhang will be the same as when used horizontally.

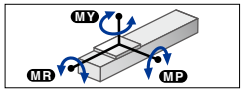
LGFS14 (400W)

Specifications

Applicable motor		400 W			
Repeatability Note 1		±0.01 mm			
Deceleration mechanism		Rolled ball screw ϕ 15 (C7 class)			
Stroke		100 mm to 1050 mm (50 mm pitch)			
Maximum speed Note 2		1800 mm/sec	1200 mm/sec	600 mm/sec	300 mm/sec
Ball screw lead		30 mm	20 mm	10 mm	5 mm
Maximum payload Note 3	Horizontal	50 kg	70 kg	110 kg	140 kg
	Vertical	10 kg	15 kg	30 kg	45 kg
Rated Thrust Note 3		225 N	339 N	678 N	1360 N
Maximum dimensions of cross section of main unit		W 140 mm × H 83 mm			
Overall length Straight		ST + 394.5 mm			
Degree of Cleanliness Note 4		Equivalent to ISO Class 3 (ISO 14644-1)			
Intake air Note 5		90 Nℓ/min to 100 Nℓ/min			
Using ambient temperature and humidity		0 to 40 °C, 35 to 80 %RH (no condensation)			

Note 1. Positioning repeatability in one direction.
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 600 mm, the ball screw may resonate. (Critical speed) At this time, make the adjustment to decrease the speed while referring to the maximum speed shown in the table.
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.

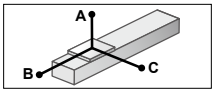
Static loading moment

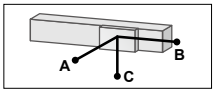


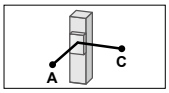
(Unit: N·m)

MY	MP	MR
441	543	478

Allowable overhang Note







LGFS14-30(400W)

Horizontal installation (Unit: mm)

	A	B	C
15kg	1923	982	912
30kg	1614	527	562
50kg	1658	349	416

Wall installation (Unit: mm)

	A	B	C
15kg	913	943	1866
30kg	562	488	1518
50kg	403	310	1509

Vertical installation (Unit: mm)

	A	C
3kg	3663	3663
5kg	2243	2243
10kg	1160	1160

LGFS14-20(400W)

Horizontal installation (Unit: mm)

	A	B	C
15kg	2756	1258	1347
30kg	1780	614	696
70kg	1100	247	294

Wall installation (Unit: mm)

	A	B	C
15kg	1336	1219	2711
30kg	680	575	1712
70kg	268	208	969

Vertical installation (Unit: mm)

	A	C
5kg	3206	3206
10kg	1627	1627
15kg	1093	1093

LGFS14-10(400W)

Horizontal installation (Unit: mm)

	A	B	C
30kg	3732	855	1148
50kg	2742	502	683
110kg	1781	212	293

Wall installation (Unit: mm)

	A	B	C
30kg	1112	816	3670
50kg	642	462	2655
110kg	247	173	1615

Vertical installation (Unit: mm)

	A	C
10kg	2499	2499
15kg	1664	1664
30kg	823	823

LGFS14-5(400W)

Horizontal installation (Unit: mm)

	A	B	C
50kg	5089	539	775
100kg	3425	255	368
140kg	2863	174	252

Wall installation (Unit: mm)

	A	B	C
50kg	724	500	4991
100kg	314	216	3257
140kg	197	135	2630

Vertical installation (Unit: mm)

	A	C
15kg	1833	1833
30kg	900	900
45kg	589	589

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 600 mm stroke models.
Note. When using it suspended from the ceiling, the overhang will be the same as when used horizontally.

