

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: Centerized 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	120 kg
Rated Thrust ^{Note 3}	Horizontal	113 N	170 N	341 N
	Vertical	113 N	170 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.

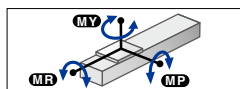
Note 2. When a moving distance is short and depending on an operation condition, it may not reach the maximum speed. If the effective stroke exceeds 600 mm, the ball screw may resonate. (Critical speed) At this time, make the adjustment to decrease the speed while referring to the maximum speed shown 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	45 kg
Rated Thrust ^{Note 3}	Horizontal	225 N	339 N	678 N
	Vertical	225 N	339 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.

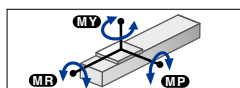
Note 2. When a moving distance is short and depending on an operation condition, it may not reach the maximum speed. If the effective stroke exceeds 600 mm, the ball screw may resonate. (Critical speed) At this time, make the adjustment to decrease the speed while referring to the maximum speed shown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

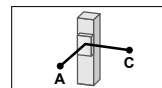
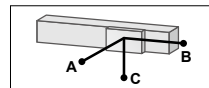
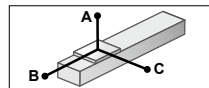
Note 5. The required suction amount will vary according to the operating conditions and operating environment.

Static loading moment



	MY	MP	MR
(Unit: N·m)	441	543	478

Allowable overhang ^{Note}



LGFS14-30(200W)

Horizontal installation	(Unit: mm)		
	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

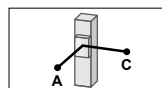
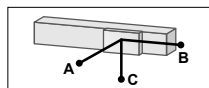
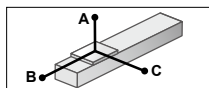
Vertical installation	(Unit: mm)	
	A	C
10kg	2781	2781
20kg	1374	1374
30kg	905	905

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.

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
			Omron Electronics	R88M-K40030 R88M-1M40030
			Panasonic Corp.	MSMF042 MHMF042 MHMG042
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}

