AGFS17/AGFS17H

Advanced model **Single-axis robots** **Long-stroke type**

Ordering method

Model	Lead	Shape	Motor specification	OP.1	Stroke	Note 1 Cable length	Cable entry location	EP-01 Robot positioner	Driver: Power capacity	Note 2 Regenerative unit	I/O	Note 3 Battery
AGFS17 AGFS17H	40: 40mm 20: 20mm 10: 10mm 5: 5mm (Only with brakes)	S: Straight R: Right attachment (Only 750W) L: Left attachment (Only 750W)	S: Standard/With no brake BK Standard/With brake BL: Battery-less absolute/With no brake BKL: Battery-less absolute/With brake	No entry: Standard M: Centeraized lubrication	100 to 1250 (50mm pitch)	R: 3m R5: 5m R10: 10m	R: From rear of motor F: From front of motor	EP-01	A30: 400W/750W	No entry: None R: With EP-RU C: With RU-1	EP: EtherNet/IP™ PT: PROFINET ES: EtherCAT NS: NPN CC: CC-Link	B: With battery N: None

Note 1. The robot cable is flexible and resists bending.
Note 2. [For AGFS17]
When the actuator is used horizontally, lead 40 is selected, and the stroke is 750mm to 1000mm, the regenerative unit is needed.
[For AGFS17H]
When the actuator is used vertically, ①lead 40 is selected, and the stroke is 200mm or more ②lead 20 is selected, and the stroke is 200mm or more ③lead 10 is selected, all stroke, the regenerative unit is needed. (In this case, please choose the regenerative device 'RU1'. ①lead 40 is selected, and the stroke is 400 to 1000mm ②lead 10 is selected, and the stroke is 100 to 900mm)
When the actuator is used horizontally, ①lead 40 is selected, and the stroke is 550mm to 1100mm ②lead 20 is selected, and the stroke is 250mm to 900mm ③lead 10 is selected, and the stroke is 250mm to 750mm, the regenerative unit is needed.
Note 3. When the motor specification is the standard (S, BK), whether to use the battery needs to be selected.
Note. The return-to-origin direction can be changed by changing the parameter. (The standard is that the origin is located on the motor side. For details about how to change the return-to-origin direction, see the instruction manual for EP-01.)

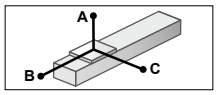
AGFS17(400W)

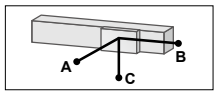
Specifications

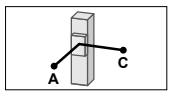
AC servo motor output		400 W			
Repeatability Note 1		±0.01 mm			
Deceleration mechanism		Rolled ball screw ϕ 20 (C7 class)			
Stroke		100 to 1250 (50 mm pitch)			
Maximum speed Note 2		2400 mm/sec	1200 mm/sec	600 mm/sec	300 mm/sec
Ball screw lead		40 mm	20 mm	10 mm	5 mm
Maximum payload	Horizontal	40 kg	90 kg	140 kg	-
	Vertical	6 kg	12 kg	35 kg	50 kg
Rated Thrust		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 + 547 mm			
	Bending	-			
Degree of cleanliness Note 3		Equivalent to ISO Class 3 (ISO 14644-1)			
Intake air Note 4		115 Nℓ/min			
Position detector		Absolute Encoder Batteryless Absolute Encoder			
Resolution		23 bits			
Using ambient temperature and humidity Note 5		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. 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 4. The required suction amount will vary according to the operating conditions and operating environment
Note 5. When operating in low-temperature environments, a deviation error may occur when starting from a stopped state. In such cases, reduce the speed to 50% or less and run the unit for at least one full cycle before setting it to the desired operating speed.