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

Applicable motor

• Applicable servo motor

Motor specification	Flange size	Wattage	Manufacturer	Model
Y	□60	200W	Tamagawa Seiki	TSM4252N □ □ 00E200
			Yaskawa Electric Corp.	SGM7J-02
				SGMXJ-02
			Keyence Corp.	SV- □ 020
				SV2- □ 020
				SV3- □ 020
			Mitsubishi Electric Corp.	HG-KR23 Note 1
				HK-KT23 Note 1
				HK-MT23 Note 1
		400W	Tamagawa Seiki	TSM4254N □ □ 00E200
			Yaskawa Electric Corp.	SGM7J-04
				SGMXJ-04
			Keyence Corp.	SV- □ 040
				SV2- □ 040
				SV3- □ 040
			Mitsubishi Electric Corp.	HG-KR43 Note 1
				HK-KT43 Note 1
				HK-MT43 Note 1
		500W	Fanuc Corp.	βiS1/6000-B Note 1
P	□60	200W	Omron Electronics	R88M-K20030
				R88M-1M20030
			Panasonic Corp.	MSMF022
				MHMF022
				MHMG022
K	□60	400W	Omron Electronics	R88M-K40030
				R88M-1M40030
			Panasonic Corp.	MSMF042
				MHMF042
				MHMG042

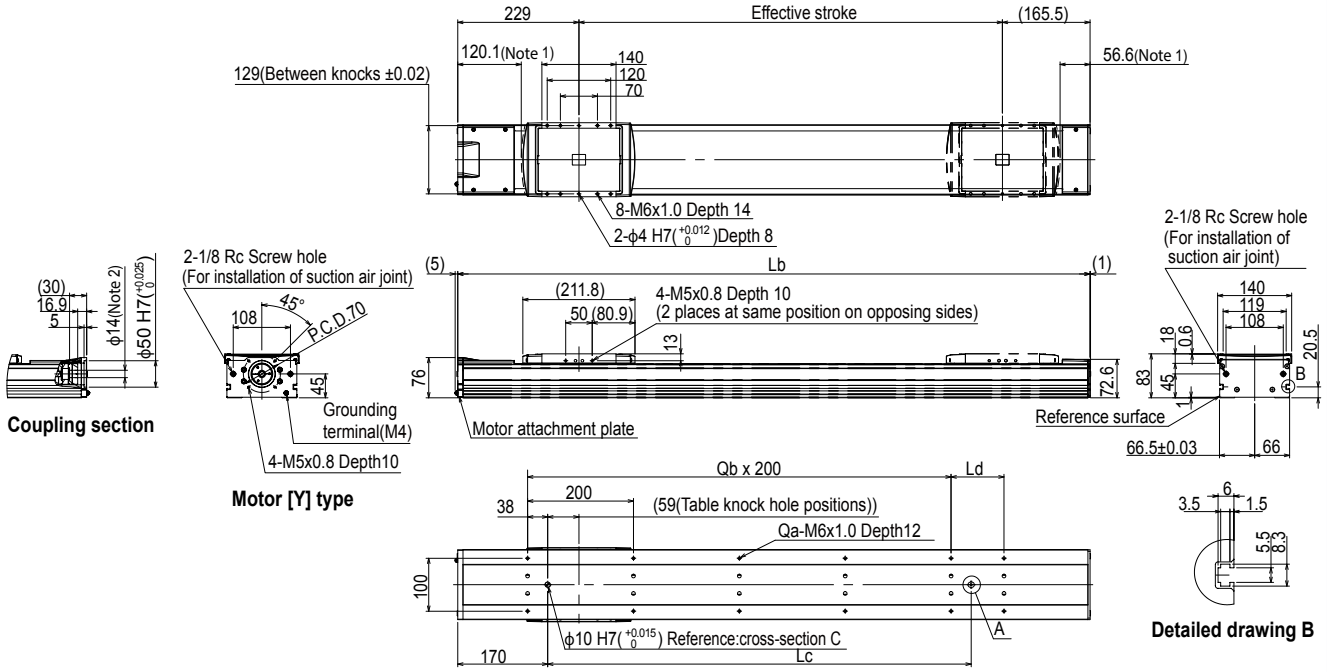
Note 1. A special shim plate is required when combining with the bending unit.

