

ABAS12/ABAS12H

Basic model ● Single-axis robots

● Slider type ● Slim type



Ordering method

Model	Lead	Shape	Motor specification	Stroke	Cable length	Cable location	Robot positioner	Driver: Power capacity	Regenerative unit	I/O	Battery
ABAS12: 200W ABAS12H: 400W	32: 32 mm 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 1250 (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 A30: 400W/750W	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. [For ABAS12]

When the actuator is used vertically and the stroke of lead 5, 10, or 20 is 150 mm or more or the stroke of lead 32 is 300 to 750 mm, the regenerative unit is needed. When the actuator is used horizontally and the stroke of lead 10 or 20 is 250 to 750 mm or the stroke of lead 32 is 400 to 750 mm, the regenerative unit is needed.

[For ABAS12H]

When the actuator is used vertically and the stroke of lead 5, 10, or 20 is 300 mm or more or the stroke of lead 32 is 300 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.

ABAS12 (200W)

Specifications

AC servo motor output	200 W			
Repeatability ^{Note 1}	±0.01 mm			
Deceleration mechanism	Shifting position ball screw φ 16 (C7 class)			
Stroke	50 mm to 1250 mm (50 mm pitch)			
Maximum speed ^{Note 2}	1800 mm/sec	1200 mm/sec	600 mm/sec	300 mm/sec
Ball screw lead	32 mm	20 mm	10 mm	5 mm
Maximum payload	Horizontal 20 kg	40 kg	80 kg	100 kg
	Vertical 3 kg	8 kg	20 kg	30 kg
Rated thrust	105 N	170 N	341 N	683 N
Maximum dimensions of cross section of main unit	W 120 mm × H 76 mm			
Overall length	Straight ST + 369 mm			
	Bending ST + 270.5 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 600 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.111 for acceleration/deceleration.

Allowable overhang^{Note}

ABAS12-32			
Horizontal installation (Unit: mm)			
	A	B	C
5kg	2079	1694	1224
10kg	1135	834	627
20kg	842	422	362

ABAS12-20			
Horizontal installation (Unit: mm)			
	A	B	C
15kg	946	548	445
25kg	591	321	266
40kg	441	205	182

ABAS12-10			
Horizontal installation (Unit: mm)			
	A	B	C
30kg	729	299	278
50kg	786	207	223
80kg	1328	157	200

ABAS12-5			
Horizontal installation (Unit: mm)			
	A	B	C
30kg	2476	430	513
50kg	1817	258	320
80kg	1517	160	208
100kg	1436	127	168

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.

ABAS12H (400W)

Specifications

AC servo motor output	400 W			
Ball screw lead	32 mm	20 mm	10 mm	5 mm
Maximum payload	Horizontal 35 kg	50 kg	95 kg	115 kg
	Vertical 8 kg	15 kg	25 kg	40 kg
Rated thrust	218 N	339 N	678 N	1360 N
Overall length	Straight ST + 385 mm			
	Bending ST + 270.5 mm			

Note. See P.113 for acceleration/deceleration.

Note. The specifications and static loading moment, etc. not described here are common to ABAS12.

Allowable overhang^{Note}

ABAS12H-32			
Horizontal installation (Unit: mm)			
	A	B	C
10kg	1135	834	627
20kg	842	422	362
35kg	925	286	294

ABAS12H-20			
Horizontal installation (Unit: mm)			
	A	B	C
15kg	826	548	427
30kg	485	263	218
50kg	433	172	162

ABAS12H-10			
Horizontal installation (Unit: mm)			
	A	B	C
30kg	528	270	230
60kg	665	171	185
95kg	1347	132	173

ABAS12H-5			
Horizontal installation (Unit: mm)			
	A	B	C
30kg	2476	430	513
60kg	1672	215	270
90kg	1474	141	186
115kg	1378	109	146

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.

