

# ABAS08

Basic model

Single-axis robots

Slider type



## Ordering method

<b>ABAS08</b>								<b>EP-01</b>				
<b>Model</b>	<b>Lead</b>	<b>Shape</b>	<b>Motor specification</b>	<b>Stroke</b>	<b>Cable length</b> <small>Note 1</small>	<b>Cable entry location</b>	<b>Robot positioner</b>	<b>Driver: Power capacity</b>	<b>Regenerative unit</b> <small>Note 2</small>	<b>I/O</b>	<b>Battery</b> <small>Note 3</small>	
	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 1100 (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 and the stroke of lead 5 or 20 is 450 mm or more or the stroke of lead 10 is 150 mm or more, the regenerative unit is needed.

When the actuator is used horizontally and the stroke of lead 20 is 250 to 750 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.

## Specifications

<b>AC servo motor output</b>	200 W		
<b>Repeatability</b> <small>Note 1</small>	±0.01 mm		
<b>Deceleration mechanism</b>	Shifting position ball screw φ 16 (C7 class)		
<b>Stroke</b>	50 mm to 1100 mm (50 mm pitch)		
<b>Maximum speed</b> <small>Note 2</small>	1200 mm/sec	600 mm/sec	300 mm/sec
<b>Ball screw lead</b>	20 mm	10 mm	5 mm
<b>Maximum payload</b>	<b>Horizontal</b>	40 kg	80 kg
	<b>Vertical</b>	8 kg	20 kg
<b>Rated thrust</b>	174 N	341 N	683 N
<b>Maximum dimensions of cross section of main unit</b>	W 82 mm × H 78 mm		
<b>Overall length</b>	<b>Straight</b>	ST + 353 mm	
	<b>Bending</b>	ST + 264.5 mm	
<b>Position detector</b>	Absolute encoder Battery-less absolute encoder		
<b>Resolution</b>	23 bits		
<b>Using ambient temperature and humidity</b>	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 650 mm, the ball screw may resonate. (Critical speed)

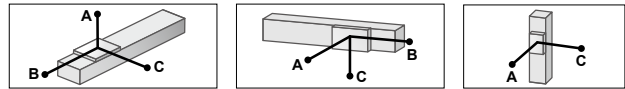
At this time, make the adjustment to decrease the speed while referring to the maximum speed shown in the table.

Note. See P.109 for acceleration/deceleration.

## Controller

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

## Allowable overhang



### ABAS08-20

	Horizontal installation (Unit: mm)			Wall installation (Unit: mm)			Vertical installation (Unit: mm)			
	A	B	C	A	B	C	A	C		
15kg	356	131	146	15kg	146	131	356	3kg	634	634
25kg	278	73	86	25kg	86	73	278	6kg	321	321
40kg	517	54	76	40kg	76	54	517	8kg	240	240

### ABAS08-10

	Horizontal installation (Unit: mm)			Wall installation (Unit: mm)			Vertical installation (Unit: mm)			
	A	B	C	A	B	C	A	C		
30kg	465	83	120	30kg	120	83	465	5kg	551	551
50kg	341	44	65	50kg	65	44	341	10kg	270	270
80kg	228	22	34	80kg	34	22	228	20kg	129	129

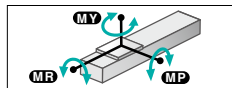
### ABAS08-5

	Horizontal installation (Unit: mm)			Wall installation (Unit: mm)			Vertical installation (Unit: mm)			
	A	B	C	A	B	C	A	C		
30kg	1604	95	153	30kg	153	95	1604	10kg	312	312
50kg	1035	52	83	50kg	83	52	1035	20kg	149	149
80kg	719	27	44	80kg	44	27	719	30kg	95	95
100kg	608	19	31	100kg	31	19	608			

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 600mm stroke models.

