ABAS05

Basic model **Single-axis robots**

Slider type

Ordering method

ABAS05 -							EP-01 -				-
Model	Lead	Shape	Motor specification	Stroke	Cable length Note 1	Cable entry location	Robot positioner	Driver: Power capacity	Regenerative unit Note 2	I/O	Battery Note 3
	20: 20 mm 10: 10 mm 5: 5 mm	S: Straight R: Right bending L: Left bending	S: Standard/With no brake BK: Standard/With brake BL: Battery-less absolute/With no brake BKBL: 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

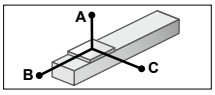
Note 1. The robot cable is flexible and resists bending.
Note 2. When the actuator is used vertically, lead 5 or 10 is selected, and the stroke is 650 mm or more, the regenerative unit is needed.
Note 3. When the motor specification is the standard (S, BK), whether to use the battery needs to be selected.

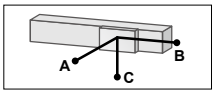
Specifications

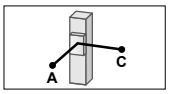
AC servo motor output		100 W		
Repeatability Note 1		+/-0.01 mm		
Deceleration mechanism		Shifting position ball screw ϕ 12 (C7 class)		
Stroke		50 mm to 800 mm (50 mm pitch)		
Maximum speed Note 2		1333 mm/sec	666 mm/sec	333 mm/sec
Ball screw lead		20 mm	10 mm	5 mm
Maximum payload	**Horizontal**	12 kg	24 kg	40 kg
	Vertical	3 kg	6 kg	12 kg
Rated thrust		84 N	169 N	339 N
Maximum dimensions of cross section of main unit		W 54 mm × H 60 mm		
Overall length	**Straight**	ST + 295 mm		
	Bending	ST + 200 mm		
Position detector		Absolute encoder Battery-less absolute encoder		
Resolution		23 bits		
Using ambient temperature and humidity		0 to 40 °C, 35 to 80 %RH (non-condensing)		

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 550 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. See P.107 for acceleration/deceleration.

Allowable overhang Note







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Horizontal installation (Unit: mm)			
	A	B	C
2kg	549	324	272
8kg	155	73	65
12kg	117	46	42

Wall installation (Unit: mm)			
	A	B	C
2kg	272	324	549
8kg	65	73	155
12kg	42	46	117

Vertical installation (Unit: mm)		
	A	C
1kg	544	544
2kg	276	276
3kg	195	195

ABAS05-10

Horizontal installation (Unit: mm)			
	A	B	C
5kg	769	178	213
15kg	314	53	64
24kg	216	29	36

Wall installation (Unit: mm)			
	A	B	C
5kg	213	178	769
15kg	64	53	314
24kg	36	29	216

Vertical installation (Unit: mm)		
	A	C
2kg	443	443
4kg	218	218
6kg	142	142

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Horizontal installation (Unit: mm)			
	A	B	C
10kg	921	97	131
25kg	459	33	45
40kg	436	17	23

Wall installation (Unit: mm)			
	A	B	C
10kg	131	97	921
25kg	45	33	459
40kg	23	17	436

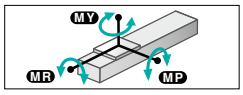
Vertical installation (Unit: mm)		
	A	C
3kg	345	345
8kg	124	124
12kg	79	79

Note. Distance from center of slider upper surface to carrier center-of-gravity at a guide service life of 10,000 km.
Note. Service life is calculated for 500mm stroke models.

Controller

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

Static loading moment



(Unit: N·m)