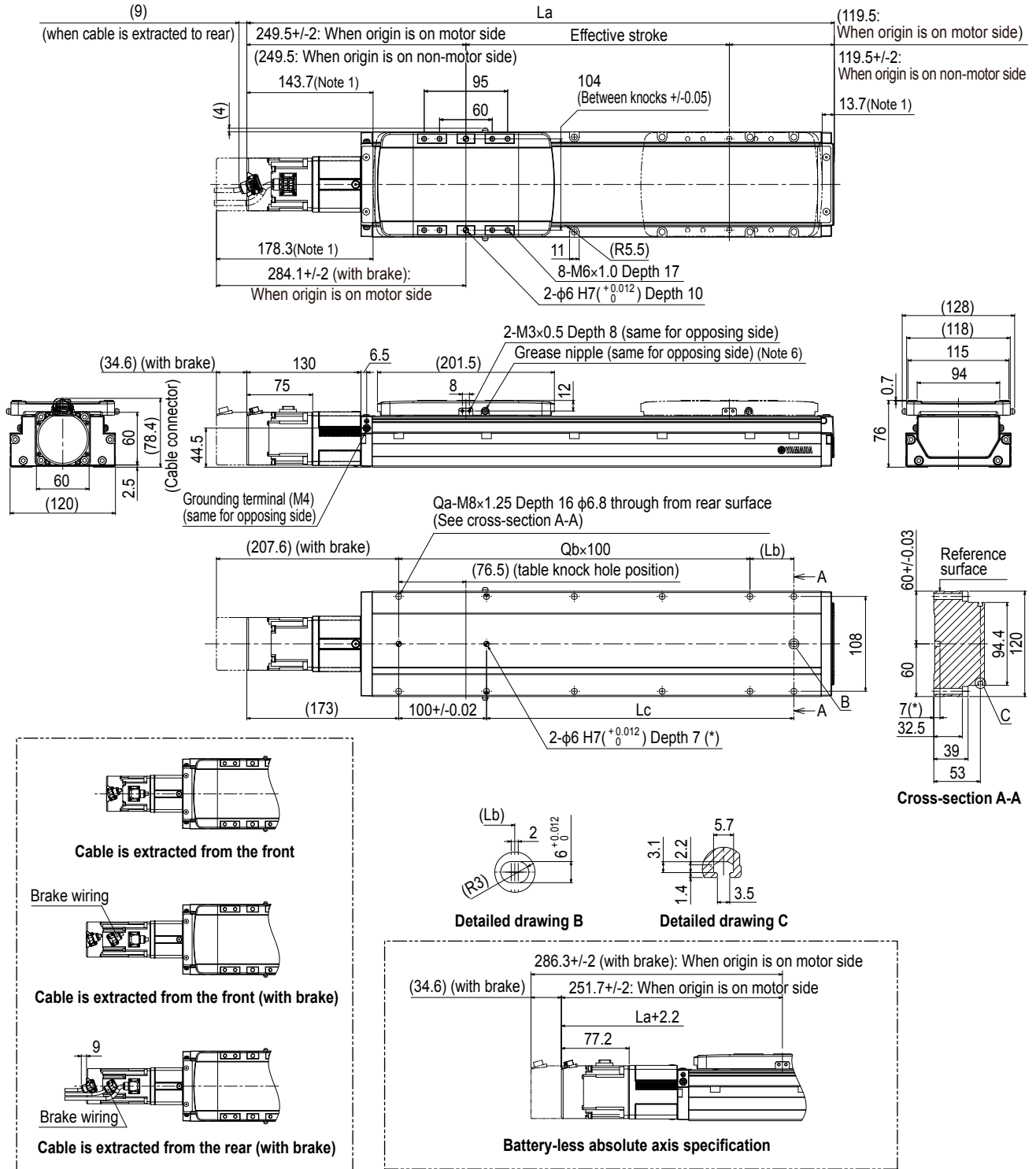
Access the website below.