Allowable overhang Note







AGFS17-40

Horizontal installation (Unit: mm)	A	B	C
10kg	4066	2660	2134
20kg	2619	1335	1199
40kg	2079	732	752

Wall installation (Unit: mm)	A	B	C
10kg	2165	2610	4005
20kg	1214	1284	2540
40kg	756	682	1965

Vertical installation (Unit: mm)	A	C
2kg	9892	9892
4kg	5527	5527
6kg	4137	4137

AGFS17-20

Horizontal installation (Unit: mm)	A	B	C
30kg	3378	1182	1321
50kg	2245	691	786
90kg	1444	364	423

Wall installation (Unit: mm)	A	B	C
30kg	1316	1131	3293
50kg	768	640	2142
90kg	392	313	1304

Vertical installation (Unit: mm)	A	C
4kg	8034	8034
8kg	4058	4058
12kg	2730	2730

AGFS17-10

Horizontal installation (Unit: mm)	A	B	C
50kg	5754	966	1299
100kg	3119	461	621
140kg	2347	316	427

Wall installation (Unit: mm)	A	B	C
50kg	1258	916	5628
100kg	568	410	2967
140kg	370	266	2171

Vertical installation (Unit: mm)	A	C
15kg	3255	3255
25kg	1942	1942
35kg	1379	1379

AGFS17-5

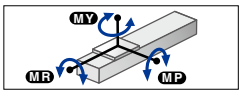
Horizontal installation (Unit: mm)
No settings

Wall installation (Unit: mm)
No settings

Vertical installation (Unit: mm)	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.

Static loading moment



(Unit: N·m)

MY	MP	MR
1062	1063	934

Controller

Controller	Operation method
EP-01	I/O point trace/ Remote command

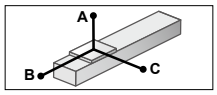
AGFS17H (750W)

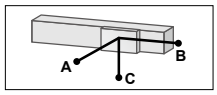
Specifications

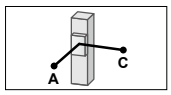
AC servo motor output		750 W			
Repeatability Note 1		±0.01 mm			
Deceleration mechanism		Rolled ball screw ϕ 20 (C7 class)			
Stroke		100 to 1250 (50 mm pitch)			
Maximum speed Note 2		2400 mm/sec	1200 mm/sec	600 mm/sec	300 mm/sec
Ball screw lead		40 mm	20 mm	10 mm	5 mm
Maximum payload	Horizontal	80 kg	150 kg	200 kg	-
	Vertical	12 kg	35 kg	70 kg	100 kg
Rated Thrust		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 + 561.8 mm			
	Bending	ST + 511.5 mm			
Degree of cleanliness Note 3		Equivalent to ISO Class 3 (ISO 14644-1)			
Intake air Note 4		115 Nℓ/min			
Position detector		Absolute Encoder Batteryless Absolute Encoder			
Resolution		24 bits			
Using ambient temperature and humidity Note 5		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. 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 4. The required suction amount will vary according to the operating conditions and operating environment
Note 5. When operating in low-temperature environments, a deviation error may occur when starting from a stopped state. In such cases, reduce the speed to 50% or less and run the unit for at least one full cycle before setting it to the desired operating speed.

Allowable overhang Note







AGFS17H-40

Horizontal installation (Unit: mm)	A	B	C
20kg	1851	1307	1006
50kg	1404	555	548
80kg	1371	375	413

Wall installation (Unit: mm)	A	B	C
20kg	1000	1256	1793
50kg	537	505	1302
80kg	392	324	1224

Vertical installation (Unit: mm)	A	C
4kg	4200	4200
8kg	2186	2186
12kg	1523	1523

AGFS17H-20

Horizontal installation (Unit: mm)	A	B	C
50kg	2449	691	796
100kg	1708	325	388
150kg	1733	226	286

Wall installation (Unit: mm)	A	B	C
50kg	782	640	2331
100kg	359	275	1499
150kg	241	176	1430

Vertical installation (Unit: mm)	A	C
15kg	2256	2256
25kg	1470	1470
35kg	1131	1131

AGFS17H-10

Horizontal installation (Unit: mm)	A	B	C
100kg	3786	966	1263
150kg	2054	461	607
200kg	1548	316	419

Wall installation (Unit: mm)	A	B	C
100kg	1213	916	3718
150kg	551	410	1972
200kg	360	266	1452

