

LGFS14

Advanced model

Motor-less Single Axis Actuator

Long-stroke type

Ordering method

LGFS14

Model	Lead	Motor specification	OP1	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: Centralized Lubrication	100 to 1050 (50 mm pitch)

[Caution]

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

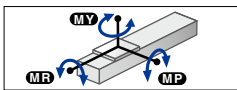
LGFS14 (200W)

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
	Vertical	3 kg	6 kg	16 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



	MY	MP	MR
(Unit: N·m)	441	543	478

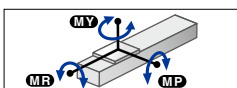
LGFS14 (400W)

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	140 kg
	Vertical	10 kg	15 kg	30 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)			

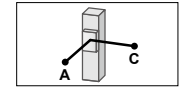
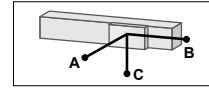
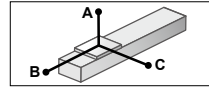
- Note 1. Positioning repeatability in one direction.
 Note 2. When a moving distance is short and depending on an operation condition, it may not reach the maximum speed. If the effective stroke exceeds 600 mm, the ball screw may resonate. (Critical speed) At this time, make the adjustment to decrease 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



	MY	MP	MR
(Unit: N·m)	441	543	478

Allowable overhang^{Note}



LGFS14-30(200W)

	Horizontal installation (Unit: mm)			Wall installation (Unit: mm)			Vertical installation (Unit: mm)			
	A	B	C	A	B	C	A	C		
5kg	4905	3005	2651	5kg	2683	2966	4862	1kg	11158	11158
15kg	2257	988	954	15kg	971	949	2185	3kg	3983	3983
30kg	2045	558	627	30kg	632	519	1930			

LGFS14-20(200W)

	Horizontal installation (Unit: mm)			Wall installation (Unit: mm)			Vertical installation (Unit: mm)			
	A	B	C	A	B	C	A	C		
15kg	3254	1258	1400	15kg	1400	1219	3197	2kg	8093	8093
30kg	2079	614	714	30kg	704	575	1993	4kg	4175	4175
45kg	1637	400	474	45kg	459	361	1523	6kg	2872	2872

LGFS14-10(200W)

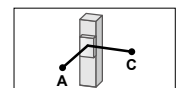
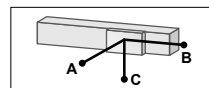
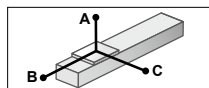
	Horizontal installation (Unit: mm)			Wall installation (Unit: mm)			Vertical installation (Unit: mm)			
	A	B	C	A	B	C	A	C		
30kg	4186	855	1158	30kg	1124	816	4112	5kg	5041	5041
60kg	2619	413	566	60kg	525	374	2511	10kg	2519	2519
90kg	2042	266	367	90kg	322	227	1897	16kg	1572	1572

LGFS14-5(200W)

	Horizontal installation (Unit: mm)			Wall installation (Unit: mm)			Vertical installation (Unit: mm)			
	A	B	C	A	B	C	A	C		
40kg	7737	681	982	40kg	932	641	7609	10kg	2781	2781
80kg	4818	326	471	80kg	418	287	4627	20kg	1374	1374
120kg	3749	208	301	120kg	246	169	3487	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.

Allowable overhang^{Note}



LGFS14-30(400W)

	Horizontal installation (Unit: mm)			Wall installation (Unit: mm)			Vertical installation (Unit: mm)			
	A	B	C	A	B	C	A	C		
15kg	1923	982	912	15kg	913	943	1866	3kg	3663	3663
30kg	1614	527	562	30kg	562	488	1518	5kg	2243	2243
50kg	1658	349	416	50kg	403	310	1509	10kg	1160	1160

LGFS14-20(400W)

	Horizontal installation (Unit: mm)			Wall installation (Unit: mm)			Vertical installation (Unit: mm)			
	A	B	C	A	B	C	A	C		
15kg	2756	1258	1347	15kg	1336	1219	2711	5kg	3206	3206
30kg	1780	614	696	30kg	680	575	1712	10kg	1627	1627
70kg	1100	247	294	70kg	268	208	969	15kg	1093	1093

LGFS14-10(400W)

	Horizontal installation (Unit: mm)			Wall installation (Unit: mm)			Vertical installation (Unit: mm)			
	A	B	C	A	B	C	A	C		
30kg	3732	855	1148	30kg	1112	816	3670	10kg	2499	2499
50kg	2742	502	683	50kg	642	462	2655	15kg	1664	1664
110kg	1781	212	293	110kg	247	173	1615	30kg	823	823

LGFS14-5(400W)

