ABFS08/ABFS08H

Basic model | **Single-axis robots** | **Low-profile type**

Ordering method

本体	Lead	Shape	Motor specification	Stroke	Cable length Note 1	Cable entry location	EP-01 Robot positioner	Driver: Power capacity	Regenerative unit Note 2	I/O	Battery Note 3
ABFS08	24: 24 mm	S: Straight	S: Standard/With no brake	50 to 1250 (50mm pitch)	R3: 3 m	R: From rear of motor	EP-01	A10: 200W or less	No entry: None	EP: EtherNet/IP™	B: With battery
ABFS08H	12: 12 mm	R: Right attachment	BK: Standard/With brake		R5: 5 m	F: From front of motor		A30: 400W/750W	R: With EP-RU	PT: PROFINET	N: None
	6: 6 mm	L: Left attachment	BL: Battery-less absolute/With no brake		R10: 10 m					ES: EtherCAT	
			BKL: Battery-less absolute/With brake							NS: NPN	
										CC: CC-Link	

Note 1. The robot cable is flexible and resists bending.
Note 2. [For ABFS08]
When the actuator is used vertically, ①lead 24 is selected, and the stroke is 350 mm or more ②lead 12 is selected, and the stroke is 150mm or more ③lead 6 is selected, and the stroke is 150mm or more, the regenerative unit is needed.
When the actuator is used horizontally, ①lead 24 is selected, and the stroke is 300 to 850 mm, ②lead 12 is selected, and the stroke is 450 to 600 mm ,the regenerative unit is needed.
[For ABFS08H]
When the actuator is used vertically, ①lead 24 is selected, and the stroke is 150 mm or more ②lead 12 is selected, and the stroke is 150mm or more ③lead 6 is selected, and the stroke is 200mm or more, the regenerative unit is needed.
When the actuator is used horizontally, ①lead 24 is selected, and the stroke is 400 to 650 mm, ②lead 12 is selected, and the stroke is 400 mm or more ③lead 6 is selected, and the stroke is 200mm or more ,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.)

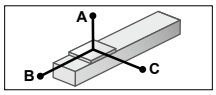
ABFS08 (200W)

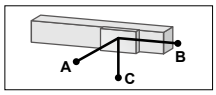
Specifications

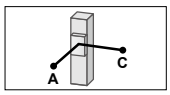
AC servo motor output		200 W		
Repeatability Note 1		±0.005 mm		
Deceleration mechanism		Rolled ball screw ϕ 14 (C7 class)		
Stroke		50 mm to 1250 mm (50 mm pitch)		
Maximum speed Note 2		1440 mm/sec	720 mm/sec	360 mm/sec
Ball screw lead		24 mm	12 mm	6 mm
Maximum payload	Horizontal	40 kg	80 kg	100 kg
	Vertical	8 kg	18 kg	30 kg
Rated Thrust		142 N	284 N	569 N
Dinamic loading moment (MY,MP,MR)		99.4 / 99.4 / 158.3		
Maximum dimensions of cross section of main unit		W 83 mm × H 56 mm		
Overall length	Straight	ST + 362.5 mm		
	Bending	ST + 268.5 mm		
Degree of cleanliness Note 3		Equivalent to ISO Class 4 (ISO 14644-1)		
Intake air Note 4		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. 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 4. The required suction amount will vary according to the operating conditions and operating environment.

Allowable overhang Note







ABFS08-24

Horizontal installation (Unit: mm)

	A	B	C
15kg	505	228	213
25kg	557	154	169
40kg	1089	113	154

Wall installation (Unit: mm)

	A	B	C
15kg	213	228	505
25kg	169	154	557
45kg	154	113	1089

Vertical installation (Unit: mm)

	A	C
4kg	810	810
8kg	461	461

ABFS08-12

Horizontal installation (Unit: mm)

	A	B	C
30kg	739	160	208
50kg	531	85	113
80kg	339	43	58

Wall installation (Unit: mm)

	A	B	C
30kg	208	160	739
50kg	113	85	531
80kg	58	43	339

Vertical installation (Unit: mm)

	A	C
10kg	543	543
18kg	304	304

ABFS08-6

Horizontal installation (Unit: mm)

	A	B	C
30kg	2623	188	284
60kg	1436	81	122
100kg	936	38	57

Wall installation (Unit: mm)

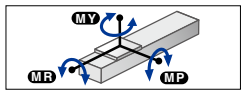
	A	B	C
30kg	284	188	2623
60kg	122	81	1436
100kg	57	38	936

Vertical installation (Unit: mm)

	A	C
15kg	428	428
30kg	214	214

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.