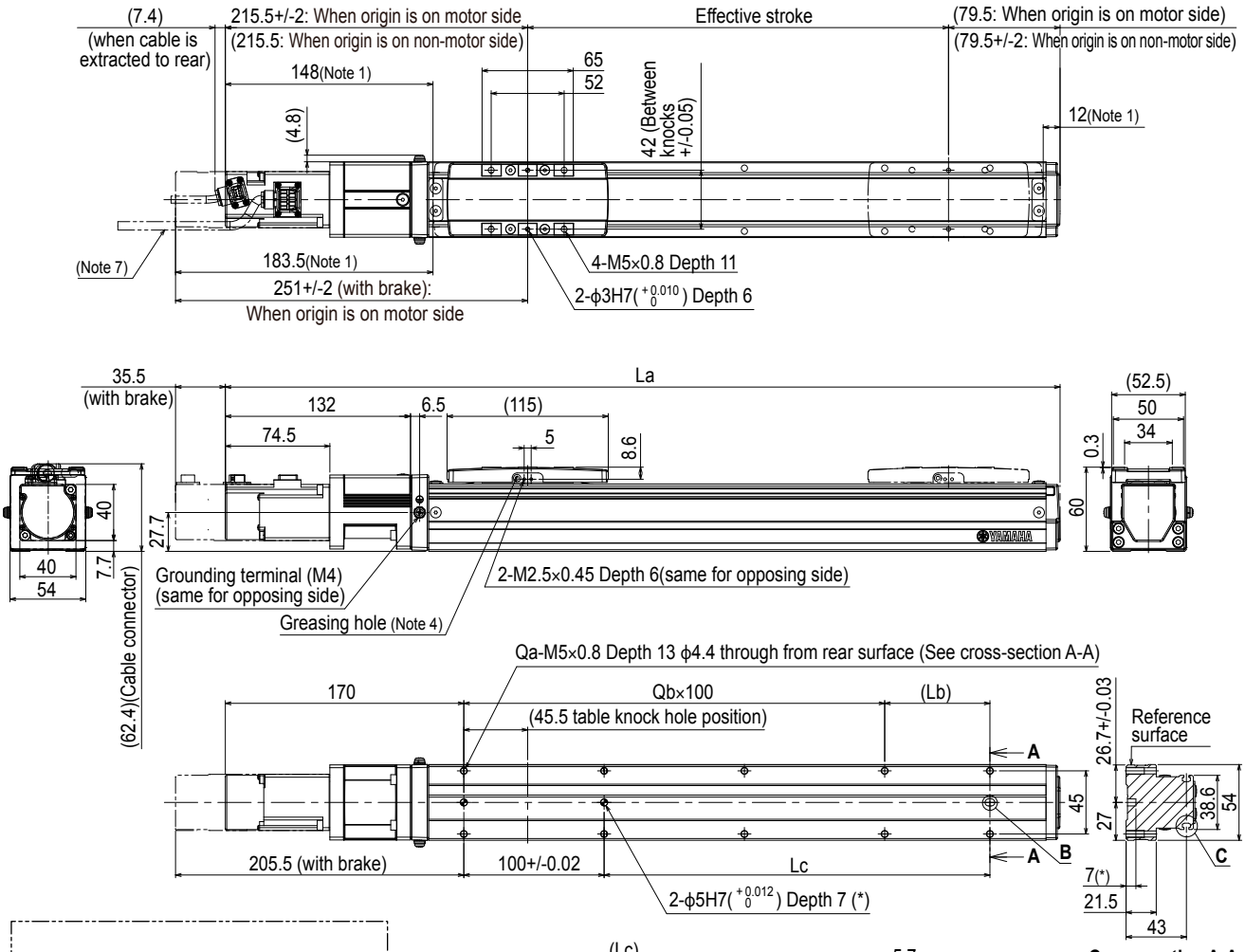
MY	MP	MR
59	63	103

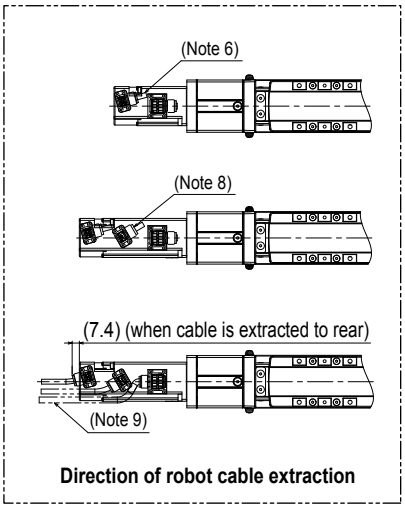
Access the website below.