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

Compact
single-axis robots
TRANSERVO

Cartesian robots
XY-X

Pick & place
robots
YP-X

CLEAN

CONTROLLER

INFORMATION

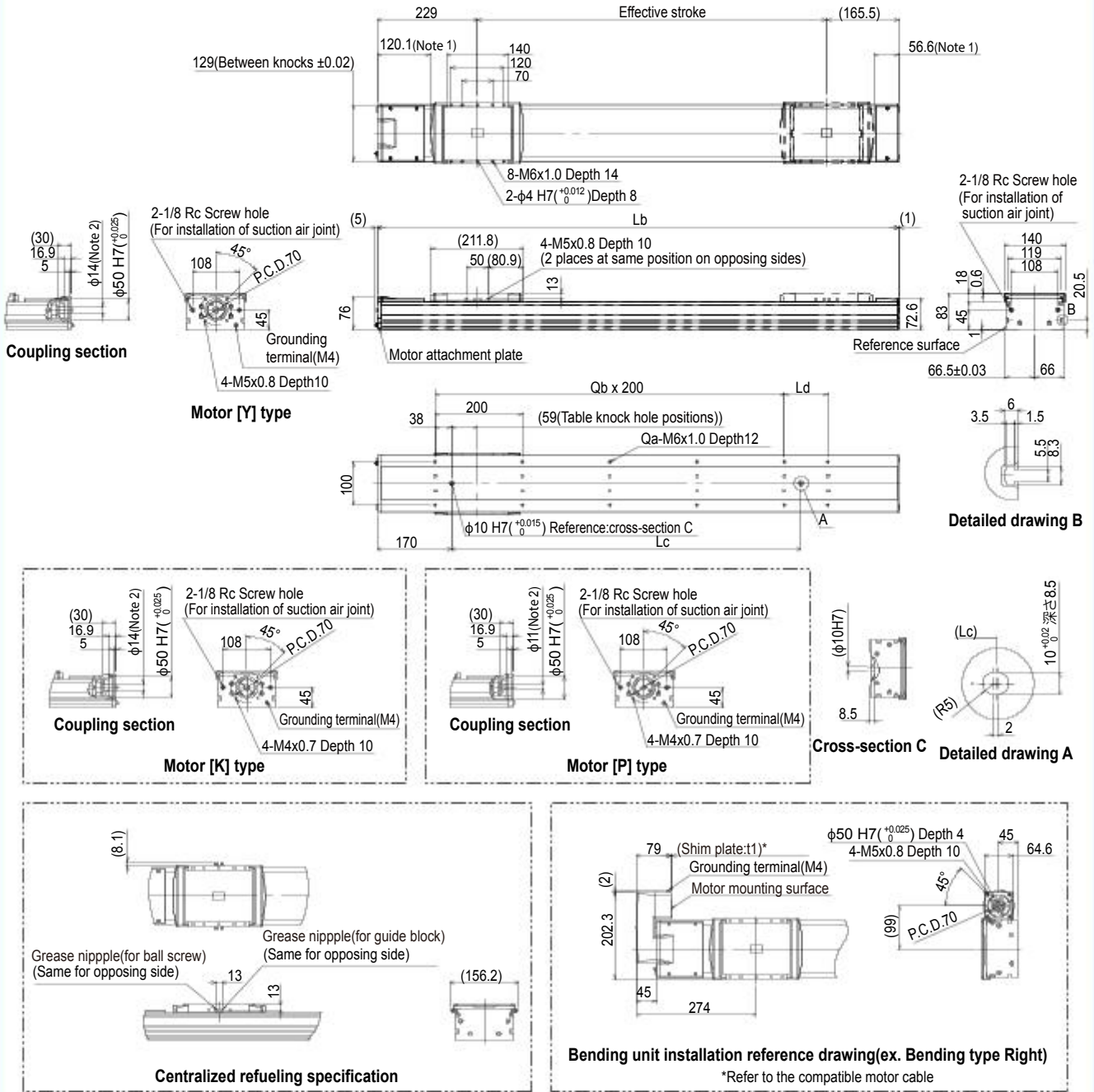
LBFS LBAS
LGXS LBAR

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		
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%	55%	50%	45%	40%	35%
Stroke restriction	Horizontal · Vertical	No stroke restrictions																					
	Wall hanging	No stroke restrictions																					
	Ceiling-mounted	No stroke restrictions																					

Ordering method

LGFS14L				
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: Centerized lubrication	750 to 2000 (50 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.

LGFS14L (200W)

Specifications

Applicable motor	200 W			
Repeatability ^{Note 1}	±0.01 mm			
Deceleration mechanism	Rolled ball screw ϕ 15 (C7 class)			
Stroke	750 mm to 2000 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	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 91.5 mm			
Overall length Straight	ST + 462.5 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.

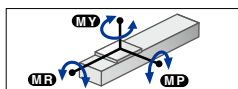
Note 2. When a moving distance is short and depending on an operation condition, it may not reach the maximum speed.

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

LGFS14L (400W)

Specifications

Applicable motor	400 W			
Repeatability ^{Note 1}	±0.01 mm			
Deceleration mechanism	Rolled ball screw ϕ 15 (C7 class)			
Stroke	750 mm to 2000 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
	Vertical	10 kg	15 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 91.5 mm			
Overall length Straight	ST + 462.5 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.

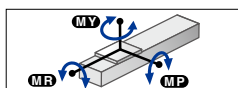
Note 2. When a moving distance is short and depending on an operation condition, it may not reach the maximum speed.

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.

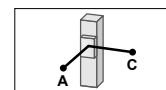
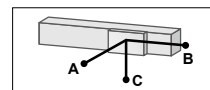
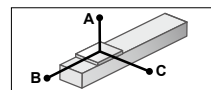
Note 5. The required suction amount will vary according to the operating conditions and operating environment.