Static loading moment



(Unit: N·m)

MY	MP	MR
249	249	393

Controller

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

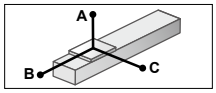
ABFS08H (400W)

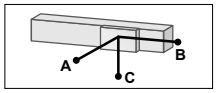
Specifications

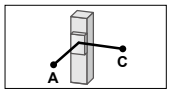
AC servo motor output		400 W		
Repeatability Note 1		±0.005 mm		
Deceleration mechanism		Rolled ball screw ϕ 14 (C7 class)		
Stroke		50 mm to 1250 mm (50 mm pitch)		
Maximum speed Note 2		1440 mm/sec	720 mm/sec	360 mm/sec
Ball screw lead		24 mm	12 mm	6 mm
Maximum payload	Horizontal	50 kg	95 kg	115 kg
	Vertical	15 kg	28 kg	37 kg
Rated Thrust		289 N	578 N	1156 N
Dinamic loading moment (MY,MP,MR)		99.4 / 99.4 / 158.3		
Maximum dimensions of cross section of main unit		W 83 mm × H 56 mm		
Overall length	Straight	ST + 378.5 mm		
	Bending	ST + 268.5 mm		
Degree of cleanliness Note 3		Equivalent to ISO Class 4 (ISO 14644-1)		
Intake air Note 4		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. 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 4. The required suction amount will vary according to the operating conditions and operating environment.

Allowable overhang Note







ABFS08H-24

Horizontal installation (Unit: mm)

	A	B	C
15kg	407	228	201
30kg	422	121	132
50kg	961	87	121

Wall installation (Unit: mm)

	A	B	C
15kg	201	228	407
30kg	128	131	336
50kg	121	87	961

Vertical installation (Unit: mm)

	A	C
8kg	400	400
15kg	240	240

ABFS08H-12

Horizontal installation (Unit: mm)

	A	B	C
30kg	616	160	205
60kg	386	66	88
95kg	245	32	43

Wall installation (Unit: mm)

	A	B	C
30kg	205	160	616
60kg	88	66	386
95kg	43	32	245

Vertical installation (Unit: mm)

	A	C
14kg	386	386
28kg	195	195

ABFS08H-6

Horizontal installation (Unit: mm)

	A	B	C
40kg	1538	134	202
80kg	988	54	81
115kg	702	29	44

Wall installation (Unit: mm)

	A	B	C
40kg	202	134	1538
80kg	81	54	988
115kg	44	29	702

Vertical installation (Unit: mm)

	A	C
18kg	356	356
37kg	174	174

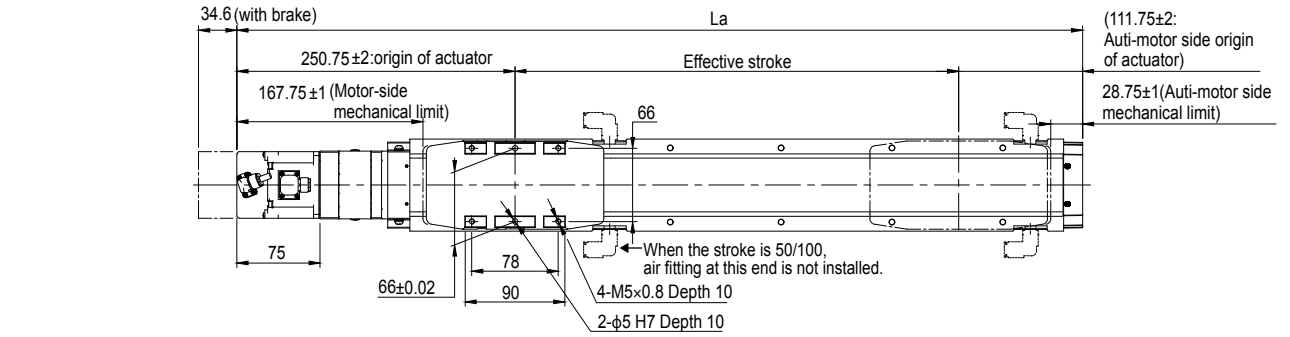
Note. Distance from center of slider top to center of gravity of object being carried at a guide service life of 10,000 km.
Note. Service life is calculated for 500 mm stroke models.