▶ **The cycle time simulation and service life calculation can be performed easily from our member site. For details, see P.12.**

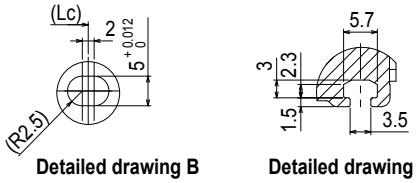
Controller EP-01 ▶ 146

ABAS05 Straight type (S)



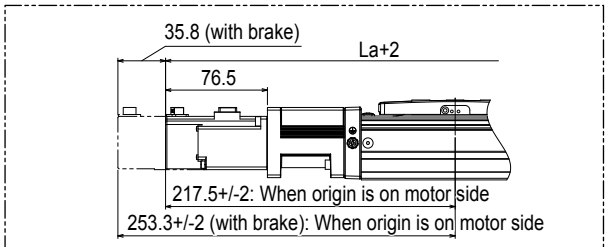


Direction of robot cable extraction



Detailed drawing B

Detailed drawing C

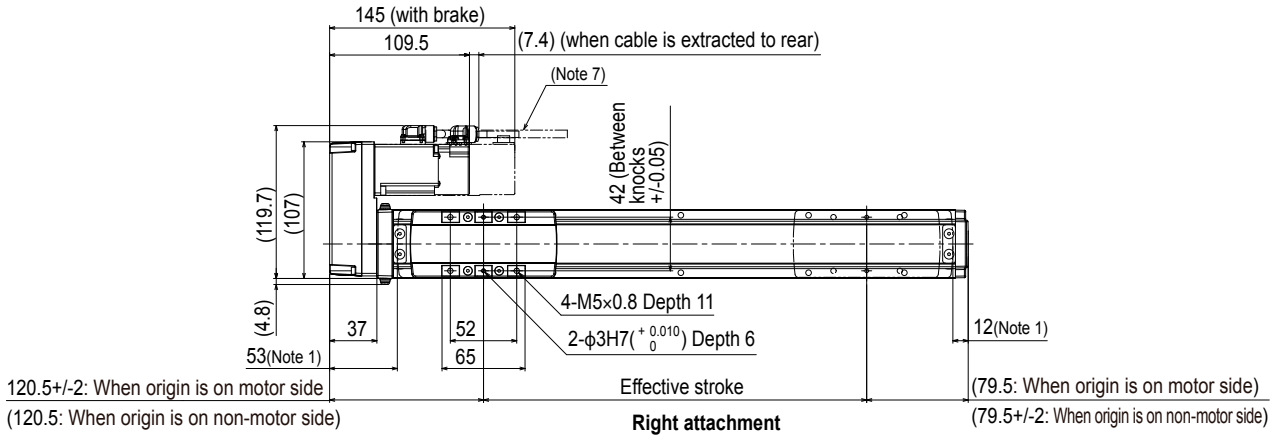


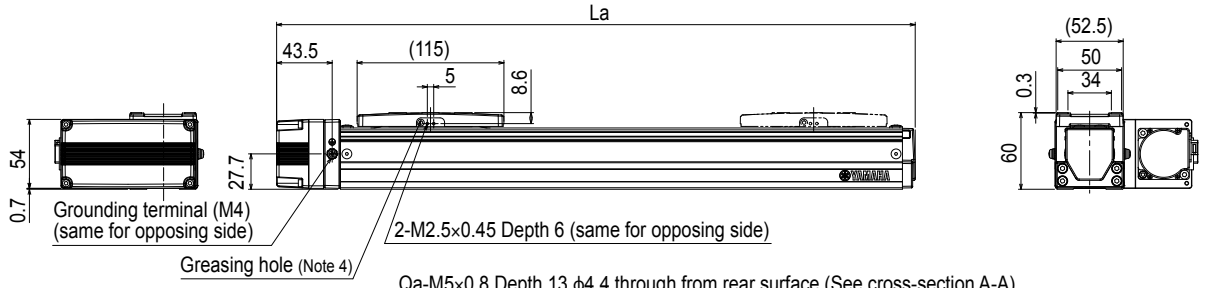
Battery-less absolute axis specification