Static loading moment



(Unit: N·m)		
MY	MP	MR
441	543	478

Allowable overhang ^{Note}



LGFS14L-30(200W)

Horizontal installation (Unit: mm)				Wall installation (Unit: mm)				Vertical installation (Unit: mm)			
	A	B	C		A	B	C		A	C	
5kg	5829	3006	3007	5kg	3034	2966	5786	1kg	12226	12226	
15kg	2669	983	1061	15kg	1069	943	2597	3kg	4291	4291	
30kg	1764	477	538	30kg	536	438	1649				

LGFS14L-20(200W)

Horizontal installation (Unit: mm)				Wall installation (Unit: mm)				Vertical installation (Unit: mm)			
	A	B	C		A	B	C		A	C	
15kg	3873	1258	1526	15kg	1514	1219	3816	2kg	8582	8582	
30kg	2484	615	770	30kg	750	575	2398	4kg	4381	4381	
45kg	1964	400	509	45kg	483	361	1848	6kg	2980	2980	

LGFS14L-10(200W)

Horizontal installation (Unit: mm)				Wall installation (Unit: mm)				Vertical installation (Unit: mm)			
	A	B	C		A	B	C		A	C	
30kg	4980	855	1193	30kg	1151	816	4906	5kg	5126	5126	
60kg	3127	413	581	60kg	534	374	3018	10kg	2555	2555	
90kg	2446	266	375	90kg	326	227	2300	16kg	1590	1590	

LGFS14L-5(200W)

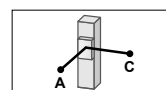
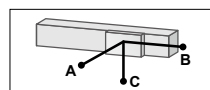
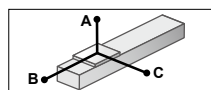
Horizontal installation (Unit: mm)				Wall installation (Unit: mm)				Vertical installation (Unit: mm)			
	A	B	C		A	B	C		A	C	
40kg	9198	681	988	40kg	936	641	9069	10kg	2788	2788	
80kg	5743	326	474	80kg	419	287	5550	20kg	1377	1377	
120kg	4484	208	302	120kg	247	169	4216	30kg	906	906	

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 1000 mm stroke models.

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

Allowable overhang ^{Note}



LGFS14L-30(400W)

Horizontal installation (Unit: mm)				Wall installation (Unit: mm)				Vertical installation (Unit: mm)			
	A	B	C		A	B	C		A	C	
15kg	2295	982	1028	15kg	1024	943	2238	3kg	4023	4023	
30kg	1570	477	529	30kg	522	438	1473	5kg	2450	2450	
50kg	1409	297	353	50kg	335	258	1260	10kg	1255	1255	

LGFS14L-20(400W)

Horizontal installation (Unit: mm)				Wall installation (Unit: mm)				Vertical installation (Unit: mm)			
	A	B	C		A	B	C		A	C	
15kg	3281	1258	1481	15kg	1461	1219	3236	5kg	3404	3404	
30kg	2126	615	756	30kg	731	575	2058	10kg	1715	1715	
70kg	1328	247	316	70kg	281	208	1195	15kg	1146	1146	

LGFS14L-10(400W)

Horizontal installation (Unit: mm)				Wall installation (Unit: mm)				Vertical installation (Unit: mm)			
	A	B	C		A	B	C		A	C	
30kg	4441	855	1186	30kg	1143	816	4379	10kg	2542	2542	
50kg	3270	502	702	50kg	656	462	3182	15kg	1689	1689	
110kg	2140	212	300	110kg	250	173	1971	30kg	832	832	

LGFS14L-5(400W)

Horizontal installation (Unit: mm)				Wall installation (Unit: mm)				Vertical installation (Unit: mm)			
	A	B	C		A	B	C		A	C	
50kg	6053	539	781	50kg	727	500	5955	15kg	1841	1841	
100kg	4089	255	371	100kg	315	216	3918	30kg	903	903	
140kg	3429	174	253	140kg	197	135	3188	45kg	590	590	

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 1000 mm stroke models.

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

LGFS14L

■ 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
		400W	Mitsubishi Electric Corp.	HG-KR23 ^{Note1}
				HK-KT23 ^{Note1}
				HK-MT23 ^{Note1}
			Tamagawa Seiki	TSM4254N □ □ 00E200
				SGM7J-04
				SGMXJ-04
P	□ 60	200W	Yaskawa Electric Corp.	SV- □ 040
				SV2- □ 040
			Keyence Corp.	SV3- □ 040
				SV- □ 040
			Mitsubishi Electric Corp.	HG-KR43 ^{Note1}
				HK-KT43 ^{Note1}
K	□ 60	400W	Mitsubishi Electric Corp.	HK-MT43 ^{Note1}
				βiS1/6000-B ^{Note1}
			Omron Electronics	R88M-K20030
				R88M-1M20030
			Panasonic Corp.	MSMF022
				MHMG022
			Omron Electronics	R88M-K40030
				R88M-1M40030
			Panasonic Corp.	MSMF042
				MHMG042