Vertical installation (Unit: mm)	A	C
30kg	1579	1579
50kg	937	937
70kg	661	661

AGFS17H-5

Horizontal installation (Unit: mm)
No settings

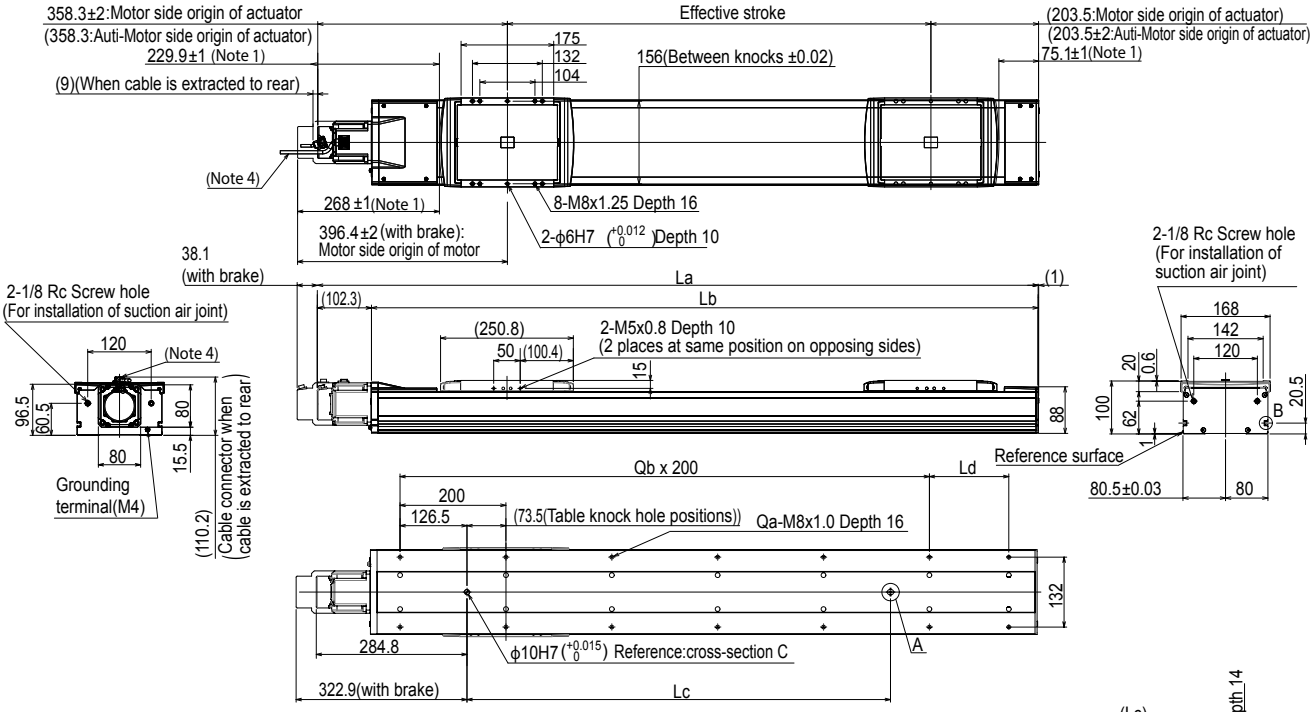
Wall installation (Unit: mm)
No settings

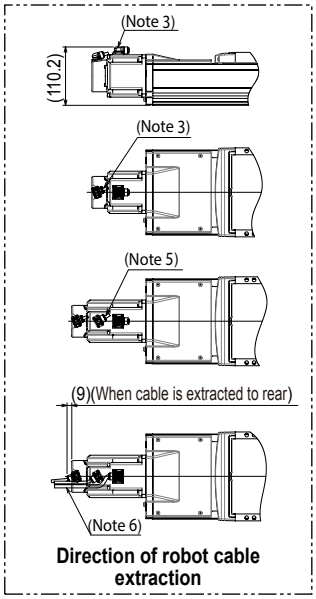
Vertical installation (Unit: mm)	A	C
40kg	1750	1750
70kg	1033	1033
100kg	726	726

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.