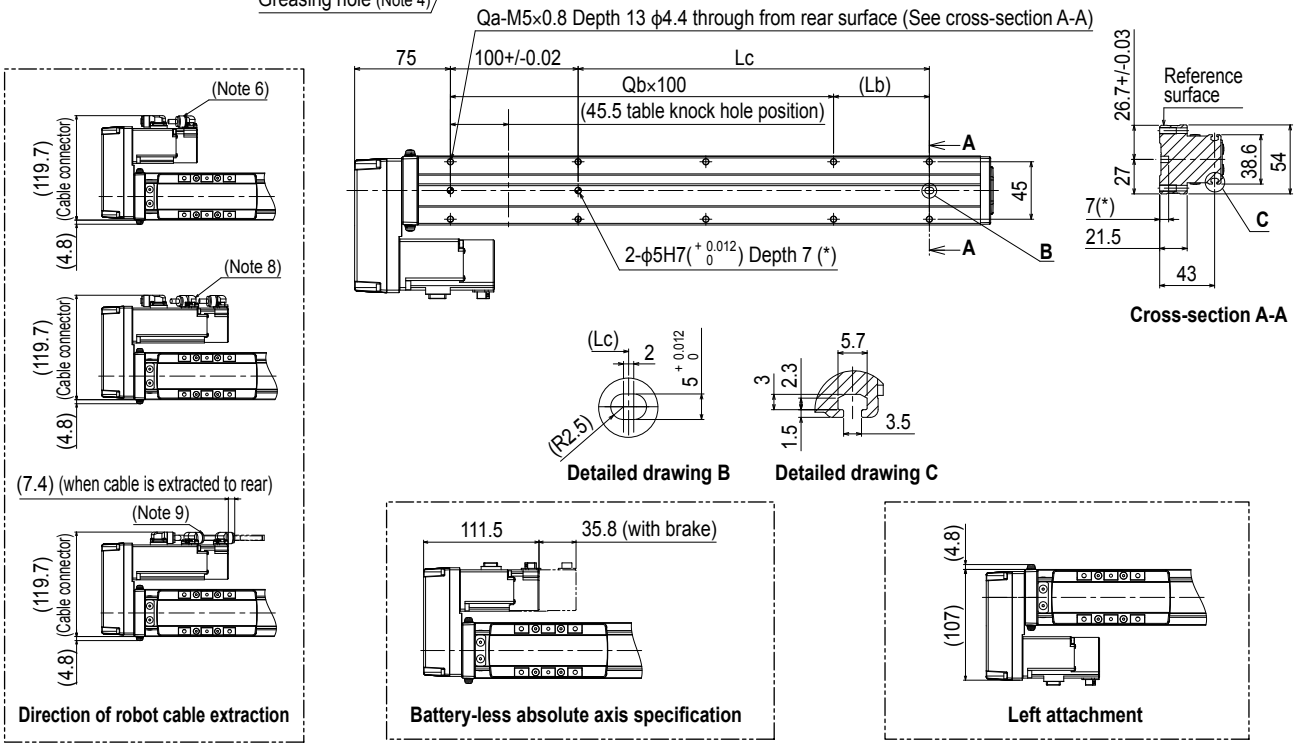
Note 1. Stop positions are determined by the mechanical stoppers at both ends.
Note 2. When changing the return-to-origin direction, the parameter needs to be changed. (The standard is that the origin is located on the motor side.)
Note 3. For the installation through hole, the length under head << 30 mm 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 +10 mm or less>> is recommended for the hex socket head bolts <M5 × 0.8> used to install the main unit.
Note 4. Grease gun nozzle (recommended) (see P.143 for detail)
Part number: KFU-M3861-00
Note 5. Weight without brake. The weight with the brake is 0.2 kg heavier than the value in the weight column.
Note 6. The robot cable is extracted from the front.
Note 7. The robot cable is extracted from the rear.
Note 8. The robot cable (with brake) is extracted from the front.
Note 9. The robot cable (with brake) is extracted from the rear.
Note 10. The fixed minimum bending radius of the robot cable is R30.
When using the robot cable as a flexible cable, use it with a minimum bending radius of R50 or more.

Effective stroke		50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
La		345	395	445	495	545	595	645	695	745	795	845	895	945	995	1045	1095
Lb		25	75	25	75	25	75	25	75	25	75	25	75	25	75	25	75
Lc		25	75	125	175	225	275	325	375	425	475	525	575	625	675	725	775
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 5		2	2.2	2.3	2.5	2.8	2.9	2.9	3.1	3.2	3.3	3.5	3.7	3.8	4	4.1	4.5
Maximum speed (mm/sec)	Lead 20	1333											1133	933	799	666	599
	Lead 10	666											566	466	399	333	299
	Lead 5	333											283	233	199	166	149
	Speed setting	–											85%	70%	60%	50%	45%

ABAS05 Bending type (R/L)







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Effective stroke		50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
La		250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
Lb		25	75	25	75	25	75	25	75	25	75	25	75	25	75	25	75
Lc		25	75	125	175	225	275	325	375	425	475	525	575	625	675	725	775
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 5		2.1	2.2	2.4	2.6	2.8	3	3	3.2	3.3	3.4	3.6	3.7	3.9	4	4.2	4.5
Maximum speed (mm/sec)	Lead 20	1333											1133	933	799	666	599
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