## Static loading moment



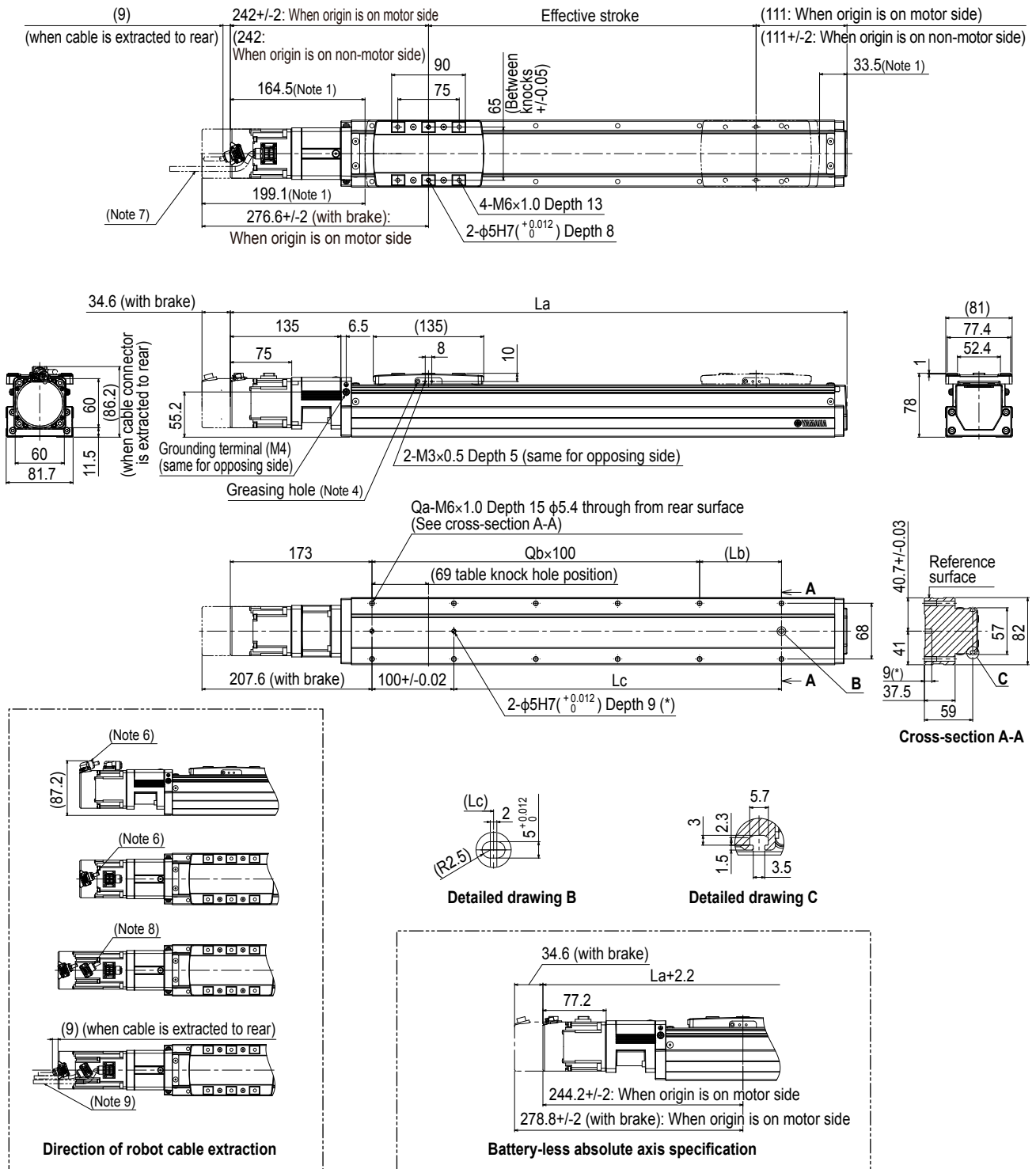
(Unit: N-m)		
MY	MP	MR
221	309	343

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.

ABAS08 Straight type (S)

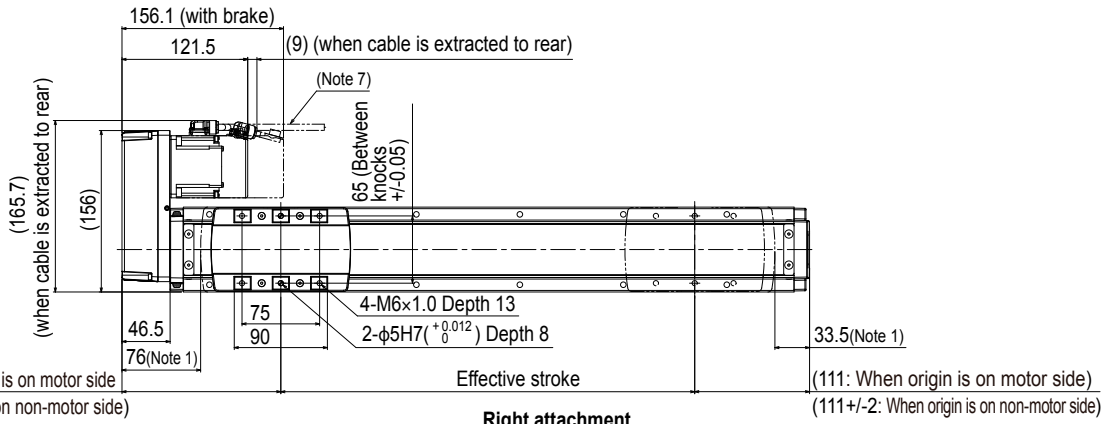


- Note 1. Stop positions are determined by the mechanical stoppers at both ends.
- Note 2. When changing the return-to-origin direction, the parameter needs to be changed. (The standard is that the origin is located on the motor side.)
- Note 3. For the installation through hole, the length under head << 45 mm 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 + 15 mm or less >> is recommended for the hex socket head bolts <M6 × 1.0> used to install the main unit.
- Note 4. Grease gun nozzle (recommended) (see P.143 for detail)  
Part number: KFU-M3861-00