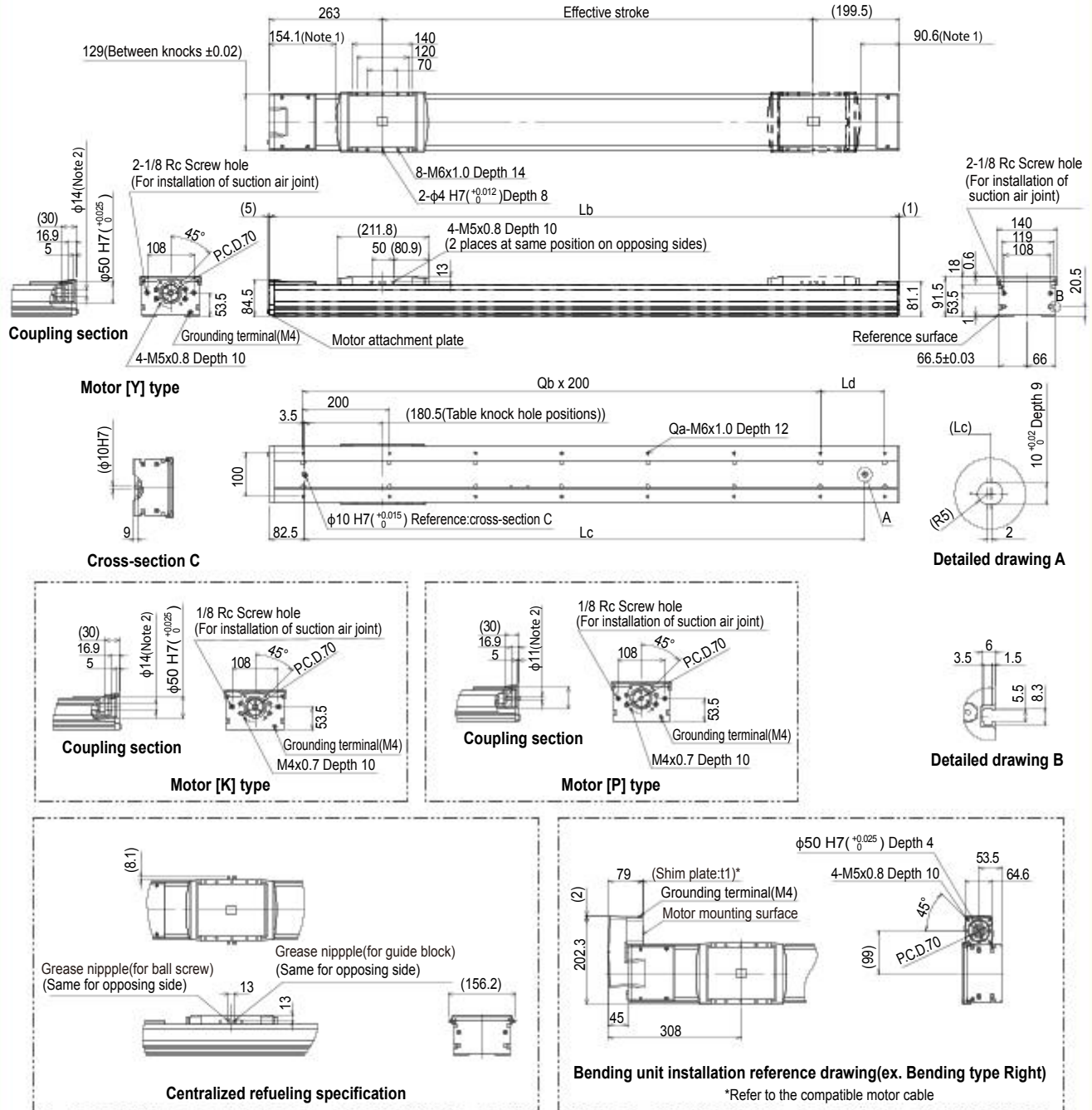
Note 1. A special shim plate is required when combining with the bending unit.

