ABFS06

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
ABFS06	20: 20 mm 12: 12 mm 6: 6 mm	S: Straight R: Right attachment L: Left attachment	S: Standard/With no brake BK: Standard/With brake BL: Battery-less absolute/ With no brake BKL: Battery-less absolute/ With brake	50 to 800 (50mm pitch)	R3: 3 m R5: 5 m R10: 10 m	R: From rear of motor F: From front of motor	EP-01	A10: 200W or less	No entry: None R: With EP-RU	EP: EtherNet/IP™ PT: PROFINET ES: EtherCAT NS: NPN CC: CC-Link	B: With battery N: None

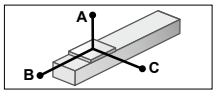
Note 1. The robot cable is flexible and resists bending.
Note 2. When the actuator is used vertically, ①lead 12 is selected, and the stroke is 250 mm or more ②lead 6 is selected, and the stroke is 200mm or more, the regenerative unit is needed. When the actuator is used horizontally, lead 20 is selected, and the stroke is 550 to 650 mm, 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.)

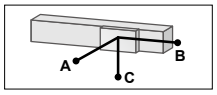
Specifications

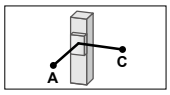
AC servo motor output		100 W		
Repeatability Note 1		±0.005 mm		
Deceleration mechanism		Rolled ball screw ϕ 10 (C7 class)		
Stroke		50 mm to 800 mm (50 mm pitch)		
Maximum speed Note 2		1333 mm/sec	800 mm/sec	400 mm/sec
Ball screw lead		20 mm	12 mm	6 mm
Maximum payload	Horizontal	18 kg	30 kg	45 kg
	Vertical	6 kg	9 kg	12 kg
Rated Thrust		85 N	142 N	285 N
Dinamic loading moment (MY,MP,MR)		40.6 / 40.6 / 60.2		
Maximum dimensions of cross section of main unit		W 65 mm × H 44 mm		
Overall length	Straight	ST + 315 mm		
	Bending	ST + 224 mm		
Degree of Cleanliness Note 3		Equivalent to ISO Class 4 (ISO 14644-1)		
Intake air Note 4		80 Nℓ/ min~		
Position detector		Absolute encoder Battery-less absolute encoder		
Resolution		23 bits		
Using ambient temperature and humidity		0 to 40 ℃, 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 (A) mm, the ball screw may resonate. (Critical speed) (A):550 mm for lead 20; 650 mm for lead 6, and 12.
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







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Horizontal installation (Unit: mm)

	A	B	C
6kg	471	255	226
12kg	299	117	112
18kg	267	79	81

Wall installation (Unit: mm)

	A	B	C
6kg	226	255	471
12kg	112	117	299
18kg	81	79	267

Vertical installation (Unit: mm)

	A	C
3kg	477	477
6kg	255	255

ABFS06-12

Horizontal installation (Unit: mm)

	A	B	C
10kg	1055	201	245
20kg	618	90	111
30kg	457	54	68

Wall installation (Unit: mm)

	A	B	C
10kg	245	201	1055
20kg	111	90	618
30kg	68	54	457

Vertical installation (Unit: mm)

	A	C
5kg	429	429
9kg	218	218

ABFS06-6

Horizontal installation (Unit: mm)

	A	B	C
15kg	1830	152	213
30kg	1016	65	92
45kg	691	37	52

Wall installation (Unit: mm)

	A	B	C
15kg	213	152	1830
30kg	92	65	1016
45kg	52	37	691

Vertical installation (Unit: mm)

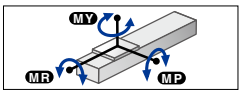
	A	C
6kg	429	429
12kg	215	215

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.

Controller

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

Static loading moment



(Unit: N·m)