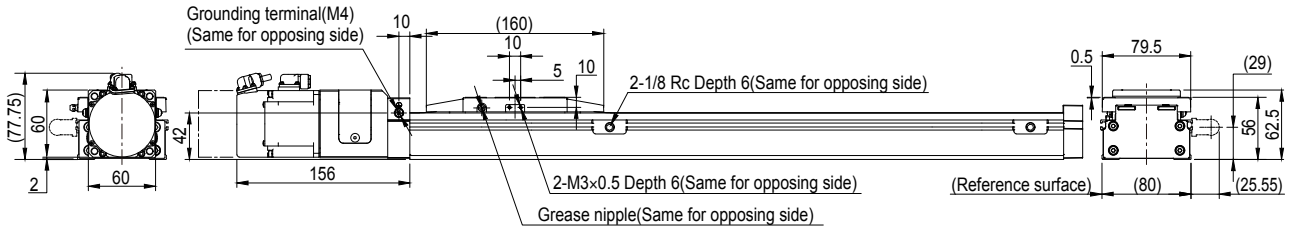
YAMAHA
▶ The cycle time simulation and service life calculation can be performed easily from our member site.

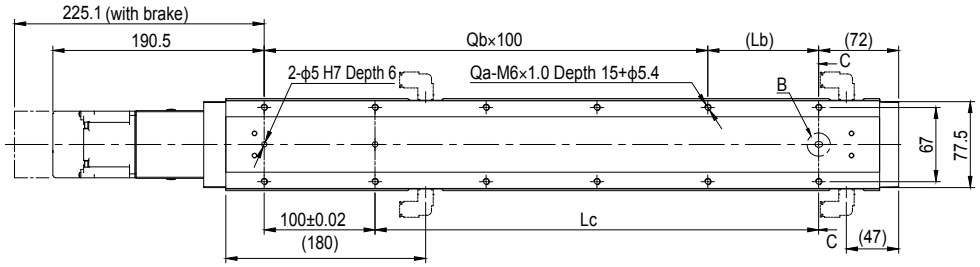
Controller EP-01 ▶ 582

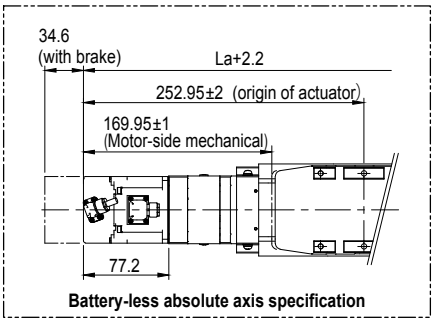
ABFS08

ABFS08 Straight type (S)