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}

LGFS14L



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 <M6x1.0> used to install the main unit.

Effective stroke	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000
Lb	1212.5	1262.5	1312.5	1362.5	1412.5	1462.5	1512.5	1562.5	1612.5	1662.5	1712.5	1762.5	1812.5	1862.5	1912.5	1962.5	2012.5	2062.5	2112.5	2162.5	2212.5	2262.5	2312.5	2362.5	2412.5	2462.5
Lc	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300
Ld	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150
Qa	14	14	14	16	16	16	16	18	18	18	18	20	20	20	20	22	22	22	22	24	24	24	24	26	26	26
Qb	5	5	5	6	6	6	6	7	7	7	7	8	8	8	8	9	9	9	9	10	10	10	10	11	11	11
Weight (kg)	18.6	19.2	19.8	20.3	20.9	21.5	22.1	22.6	23.2	23.8	24.3	24.9	25.5	26.1	26.6	27.2	27.8	28.4	28.9	29.5	30.1	30.6	31.2	31.8	32.4	32.9
Lead 30	1800																									
Lead 20	1200																									
Lead 10	600																									
Lead 5	300																									
Speed setting	-																									
Stroke restriction	No stroke restrictions																									
Wall hanging	To 1800st																									
Ceiling-mounted	To 1200st																									

LGFS17

Advanced model

Motor-less Single Axis Actuator

Long-stroke type

Ordering method

LGFS17

Model	Lead	Motor specification	OP:1	Stroke
	40: 40 mm 20: 20 mm 10: 10 mm 5: 5 mm	Y: Y specification (see below) P: P specification (see below) T: T specification (see below) K: K specification (see below)	No entry: Standard M: Centerized lubrication	100 to 1250 (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.

LGFS17 (400W)

Specifications

Applicable motor	400 W			
Repeatability ^{Note 1}	±0.01 mm			
Deceleration mechanism	Rolled ball screw $\phi 20$ (C7 class)			
Stroke	100 mm to 1250 mm (50 mm pitch)			
Maximum speed ^{Note 2}	2400 mm/sec	1200 mm/sec	600 mm/sec	300 mm/sec
Ball screw lead	40 mm	20 mm	10 mm	5 mm
Maximum payload ^{Note 3}	Horizontal	40 kg	90 kg	140 kg
	Vertical	6 kg	12 kg	35 kg
Rated Thrust ^{Note 3}	169 N	339 N	678 N	1356 N
Maximum dimensions of cross section of main unit	W 168 mm × H 100 mm			
Overall length Straight	ST + 456 mm			
Degree of Cleanliness ^{Note 4}	Equivalent to ISO Class 3 (ISO 14644-1)			
Intake air ^{Note 5}	115 N ℓ /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 700 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 800 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)	1062	1063	934

LGFS17 (750W)

Specifications

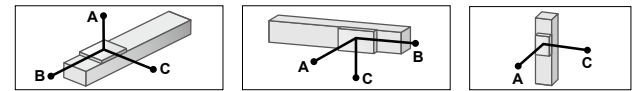
Applicable motor	750 W			
Repeatability ^{Note 1}	±0.01 mm			
Deceleration mechanism	Rolled ball screw $\phi 20$ (C7 class)			
Stroke	100 mm to 1250 mm (50 mm pitch)			
Maximum speed ^{Note 2}	2400 mm/sec	1200 mm/sec	600 mm/sec	300 mm/sec
Ball screw lead	40 mm	20 mm	10 mm	5 mm
Maximum payload ^{Note 3}	Horizontal	80 kg	150 kg	200 kg
	Vertical	12 kg	35 kg	100 kg
Rated Thrust ^{Note 3}	320 N	640 N	1280 N	2560 N
Maximum dimensions of cross section of main unit	W 168 mm × H 100 mm			
Overall length Straight	ST + 459.5 mm			
Degree of Cleanliness ^{Note 4}	Equivalent to ISO Class 3 (ISO 14644-1)			
Intake air ^{Note 5}	115 N ℓ /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 700 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 800 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)	1062	1063	934