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

Features
 Basic model
 Slider type
 LBAS
 Advanced model
 Slider type
 LGXS
 Basic model
 Rod type
 LBAR
 Basic model
 Slider type
 ABAS
 Advanced model
 Slider type
 AGXS
 Basic model
 Rod type
 ABAR
 Acceleration/Deceleration
 Inertia Moment
 Option
 Single axis robot positioner
 Ep-01

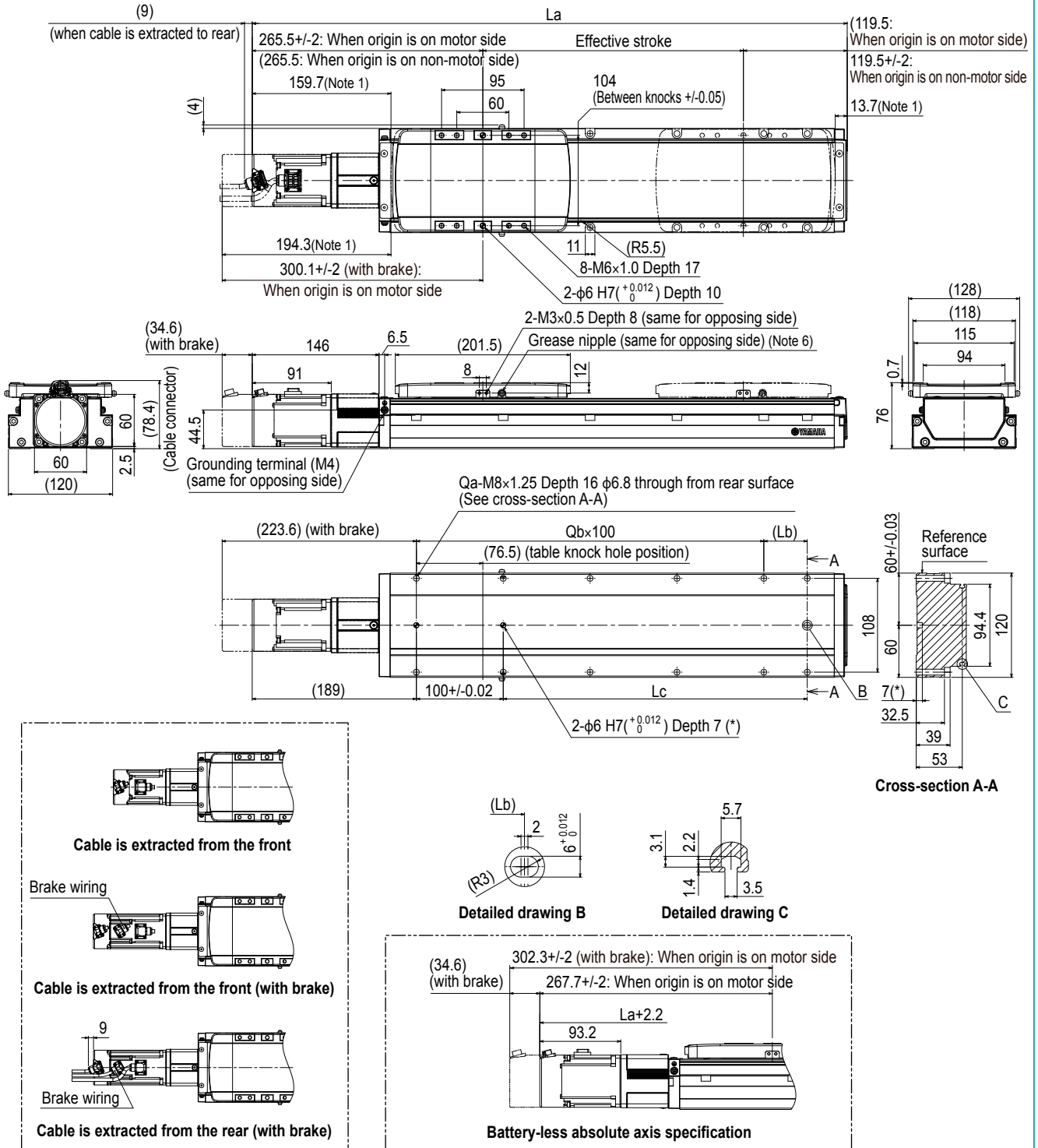
ABAS12 Straight type (S)