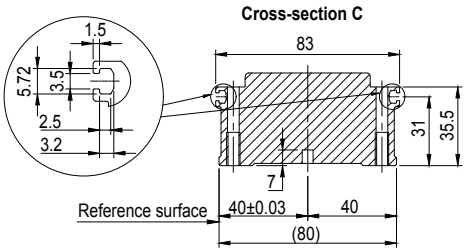


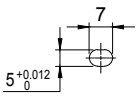






Battery-less absolute axis specification

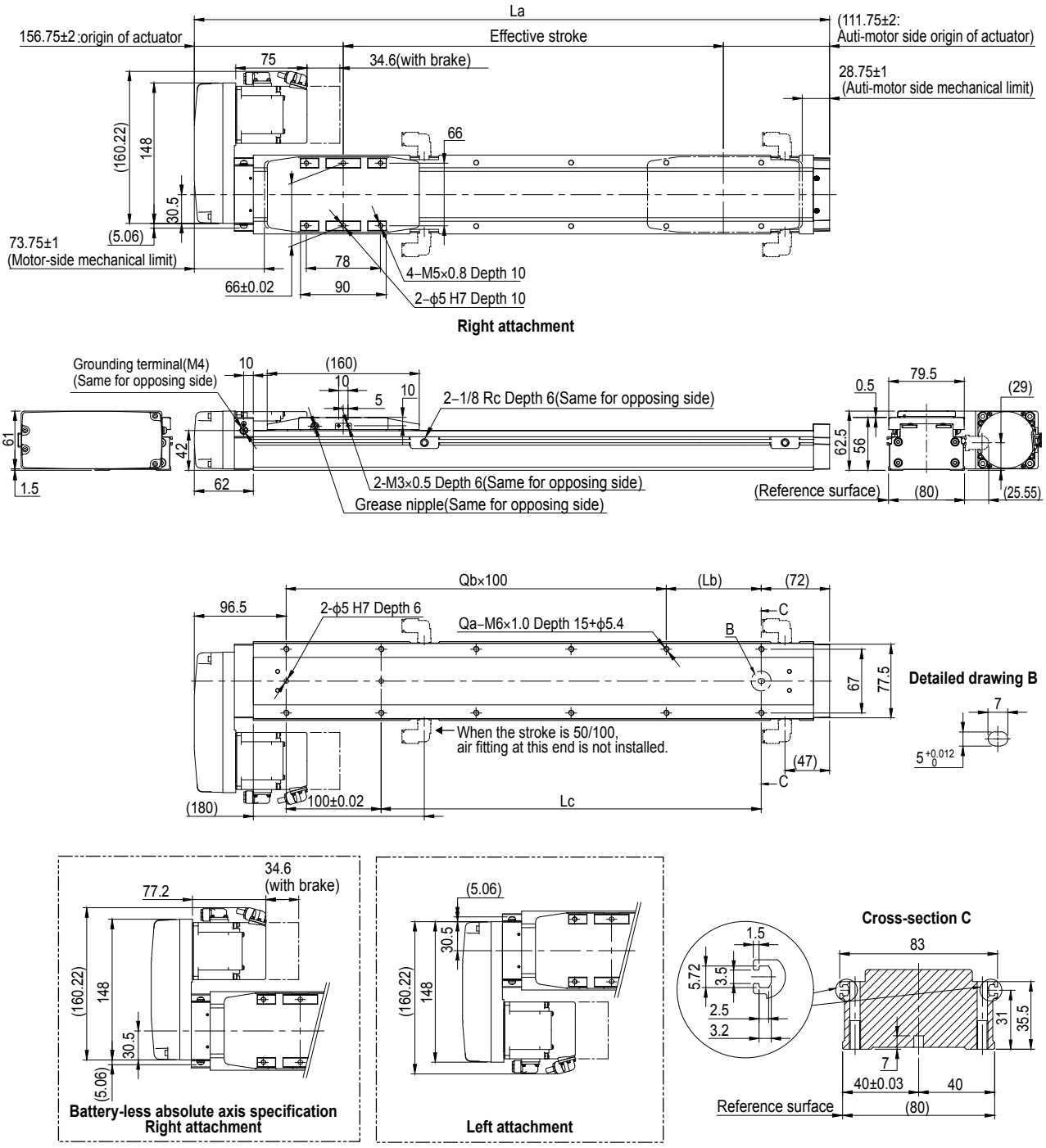




Note 1.Weight without brake. The weight with the brake is 0.4 kg heavier than the value in the weight column.
Note. The return-to-origin direction can be changed by changing the parameter. (The standard is that the origin is located on the motor side. For details about how to change the return-to-origin direction, see the instruction manual for EP-01.)
Note. 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 +15mm 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: KFU-M3861-00
Note. The minimum bending radius for robot cables should be R30 or more for fixed cables / R50 or more for movable cables. The cable exit direction varies depending on the specifications.