Allowable overhang ^{Note}



LGFS17-40(400W)

Horizontal installation (Unit: mm)	Wall installation (Unit: mm)	Vertical installation (Unit: mm)
A B C	A B C	A C
10kg 4066 2660 2134	10kg 2165 2610 4005	2kg 9892 9892
20kg 2619 1335 1199	20kg 1214 1284 2540	4kg 5527 5527
40kg 2079 732 752	40kg 756 682 1965	6kg 4137 4137

LGFS17-20(400W)

Horizontal installation (Unit: mm)	Wall installation (Unit: mm)	Vertical installation (Unit: mm)
A B C	A B C	A C
30kg 3378 1182 1321	30kg 1316 1131 3293	4kg 8034 8034
50kg 2245 691 786	50kg 768 640 2142	8kg 4058 4058
90kg 1444 364 423	90kg 392 313 1304	12kg 2730 2730

LGFS17-10(400W)

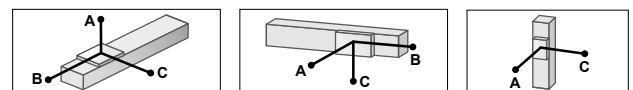
Horizontal installation (Unit: mm)	Wall installation (Unit: mm)	Vertical installation (Unit: mm)
A B C	A B C	A C
50kg 5754 966 1299	50kg 1258 916 5628	15kg 3255 3255
100kg 3119 461 621	100kg 568 410 2967	25kg 1942 1942
140kg 2347 316 427	140kg 370 266 2171	35kg 1379 1379

LGFS17-5(400W)

Horizontal installation (Unit: mm)	Wall installation (Unit: mm)	Vertical installation (Unit: mm)
No settings	No settings	A C
		10kg 5349 5349
		30kg 1755 1755
		50kg 1037 1037

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}



LGFS17-40(750W)

Horizontal installation (Unit: mm)	Wall installation (Unit: mm)	Vertical installation (Unit: mm)
A B C	A B C	A C
20kg 1851 1307 1006	20kg 1000 1256 1793	4kg 4200 4200
50kg 1404 555 548	50kg 537 505 1302	8kg 2186 2186
80kg 1371 375 413	80kg 392 324 1224	12kg 1523 1523

LGFS17-20(750W)

Horizontal installation (Unit: mm)	Wall installation (Unit: mm)	Vertical installation (Unit: mm)
A B C	A B C	A C
50kg 2449 691 796	50kg 782 640 2331	15kg 2256 2256
100kg 1708 325 388	100kg 359 275 1499	25kg 1470 1470
150kg 1733 226 286	150kg 241 176 1430	35kg 1131 1131

LGFS17-10(750W)

Horizontal installation (Unit: mm)	Wall installation (Unit: mm)	Vertical installation (Unit: mm)
A B C	A B C	A C
100kg 3786 966 1263	100kg 1213 916 3718	30kg 1579 1579
150kg 2054 461 607	150kg 551 410 1972	50kg 937 937
200kg 1548 316 419	200kg 360 266 1452	70kg 661 661

LGFS17-5(750W)

Horizontal installation (Unit: mm)	Wall installation (Unit: mm)	Vertical installation (Unit: mm)
No settings	No settings	A C
		40kg 1750 1750
		70kg 1033 1033
		100kg 726 726

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	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
				HK-KT43
				HK-MT43
P	□ 60	400W	Fanuc Corp.	βiS1/6000-B
			Omron Electronics	R88M-K40030
				R88M-1M40030
			Panasonic Corp.	MSMF042
T	□ 80	750W	Panasonic Corp.	MHMF042
				MHMG042
			Tamagawa Seiki	TSM4354N □ □ 00E200
			Yaskawa Electric Corp.	SGM7J-08
				SGMXJ-08
			Keyence Corp.	SV □ 075 ^{Note 1}
				SV2 □ 075
				SV3 □ 075
K	□ 80	750W	Mitsubishi Electric Corp.	HG-KR73 ^{Note 1}
				HK-KT7M3 ^{Note 1}
				HK-MT7M3 ^{Note 1}
			Omron Electronics	R88M-K75030
				R88M-1M75030
			Panasonic Corp.	MSMF082
				MHMF082
				MHMG082

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

Part number of shim plate
KEX-M2295-00

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

Part number of bending unit
KEX-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
single-axis robots
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

LGXS

LGXS

ABFS

AGXS

AGXS

Option

Ordering method

Model	Lead	Motor specification	OP1	Stroke
LGFS17L	40: 40 mm 20: 20 mm 10: 10 mm 5: 5 mm	Y: Y specification (see below) P: P specification (see below) T: T specification (see below) K: K specification (see below)	No entry: Standard M: Centerized lubrication	850 to 3000 (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.