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 <M6 x 1.0>. In the installation tap hole, the length under head << thickness of stand +16 mm or less >> is recommended for the hex socket head bolts <M8 x 1.25> used to install the main unit.
 Note 4. The weight with the brake is 0.4 kg heavier than the value in the weight column.
 Note 5. The minimum bending radius of the robot cable is R30 on the fixed side or R50 on the movable side. The cable extraction direction may vary depending on the specifications.
 Note 6. Grease gun nozzle (recommended) (see P.143 for detail)

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	419	469	519	569	619	669	719	769	819	869	919	969	1019	1069	1119	1169	1219	1269	1319	1369	1419	1469	1519	1569	1619
Lb	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100
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	1300
Qa	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30	30
Qb	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13	13
Weight (kg) Note 4	5.3	5.7	6.1	6.5	6.9	7.3	7.7	8.1	8.5	8.9	9.4	9.8	10.2	10.7	11.1	11.5	12	12.4	12.9	13.3	13.7	14.2	14.6	15.1	15.5
Maximum speed (mm/sec)	Lead 32	1800																							
	Lead 20	1200																							
	Lead 10	600																							
	Lead 5	300																							
Speed setting	-																								

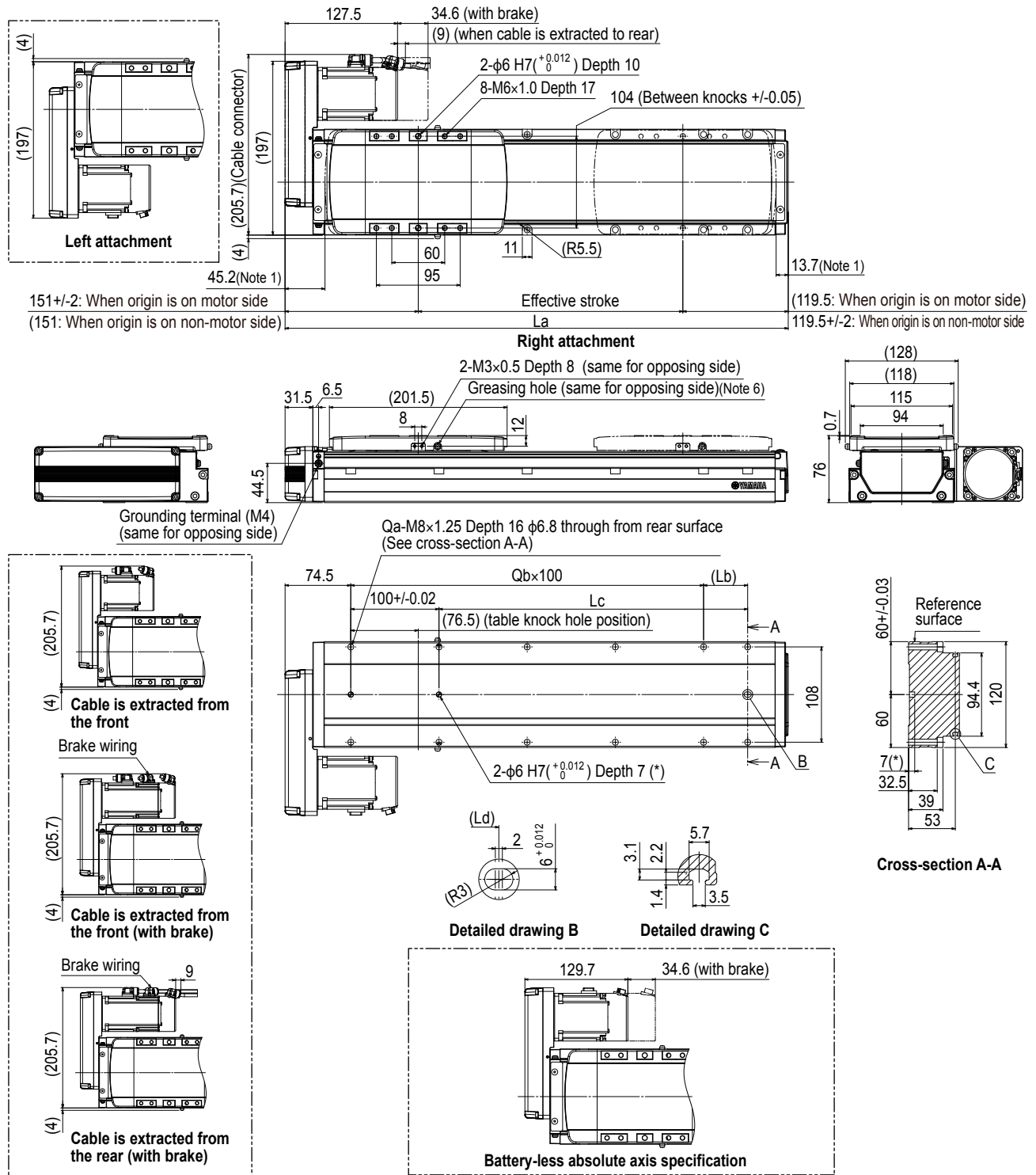
ABAS12H Straight type (S)