	Horizontal installation (Unit: mm)			Wall installation (Unit: mm)			Vertical installation (Unit: mm)			
	A	B	C	A	B	C	A	C		
50kg	5089	539	775	50kg	724	500	4991	15kg	1833	1833
100kg	3425	255	368	100kg	314	216	3257	30kg	900	900
140kg	2863	174	252	140kg	197	135	2630	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
			Mitsubishi Electric Corp.	SV3- □ 020
		HG-KR23 ^{Note 1}		
		400W	Mitsubishi Electric Corp.	HK-KT23 ^{Note 1}
				HK-MT23 ^{Note 1}
			Tamagawa Seiki	TSM4254N □ □ 00E200
			Yaskawa Electric Corp.	SGM7J-04
				SGMXJ-04
Keyence Corp.	SV- □ 040			
	SV2- □ 040			
Mitsubishi Electric Corp.	SV3- □ 040			
	HG-KR43 ^{Note 1}			
Mitsubishi Electric Corp.	HK-KT43 ^{Note 1}			
	HK-MT43 ^{Note 1}			
500W	Fanuc Corp.	βiS1/6000-B ^{Note 1}		
		R88M-K20030		
		R88M-1M20030		
P	□ 60	200W	Omron Electronics	R88M-K20030
			Panasonic Corp.	MSMF022
				MHMF022
		400W	Omron Electronics	MHMG022
				R88M-K40030
			Panasonic Corp.	R88M-1M40030
MSMF042				
K	□ 60	400W	Omron Electronics	R88M-K40030
				R88M-1M40030
			Panasonic Corp.	MHMF042
MHMG042				

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

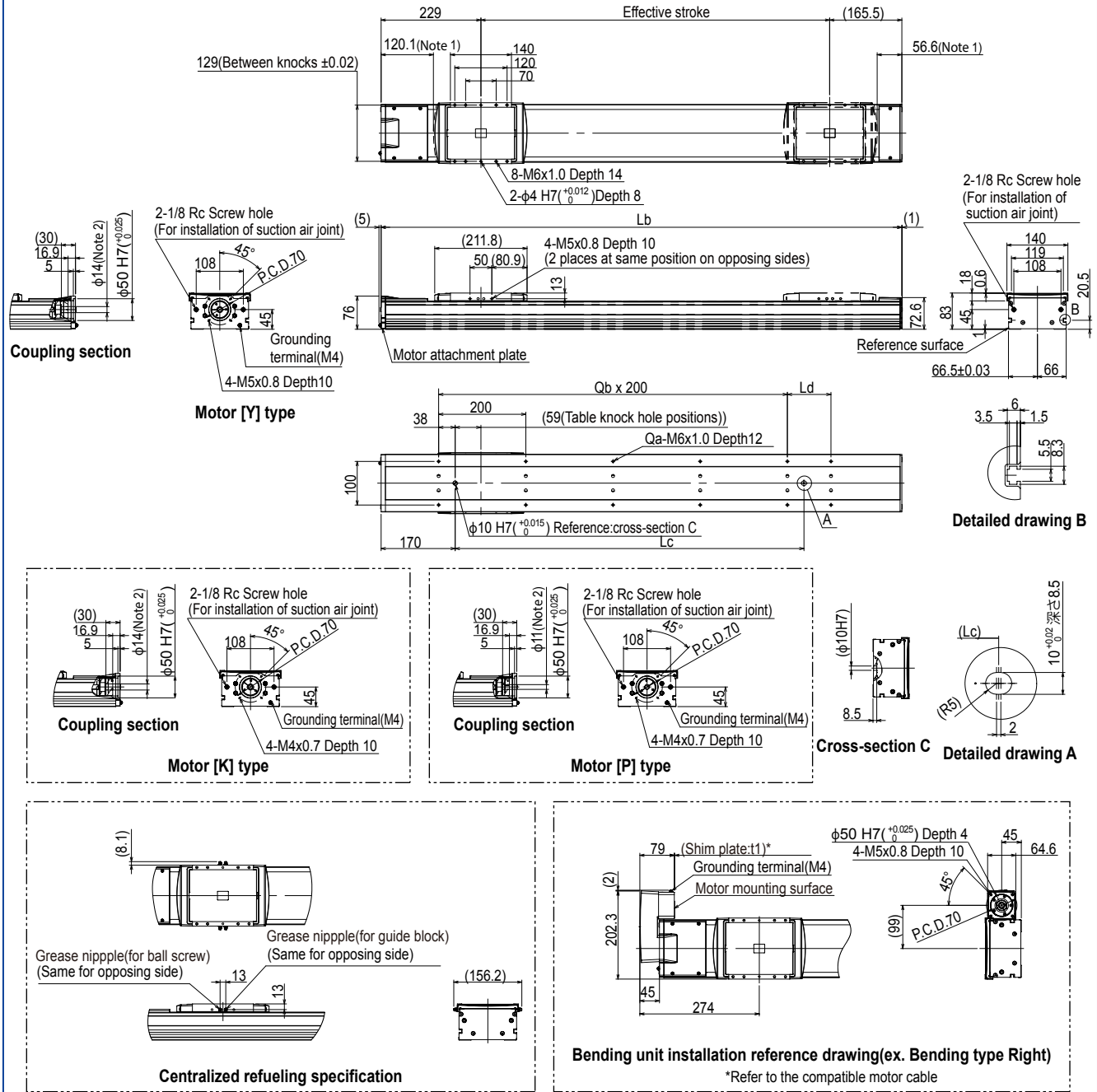
Part number of shim plate
KEV-M2295-00

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

Part number of bending unit
KEV-M221M-01 ^{Note 2}

- 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
- LGBS
- LGFS
- ABFS
- ABAS
- AGXS
- ABAR
- AGBS
- AGFS
- Option

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	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	1444.5					
Lc	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1050					
Ld	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	150					
Qa	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14					
Qb	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	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	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%			
Stroke restriction	Lead 5	300													270	240	210	180	165	150	135	120	105			
	Speed setting	-													90%	80%	70%	60%	55%	50%	45%	40%	35%			
	Horizontal · Vertical	No stroke restrictions																								
Wall hanging	No stroke restrictions																									
Ceiling-mounted	No stroke restrictions																									