LGFS17L (400W)

Specifications

Applicable motor	400 W
Repeatability ^{Note 1}	±0.01 mm
Deceleration mechanism	Rolled ball screw $\phi 20$ (C7 class)
Stroke	850 mm to 3000 mm (50 mm pitch)
Maximum speed ^{Note 2}	2400 mm/sec 1200 mm/sec 600 mm/sec 300 mm/sec
Ball screw lead	40 mm 20 mm 10 mm 5 mm
Maximum payload ^{Note 3}	Horizontal 40 kg 90 kg 140 kg - Vertical 6 kg 12 kg 35 kg 50 kg
Rated Thrust ^{Note 3}	169 N 339 N 678 N 1356 N
Maximum dimensions of cross section of main unit	W 168 mm × H 105.5 mm
Overall length Straight	ST + 570 mm
Degree of Cleanliness ^{Note 4}	Equivalent to ISO Class 3 (ISO 14644-1)
Intake air ^{Note 5}	115 Nl/min
Using ambient temperature and humidity	0 to 40 °C, 35 to 80 %RH (no condensation)

Note 1. Positioning repeatability in one direction.

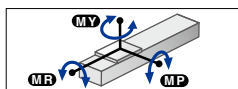
Note 2. When a moving distance is short and depending on an operation condition, it may not reach the maximum speed. If the effective stroke exceeds 2000 mm, the ball screw may resonate. (Critical speed) At this time, make the adjustment to decrease the speed while referring to the maximum speed shown 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 800 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
1062	1063	934

LGFS17L (750W)

Specifications

Applicable motor	750 W
Repeatability ^{Note 1}	±0.01 mm
Deceleration mechanism	Rolled ball screw $\phi 20$ (C7 class)
Stroke	850 mm to 3000 mm (50 mm pitch)
Maximum speed ^{Note 2}	2400 mm/sec 1200 mm/sec 600 mm/sec 300 mm/sec
Ball screw lead	40 mm 20 mm 10 mm 5 mm
Maximum payload ^{Note 3}	Horizontal 80 kg 150 kg 200 kg - Vertical 12 kg 35 kg 70 kg 100 kg
Rated Thrust ^{Note 3}	320 N 640 N 1280 N 2560 N
Maximum dimensions of cross section of main unit	W 168 mm × H 105.5 mm
Overall length Straight	ST + 573.5 mm
Degree of Cleanliness ^{Note 4}	Equivalent to ISO Class 3 (ISO 14644-1)
Intake air ^{Note 5}	115 Nl/min
Using ambient temperature and humidity	0 to 40 °C, 35 to 80 %RH (no condensation)

Note 1. Positioning repeatability in one direction.

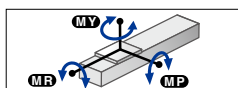
Note 2. When a moving distance is short and depending on an operation condition, it may not reach the maximum speed. If the effective stroke exceeds 2000 mm, the ball screw may resonate. (Critical speed) At this time, make the adjustment to decrease the speed while referring to the maximum speed shown 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 800 mm/sec or less.

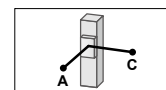
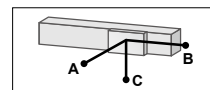
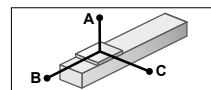
Note 5. The required suction amount will vary according to the operating conditions and operating environment.