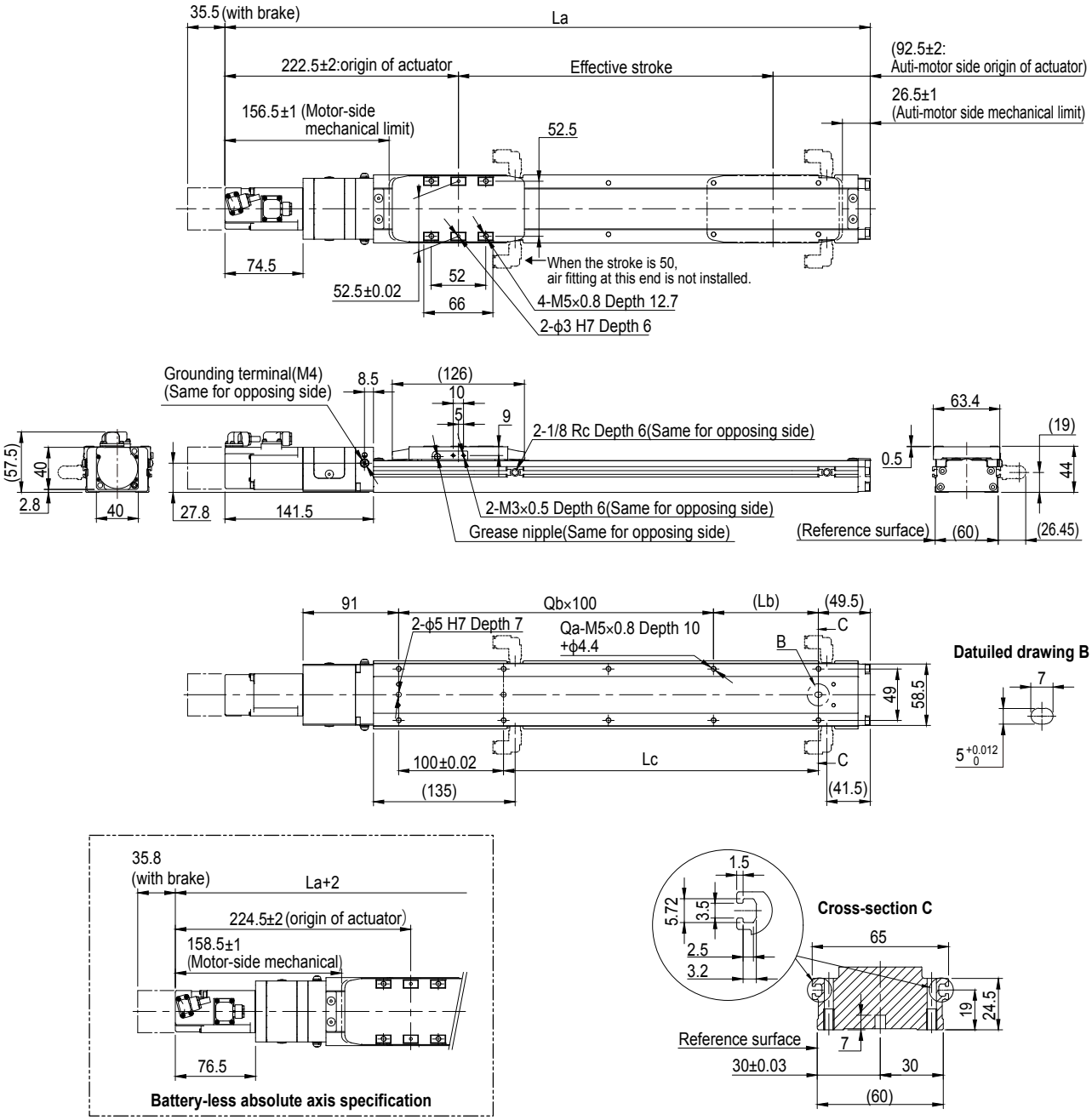
MY	MP	MR
99	99	176

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

Controller EP-01 ▶ 582

ABFS06

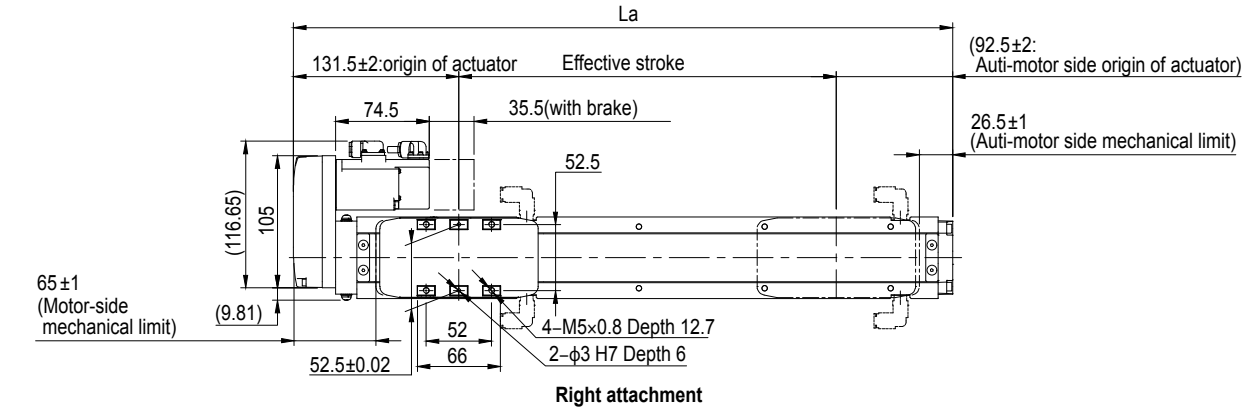
ABFS06 Straight type (S)