- 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 <M6 \times 1.0>. In the installation tap hole, the length under head << thickness of stand +16 mm or less>> is recommended for the hex socket head bolts <M8 \times 1.25> used to install the main unit.
- Note 4. The weight with the brake is 0.4 kg heavier than the value in the weight column.
- Note 5. The minimum bending radius of the robot cable is R30 on the fixed side or R50 on the movable side. The cable extraction direction may vary depending on the specifications.
- Note 6. Grease gun nozzle (recommended) (see P.143 for detail)

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	435	485	535	585	635	685	735	785	835	885	935	985	1035	1085	1135	1185	1235	1285	1335	1385	1435	1485	1535	1585	1635
Lb	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100
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	1300
Qa	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30	30
Qb	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13	13
Weight (kg) Note 4	5.6	6	6.4	6.8	7.2	7.6	8	8.4	8.8	9.2	9.7	10.1	10.5	11	11.4	11.8	12.3	12.7	13.2	13.6	14	14.5	14.9	15.4	15.8
Maximum speed (mm/sec)	Lead 32	1800																							
	Lead 20	1200																							
	Lead 10	600																							
	Lead 5	300																							
Speed setting	-																								

ABAS12H Bending type (R/L)



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 <M6 × 1.0>. In the installation tap hole, the length under head << thickness of stand +16 mm or less >> is recommended for the hex socket head bolts <M8 × 1.25> used to install the main unit.
 Note 4. The weight with the brake is 0.4 kg heavier than the value in the weight column.
 Note 5. The minimum bending radius of the robot cable is R30 on the fixed side or R50 on the movable side. The cable extraction direction may vary depending on the specifications.
 Note 6. Grease gun nozzle (recommended) (see P.143 for detail)

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	320.5	370.5	420.5	470.5	520.5	570.5	620.5	670.5	720.5	770.5	820.5	870.5	920.5	970.5	1020.5	1070.5	1120.5	1170.5	1220.5	1270.5	1320.5	1370.5	1420.5	1470.5	1520.5	
Lb	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	50	100	
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	1300	
Qa	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30	30	
Qb	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13	13	
Weight (kg) Note 4	5.6	6	6.4	6.8	7.2	7.6	8	8.4	8.8	9.3	9.7	10.2	10.6	11	11.5	11.9	12.3	12.8	13.2	13.7	14.1	14.5	15	15.4	15.9	
Maximum speed (mm/sec)	Lead 32	1800																								
	Lead 20	1200																								
	Lead 10	600																								
	Lead 5	300																								
	Speed setting	-																								