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		412.5	462.5	512.5	562.5	612.5	662.5	712.5	762.5	812.5	862.5	912.5	962.5	1012.5	1062.5	1112.5	1162.5	1212.5	1262.5	1312.5	1362.5	1412.5	1462.5	1512.5	1562.5	1612.5
Lb		50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50
Lc		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
Qa		6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30
Qb		1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13
Weight (kg) Note 1		4.05	4.32	4.59	4.86	5.13	5.40	5.67	5.94	6.21	6.48	6.75	7.02	7.29	7.56	7.82	8.09	8.36	8.63	8.90	9.17	9.44	9.71	9.98	10.25	10.52
Maximum speed (mm/sec)	Lead 24	1440												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	720												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	360												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%

ABFS08 Bending type (R/L)

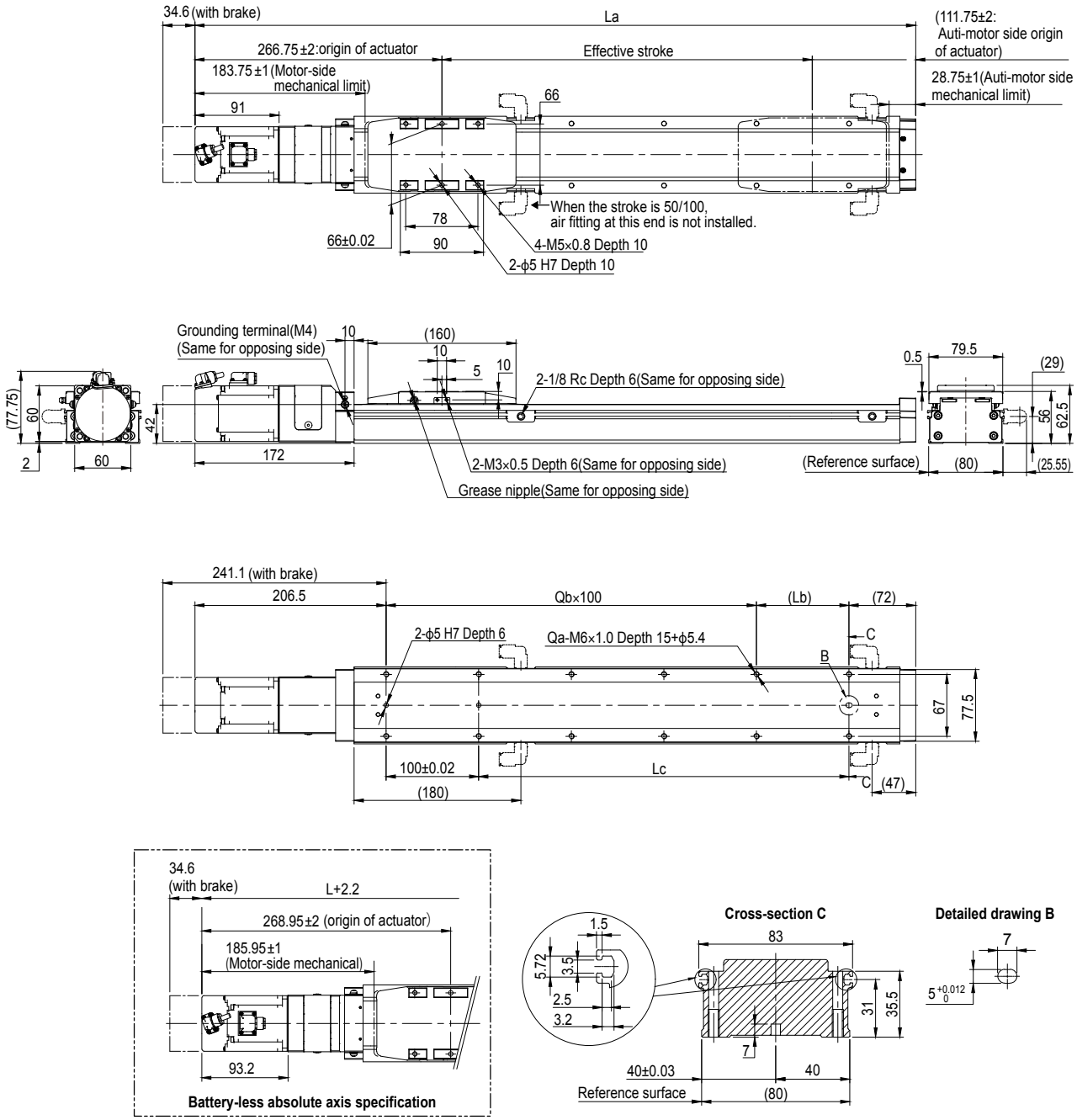


Note 1.Weight without brake. The weight with the brake is 0.4 kg heavier than the value in the weight column.
Note. The return-to-origin direction can be changed by changing the parameter. (The standard is that the origin is located on the motor side. For details about how to change the return-to-origin direction, see the instruction manual for EP-01.)
Note. 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 +15mm 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: KFU-M3861-00
Note. The minimum bending radius for robot cables should be R30 or more for fixed cables / R50 or more for movable cables. The cable exit direction varies depending on the specifications.

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		318.5	368.5	418.5	468.5	518.5	568.5	618.5	668.5	718.5	768.5	818.5	868.5	918.5	968.5	1018.5	1068.5	1118.5	1168.5	1218.5	1268.5	1318.5	1368.5	1418.5	1468.5	1518.5
Lb		50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50
Lc		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
Qa		6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30
Qb		1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13
Weight (kg) Note 1		3.86	4.15	4.43	4.72	5.01	5.30	5.58	5.87	6.16	6.45	6.73	7.02	7.31	7.60	7.88	8.17	8.46	8.75	9.03	9.32	9.61	9.90	10.18	10.47	10.76
Maximum speed (mm/sec)	Lead 24	1440												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	720												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	360												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%