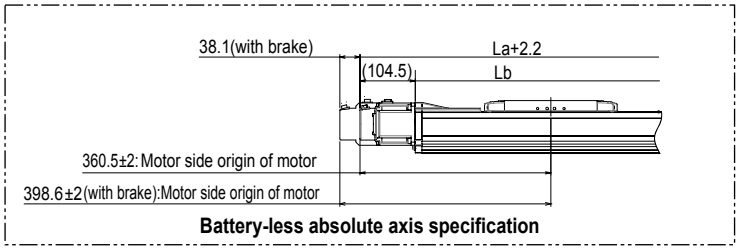
▶ **The cycle time simulation and service life calculation can be performed easily from our member site.**

AGFS17H Straight type (S)

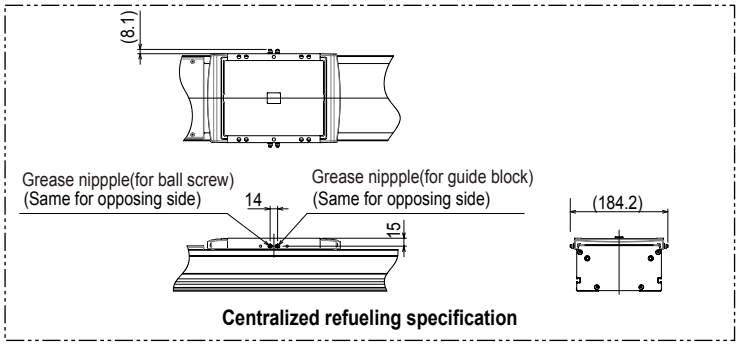




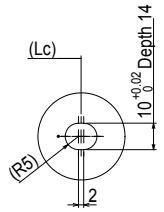
Direction of robot cable extraction



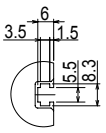
Battery-less absolute axis specification