Static loading moment



MY	MP	MR
1062	1063	934

Allowable overhang ^{Note}



LGFS17L-40(400W)

Horizontal installation	Wall installation	Vertical installation
(Unit: mm)	(Unit: mm)	(Unit: mm)
A B C	A B C	A C
10kg 4552 2660 2334	10kg 2364 2610 4491	2kg 10270 10270
20kg 2637 1307 1198	20kg 1211 1257 2557	4kg 5285 5285
40kg 1790 631 648	40kg 644 580 1676	6kg 3719 3719

LGFS17L-20(400W)

Horizontal installation	Wall installation	Vertical installation
(Unit: mm)	(Unit: mm)	(Unit: mm)
A B C	A B C	A C
30kg 4027 1182 1432	30kg 1412 1131 3942	4kg 8417 8417
50kg 2687 691 849	50kg 817 641 2583	8kg 4231 4231
90kg 1743 364 454	90kg 412 313 1600	12kg 2834 2834

LGFS17L-10(400W)

Horizontal installation	Wall installation	Vertical installation
(Unit: mm)	(Unit: mm)	(Unit: mm)
A B C	A B C	A C
50kg 6851 966 1332	50kg 1280 916 6725	15kg 3284 3284
100kg 3730 461 637	100kg 576 410 3577	25kg 1957 1957
140kg 2817 316 438	140kg 374 266 2638	35kg 1388 1388

LGFS17L-5(400W)

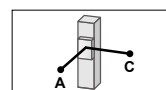
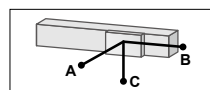
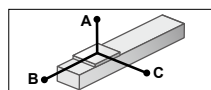
No settings	No settings	A C
		10kg 5357 5357
		30kg 1758 1758
		50kg 1038 1038

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 1000 mm stroke models.

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

Allowable overhang ^{Note}



LGFS17L-40(750W)

Horizontal installation	Wall installation	Vertical installation
(Unit: mm)	(Unit: mm)	(Unit: mm)
A B C	A B C	A C
20kg 2128 1307 1125	20kg 1117 1257 2070	4kg 4739 4739
50kg 1250 495 488	50kg 473 445 1148	8kg 2414 2414
80kg 1142 312 344	80kg 317 262 995	12kg 1633 1633

LGFS17L-20(750W)

Horizontal installation	Wall installation	Vertical installation
(Unit: mm)	(Unit: mm)	(Unit: mm)
A B C	A B C	A C
50kg 2930 691 856	50kg 828 641 2812	15kg 2314 2314
100kg 2040 323 410	100kg 369 272 1826	25kg 1390 1390
150kg 1619 200 257	150kg 207 150 1311	35kg 987 987

LGFS17L-10(750W)

Horizontal installation	Wall installation	Vertical installation
(Unit: mm)	(Unit: mm)	(Unit: mm)
A B C	A B C	A C
100kg 2456 461 627	100kg 565 410 2373	30kg 1604 1604
150kg 1756 292 399	150kg 335 242 1654	50kg 949 949
200kg 1395 208 285	200kg 219 157 1270	70kg 668 668

LGFS17L-5(750W)

Horizontal installation	Wall installation	Vertical installation
(Unit: mm)	(Unit: mm)	(Unit: mm)
No settings	No settings	A C
		40kg 1305 1305
		70kg 728 728
		100kg 497 497

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 1000 mm stroke models.

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

■ Applicable motor

● Applicable servo motor

Motor specification	Flange size	Wattage	Manufacturer	Model
Y	□ 60	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
				HK-KT43
				HK-MT43
		500W	Fanuc Corp.	βiS1/6000-B
P	□ 60	400W	Omron Electronics	R88M-K40030
				R88M-1M40030
			Panasonic Corp.	MSMF042
				MHMF042
T	□ 80	750W	Tamagawa Seiki	TSM4354N□□00E200
			Yaskawa Electric Corp.	SGM7J-08
				SGMXJ-08
			Keyence Corp.	SV □ 075 ^{Note1}
				SV2 □ 075
				SV3 □ 075
			Mitsubishi Electric Corp.	HG-KR73 ^{Note1}
				HK-KT7M3 ^{Note1}
				HK-MT7M3 ^{Note1}
			K	□ 80
R88M-1M75030				
Panasonic Corp.	MSMF082			
	MHMF082			
	MHMG082			

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

Part number of shim plate
KEX-M2295-00

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

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

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