ABFS08H

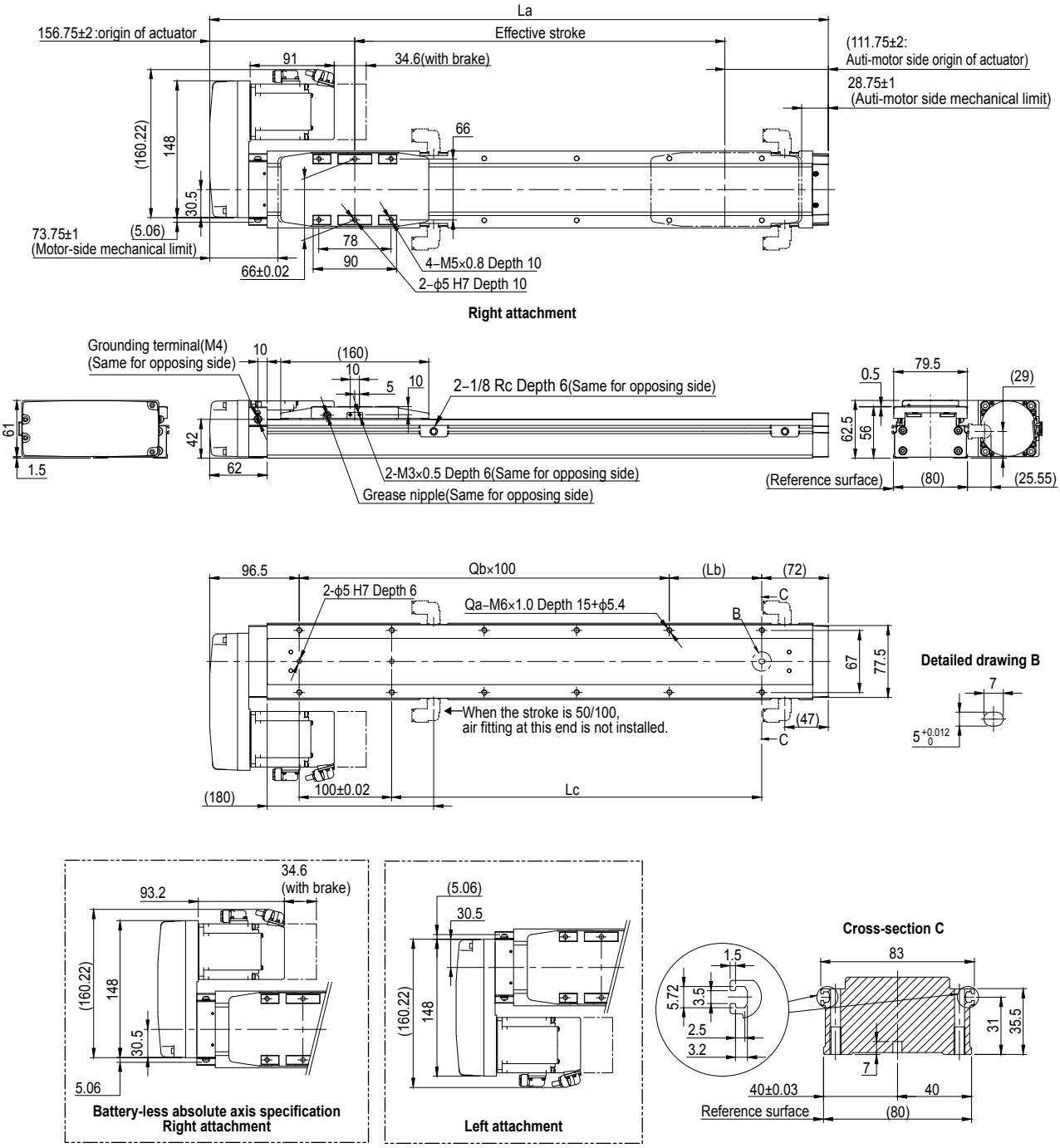
ABFS08H Straight type (S)



Note 1.Weight without brake. The weight with the brake is 0.4 kg heavier than the value in the weight column.
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. 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 +15mm 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: KFU-M3861-00
Note. The minimum bending radius for robot cables should be R30 or more for fixed cables / R50 or more for movable cables. The cable exit direction varies depending on the specifications.

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		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	1578.5	1628.5
Lb		50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50
Lc		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
Qa		6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30
Qb		1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13
Weight (kg) Note 1		4.35	4.62	4.89	5.16	5.43	5.70	5.97	6.24	6.51	6.78	7.05	7.32	7.59	7.86	8.12	8.39	8.66	8.93	9.20	9.47	9.74	10.01	10.28	10.55	10.82
Maximum speed (mm/sec)	Lead 24	1440												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	720												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	360												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%

ABFS08H Bending type (R/L)



Note 1.Weight without brake. The weight with the brake is 0.4 kg heavier than the value in the weight column.
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. 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 +15mm 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: KFU-M3861-00
Note. The minimum bending radius for robot cables should be R30 or more for fixed cables / R50 or more for movable cables. The cable exit direction varies depending on the specifications.

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		318.5	368.5	418.5	468.5	518.5	568.5	618.5	668.5	718.5	768.5	818.5	868.5	918.5	968.5	1018.5	1068.5	1118.5	1168.5	1218.5	1268.5	1318.5	1368.5	1418.5	1468.5	1518.5
Lb		50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50
Lc		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
Qa		6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30
Qb		1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13
Weight (kg) Note 1		4.16	4.45	4.73	5.02	5.31	5.60	5.88	6.17	6.46	6.75	7.03	7.32	7.61	7.90	8.18	8.47	8.76	9.05	9.33	9.62	9.91	10.20	10.48	10.77	11.06
Maximum speed (mm/sec)	Lead 24	1440												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	720												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	360												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%