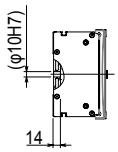
Centralized refueling specification



Detailed drawing A



Detailed drawing B

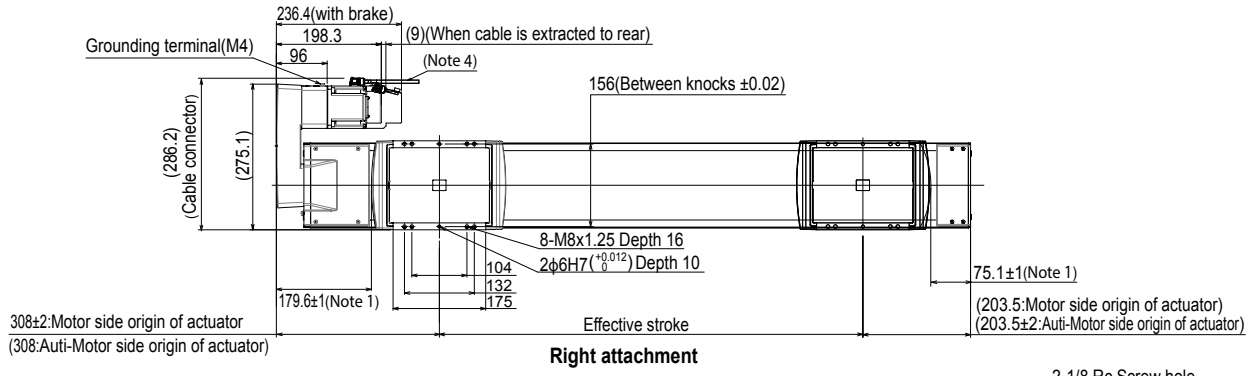


Cross-section C

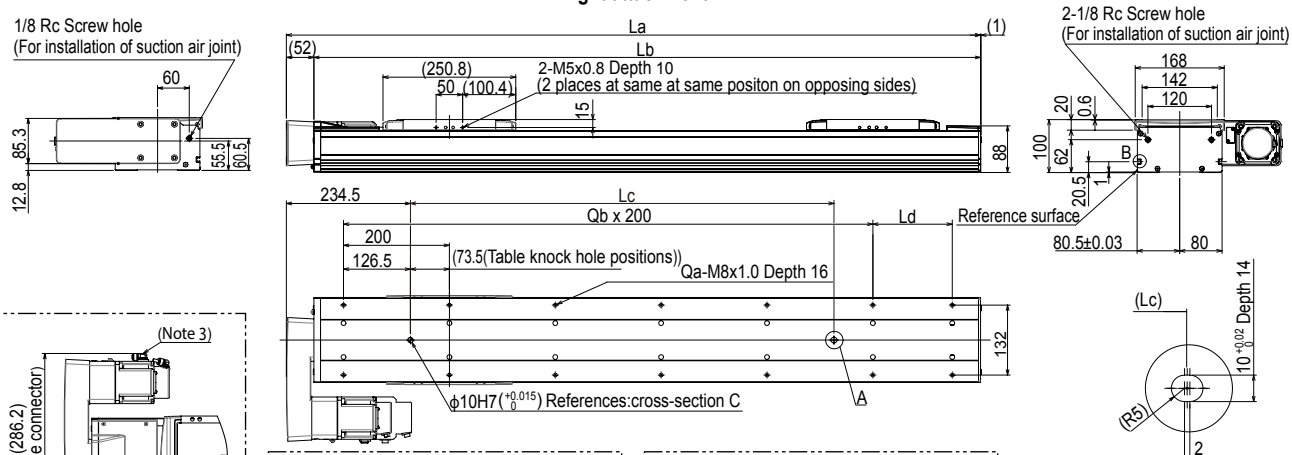
Note 1. Stop positions are determined by the mechanical stoppers at both ends.
Note 2. Weight without brake. The weight with the brake is 0.9 kg heavier than the value in the weight column.
Note 3. The robot cable is extracted from the front.
Note 4. The robot cable is extracted from the rear.
Note 5. The robot cable (with brake) is extracted from the front.
Note 6. The robot cable (with brake) is extracted from the rear.
Note. The return-to-origin direction can be changed by changing the parameter. (The standard is that the origin is located on the motor side. For details about how to change the return-to-origin direction, see the instruction manual for EP-01.)
Note. In the installation tap hole, the length under head <<thickness of stand +15mm or less>> is recommended for the hex socket head bolts <M8×1.25> used to install the main unit.
Note. The minimum bending radius for robot cables should be R30 or more for fixed cables / R50 or more for movable cables.

Effective stroke		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		661.8	711.8	761.8	811.8	861.8	911.8	961.8	1011.8	1061.8	1111.8	1161.8	1211.8	1261.8	1311.8	1361.8	1411.8	1461.8	1511.8	1561.8	1611.8	1661.8	1711.8	1761.8	1811.8
Lb		559.5	609.5	659.5	709.5	759.5	809.5	859.5	909.5	959.5	1009.5	1059.5	1109.5	1159.5	1209.5	1259.5	1309.5	1359.5	1409.5	1459.5	1509.5	1559.5	1609.5	1659.5	1709.5
Lc		100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250
Ld		50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200
Qa		8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18	18
Qb		2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	6	7	7	7	7
Weight (kg) Note 2		16.7	17.5	18.3	19.1	19.8	20.6	21.4	22.2	23.0	23.7	24.5	25.3	26.1	26.8	27.6	28.4	29.2	30.0	30.7	31.5	32.3	33.1	33.9	34.6
Maximum speed (mm/sec)	Lead 40	2400															2280	2160	2040	1800	1560	1320	1200	1080	960
	Speed setting	-															95%	90%	85%	75%	65%	55%	50%	45%	40%
	Lead 20	1200														1140	1020	900	780	720	660	600	540	480	420
	Speed setting	-														95%	85%	75%	65%	60%	55%	50%	45%	40%	35%
	Lead 10	600													570	510	450	390	360	330	300	270	240	210	210
	Speed setting	-													95%	85%	75%	65%	60%	55%	50%	45%	40%	35%	35%
	Lead 5	300													270	240	225	195	180	165	150	135	135	120	105
	Speed setting	-													90%	80%	75%	65%	60%	55%	50%	45%	45%	40%	35%
Stroke restriction	Horizontal · Vertical	No stroke restrictions																							
	Wall hanging	No stroke restrictions																							
	Ceiling-mounted	No stroke restrictions																							

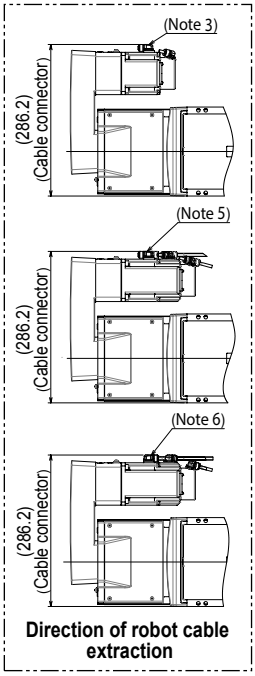
AGFS17H Bending type (R/L)