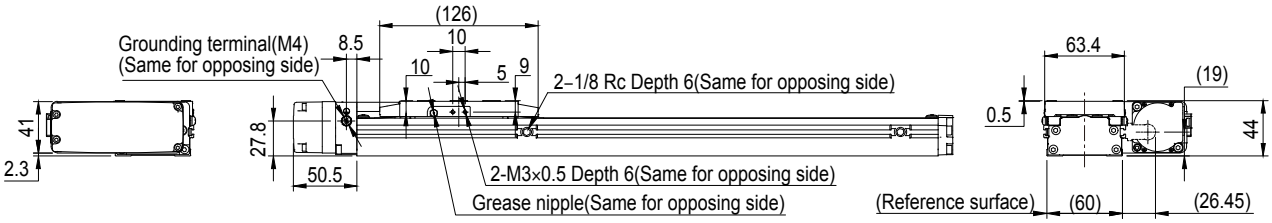
Note 1.Weight without brake. The weight with the brake is 0.2 kg heavier than the value in the weight column.
Note. The return-to-origin direction can be changed by changing the parameter. (The standard is that the origin is located on the motor side. For details about how to change the return-to-origin direction, see the instruction manual for EP-01.)
Note. For the installation through hole,the length under head <<35mm or more >> is recommended for the hex socket head bolts <M4×0.7>. In the installation tap hole, the length under head <<thickness of stand +10mm or less>> is recommended for the hex socket head bolts <M5×0.8> 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.

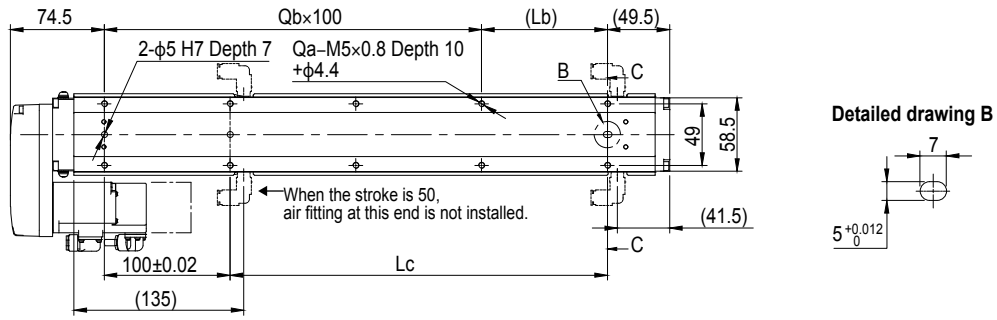
Effective stroke		50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
La		365	415	465	515	565	615	665	715	765	815	865	915	965	1015	1065	1115
Lb		50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100
Lc		50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
Qa		6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20
Qb		1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8
Weight (kg) Note 1		1.91	2.07	2.22	2.38	2.54	2.69	2.85	3.0	3.16	3.32	3.47	3.63	3.78	3.94	4.1	4.26
Maximum speed (mm/sec)	Lead 20	1333												933	733	667	533
	Speed setting	-												70%	55%	50%	40%
	Lead 12	800										680	560	480	400	360	320
	Speed setting	-										85%	70%	60%	50%	45%	40%
	Lead 6	400										340	280	240	200	180	160
	Speed setting	-										85%	70%	60%	50%	45%	40%

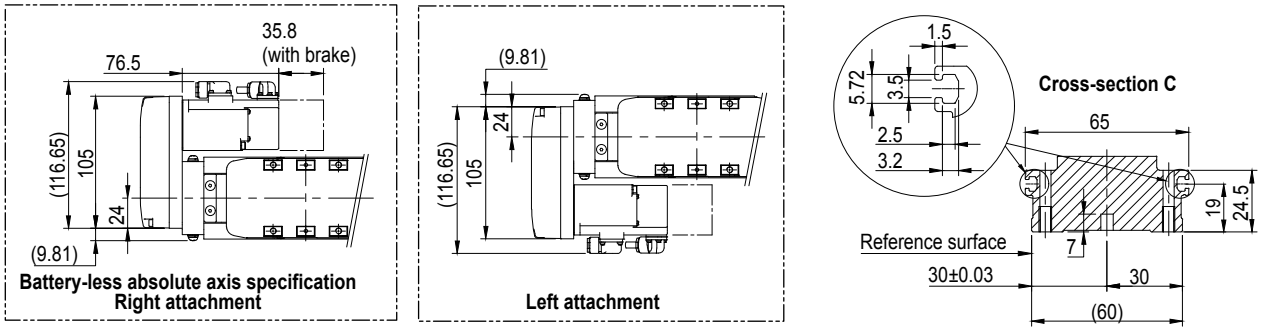
ABFS06 Bending type (R/L)



Right attachment







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Effective stroke		50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
La		274	324	374	424	474	524	574	624	674	724	774	824	874	924	974	1024
Lb		50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100
Lc		50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
Qa		6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20
Qb		1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8
Weight (kg) Note 1		2.2	2.34	2.48	2.62	2.76	2.90	3.04	3.18	3.32	3.46	3.60	3.74	3.88	4.02	4.16	4.30
Maximum speed (mm/sec)	Lead 20	1333												933	733	667	533
	Speed setting	-												70%	55%	50%	40%
	Lead 12	800										680	560	480	400	360	320
	Speed setting	-										85%	70%	60%	50%	45%	40%
	Lead 6	400										340	280	240	200	180	160
	Speed setting	-										85%	70%	60%	50%	45%	40%