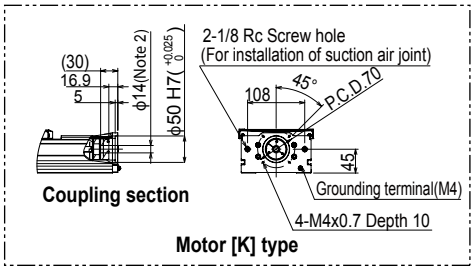
Part number of shim plate
KEV-M2295-00

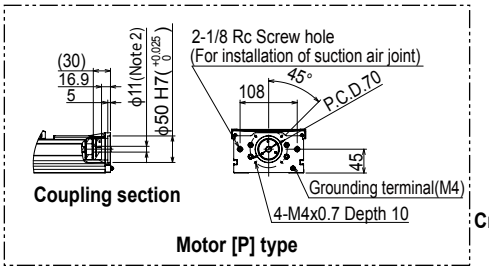
Note 2. The bending unit can only be installed on the Y specification.

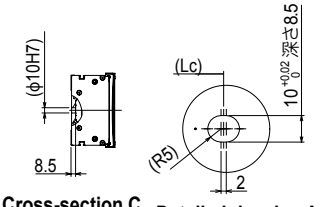
Part number of bending unit
KEV-M221M-01 Note 2

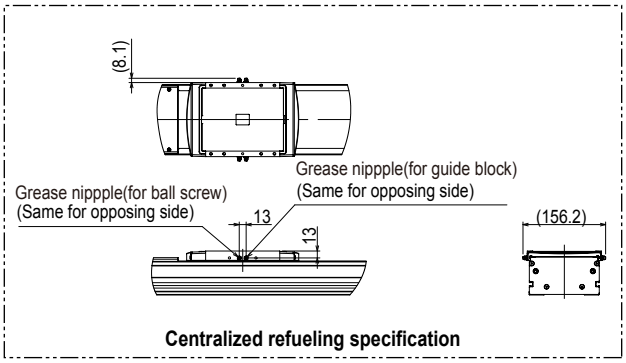
LGFS14

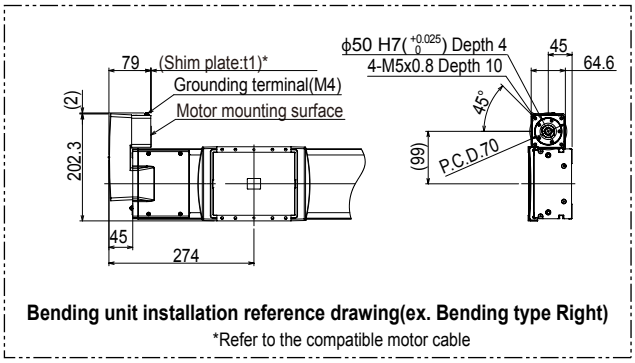












Note 1. Stop positions are determined by the mechanical stoppers at both ends.
Note 2. The recommended dimensional tolerances for the applicable shaft diameter are h6 and h7.
Note. In the installation tap hole, the length under head <<thickness of stand +10mm or less>> is recommended for the hex socket head bolts <M6×1.0> used to install the main unit.

Effective stroke		100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
Lb		494.5	544.5	594.5	644.5	694.5	744.5	794.5	844.5	894.5	944.5	994.5	1044.5	1094.5	1144.5	1194.5	1244.5	1294.5	1344.5	1394.5	1444.5
Lc		100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050
Ld		200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150
Qa		4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14
Qb		0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5
Weight (kg)		7.9	8.5	9	9.5	10.1	10.6	11.1	11.6	12.2	12.7	13.2	13.8	14.3	14.8	15.4	15.9	16.4	16.9	17.5	18
Maximum speed (mm/sec)	Lead 30	1800													1710	1530	1170	990	900	810	720
	Speed setting	-													95%	85%	65%	55%	50%	45%	40%
	Lead 20	1200											1140	1020	900	780	660	600	540	480	420
	Speed setting	-											95%	85%	75%	65%	55%	50%	45%	40%	35%
	Lead 10	600											570	480	420	360	330	300	270	240	210
	Speed setting	-											95%	80%	70%	60%	55%	50%	45%	40%	35%
	Lead 5	300											270	240	210	180	165	150	135	120	105
	Speed setting	-											90%	80%	70%	60%	555%	50%	45%	40%	35%
Stroke restriction	Horizontal・Vertical	No stroke restrictions																			
	Wall hanging	No stroke restrictions																			
	Ceiling-mounted	No stroke restrictions																			