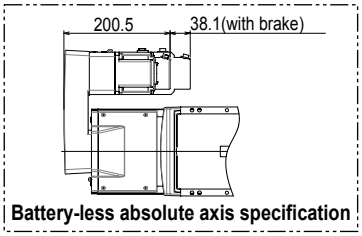
Right attachment



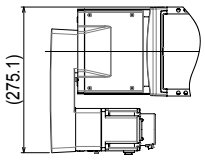
Detailed drawing A



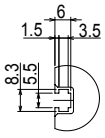
Direction of robot cable extraction



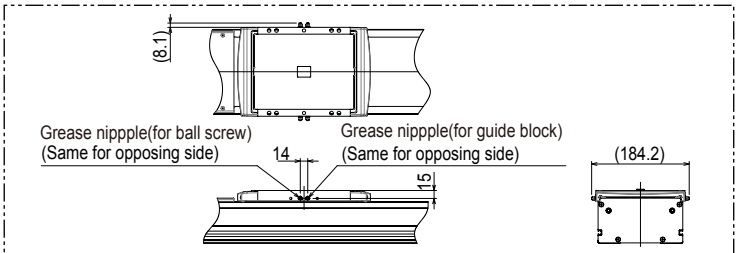
Battery-less absolute axis specification



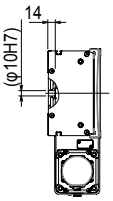
Left attachment



Detailed drawing B



Centralized refueling specification



Cross-section C

Note 1. Stop positions are determined by the mechanical stoppers at both ends.
Note 2. Weight without brake. The weight with the brake is 0.9 kg heavier than the value in the weight column.
Note 3. The robot cable is extracted from the front.
Note 4. The robot cable is extracted from the rear.
Note 5. The robot cable (with brake) is extracted from the front.
Note 6. The robot cable (with brake) is extracted from the rear.
Note. The return-to-origin direction can be changed by changing the parameter. (The standard is that the origin is located on the motor side. For details about how to change the return-to-origin direction, see the instruction manual for EP-01.)
Note. In the installation tap hole, the length under head <<thickness of stand +15mm or less>> is recommended for the hex socket head bolts <M8×1.25> used to install the main unit.
Note. The minimum bending radius for robot cables should be R30 or more for fixed cables / R50 or more for movable cables.

Effective stroke		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		611.5	661.5	711.5	761.5	811.5	861.5	911.5	961.5	1011.5	1061.5	1111.5	1161.5	1211.5	1261.5	1311.5	1361.5	1411.5	1461.5	1511.5	1561.5	1611.5	1661.5	1711.5	1761.5
Lb		559.5	609.5	659.5	709.5	759.5	809.5	859.5	909.5	959.5	1009.5	1059.5	1109.5	1159.5	1209.5	1259.5	1309.5	1359.5	1409.5	1459.5	1509.5	1559.5	1609.5	1659.5	1709.5
Lc		100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250
Ld		50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200
Qa		8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18	18
Qb		2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	6	7	7	7	7
Weight (kg) Note 2		19.4	20.2	21.0	21.8	22.5	23.3	24.1	24.9	25.7	26.4	27.2	28.0	28.8	29.5	30.3	31.1	31.9	32.7	33.4	34.2	35.0	35.8	36.6	37.3
Maximum speed (mm/sec)	Lead 40	2400															2280	2160	2040	1800	1560	1320	1200	1080	960
	Speed setting	-															95%	90%	85%	75%	65%	55%	50%	45%	40%
	Lead 20	1200														1140	1020	900	780	720	660	600	540	480	420
	Speed setting	-														95%	85%	75%	65%	60%	55%	50%	45%	40%	35%
	Lead 10	600													570	510	450	390	360	330	300	270	240	210	210
	Speed setting	-													95%	85%	75%	65%	60%	55%	50%	45%	40%	35%	35%
	Lead 5	300													270	240	225	195	180	165	150	135	135	120	105
	Speed setting	-													90%	80%	75%	65%	60%	55%	50%	45%	45%	40%	35%
Stroke restriction	Horizontal · Vertical	No stroke restrictions																							
	Wall hanging	No stroke restrictions																							
	Ceiling-mounted	No stroke restrictions																							