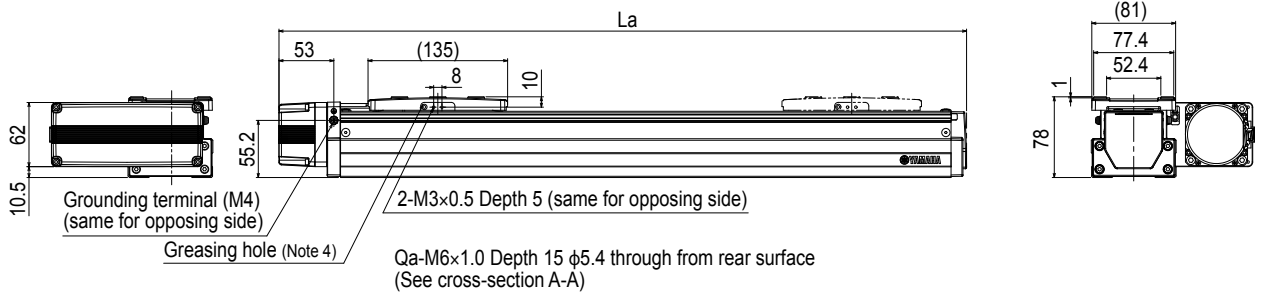
- Note 5. Weight without brake. The weight with the brake is 0.4 kg heavier than the value in the weight column.
- Note 6. The robot cable is extracted from the front.
- Note 7. The robot cable is extracted from the rear.
- Note 8. The robot cable (with brake) is extracted from the front.
- Note 9. The 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	850	900	950	1000	1050	1100		
La	403	453	503	553	603	653	703	753	803	853	903	953	1003	1053	1103	1153	1203	1253	1303	1353	1403	1453		
Lb	50	100	50	100	50	100	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	850	900	950	1000	1050	1100		
Qa	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26		
Qb	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11		
Weight (kg) Note 5	4.5	4.9	5.3	5.6	6	6.3	6.6	7	7.3	7.6	8	8.3	8.7	9	9.3	9.6	10	10.2	10.6	10.9	11.3	11.7		
Maximum speed (mm/sec)	Lead 20															1020	900	780	660	600	540	480	420	360
	Lead 10															510	450	390	330	300	270	240	210	180
	Lead 5															255	225	195	165	150	135	120	105	90
Speed setting															85%	75%	65%	55%	50%	45%	40%	35%	30%	

ABAS08 Bending type (R/L)



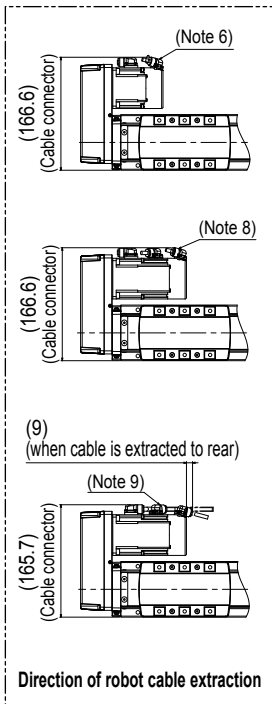
Right attachment



Cross-section A-A

Detailed drawing B

Detailed drawing C



- 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 << 45 mm 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 +15 mm or less >> is recommended for the hex socket head bolts <M6 × 1.0> 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 0.4 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	850	900	950	1000	1050	1100	
La	314.5	364.5	414.5	464.5	514.5	564.5	614.5	664.5	714.5	764.5	814.5	864.5	914.5	964.5	1014.5	1064.5	1114.5	1164.5	1214.5	1264.5	1314.5	1364.5	
Lb	50	100	50	100	50	100	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	850	900	950	1000	1050	1100	
Qa	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	
Qb	1	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	
Weight (kg) <sup>Note 5</sup>	4.9	5.3	5.7	6	6.4	6.7	7	7.4	7.7	8	8.4	8.7	9.1	9.4	9.7	10	10.4	10.6	11	11.3	11.7	12.1	
Maximum speed (mm/sec)	Lead 20	1200										1020	900	780	660	600	540	480	420	360			
	Lead 10	600										510	450	390	330	300	270	240	210	180			
	Lead 5	300										255	225	195	165	150	135	120	105	90			
Speed setting	-										85%	75%	65%	55%	50%	45%	40%	35%	30%				