AGXS05L

Advanced model **Single-axis robots**

Slider type

Ordering method

AGXS05L – [ ] – [ ] – [ ] – [ ] – [ ] – [ ] – [ ] – [ ] – [ ] **EP-01** – [ ] – [ ] – [ ] – [ ]

Model	Acceleration/ deceleration specifications	Lead	Shape Note 1	Motor specification	Side cover	Stroke Note 2	Cable length Note 3	Cable entry location	Robot positioner	Driver: Power capacity	Regenerative unit Note 4	I/O	Battery Note 5
	No entry: Standard H: High agility	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	No entry: Standard W: With T-groove (both sides) R: With T-groove (right side) L: With T-groove (left side)	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

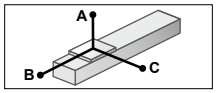
Note 1. When the shape is bending (R, L), the high acceleration/deceleration specifications cannot be selected.
Note 2. For the high acceleration/deceleration specifications, the stroke is 50 to 550 mm (50 mm pitch).
Note 3. The robot cable is flexible and resists bending.
Note 4. When the actuator is used vertically and the stroke is 500 mm or more, the regenerative unit is needed.
Note 5. When the motor specification is the standard (S, BK), whether to use the battery needs to be selected.

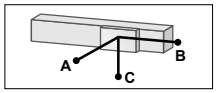
Specifications

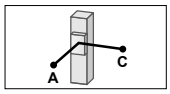
AC servo motor output		100 W		
Repeatability Note 1		+/-0.005 mm		
Deceleration mechanism		Ground ball screw ϕ 12 (C5 class)		
Stroke		50 mm to 800 mm(50 mm pitch)		
Maximum speed Note 2		1333 mm/sec	666 mm/sec	333 mm/sec
Ball screw lead		20 mm	10 mm	5 mm
Maximum payload	Horizontal	12 kg	24 kg	32 kg
	Vertical	3 kg	6 kg	12 kg
Rated thrust		84 N	169 N	339 N
Maximum dimensions of cross section of main unit		W 48 mm × H 65 mm		
Overall length	Straight	ST + 236 mm		
	Bending	ST + 191.5 mm		
Degree of cleanliness Note 3		ISO CLASS 3 (ISO14644-1) or equivalent		
Intake air Note 4		30 Nℓ/min to 100 Nℓ/min		
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 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.
Note. See P.117 for acceleration/deceleration.

Allowable overhang Note







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Horizontal installation (Unit: mm)

	A	B	C
3kg	1755	559	426
8kg	737	200	153
12kg	608	133	104

Wall installation (Unit: mm)

	A	B	C
3kg	396	486	1594
8kg	106	128	525
12kg	52	61	329

Vertical installation (Unit: mm)

	A	C
1kg	1486	1486
2kg	730	730
3kg	478	478

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Horizontal installation (Unit: mm)

	A	B	C
6kg	2416	389	333
12kg	1397	187	161
24kg	875	87	74

Wall installation (Unit: mm)

	A	B	C
6kg	277	316	2192
12kg	101	115	1084
24kg	12	14	276

Vertical installation (Unit: mm)

	A	C
4kg	555	555
6kg	360	360

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Horizontal installation (Unit: mm)

	A	B	C
10kg	3127	254	225
20kg	1841	120	106
32kg	1554	70	62

Wall installation (Unit: mm)

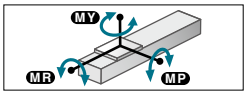
	A	B	C
10kg	162	181	2800
20kg	42	47	1273
32kg	0	0	0

Vertical installation (Unit: mm)

	A	C
5kg	501	501
10kg	235	235
12kg	190	190

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 600 mm stroke models.

Static loading moment



(Unit: N·m)

MY	MP	MR
72	72	64

Controller

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

When used with high acceleration or deceleration (High agility mode)

Specifications

Stroke		50 mm to 550 mm (50 mm pitch)		
Ball screw lead		20 mm	10 mm	5 mm
Maximum payload	Horizontal	5 kg	10 kg	-
Maximum acceleration		14.72 m/s² (1.5 G)	14.72 m/s² (1.5 G)	-
Maximum payload	Vertical	1 kg	2 kg	4 kg
Maximum acceleration		14.72 m/s² (1.5 G)	12.68 m/s² (1.3 G)	6.65 m/s² (0.7 G)

Allowable overhang Note

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Horizontal installation (Unit: mm)

	A	B	C
2kg	675	501	332
5kg	330	191	131

Wall installation (Unit: mm)

	A	B	C
2kg	294	428	626
5kg	87	118	251

Vertical installation (Unit: mm)

	A	C
1kg	728	728

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Horizontal installation (Unit: mm)

	A	B	C
3kg	1208	469	385
6kg	665	227	188
10kg	441	130	108

Wall installation (Unit: mm)

	A	B	C
3kg	331	396	1144
6kg	131	155	580
10kg	49	58	315

Vertical installation (Unit: mm)

	A	C
1kg	1298	1298
2kg	636	636

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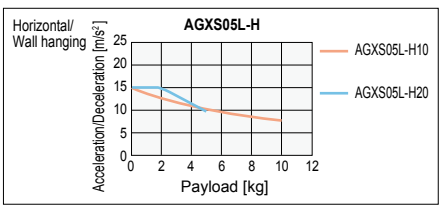
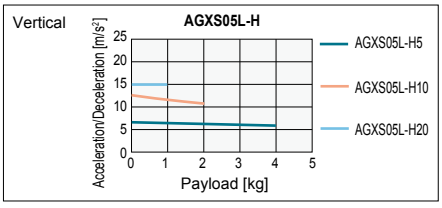
Vertical installation (Unit: mm)

	A	C
1kg	1555	1555
2kg	762	762
4kg	365	365

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 550 mm stroke models.

Payload – Acceleration / Deceleration Graph (Estimate)





Effective stroke and maximum speed during high acceleration or deceleration

Effective stroke		50	100	150	200	250	300	350	400	450	500	550
Maximum speed (mm/sec)	Lead 20	1333										
	Lead 10	666										
	Lead 5	333										

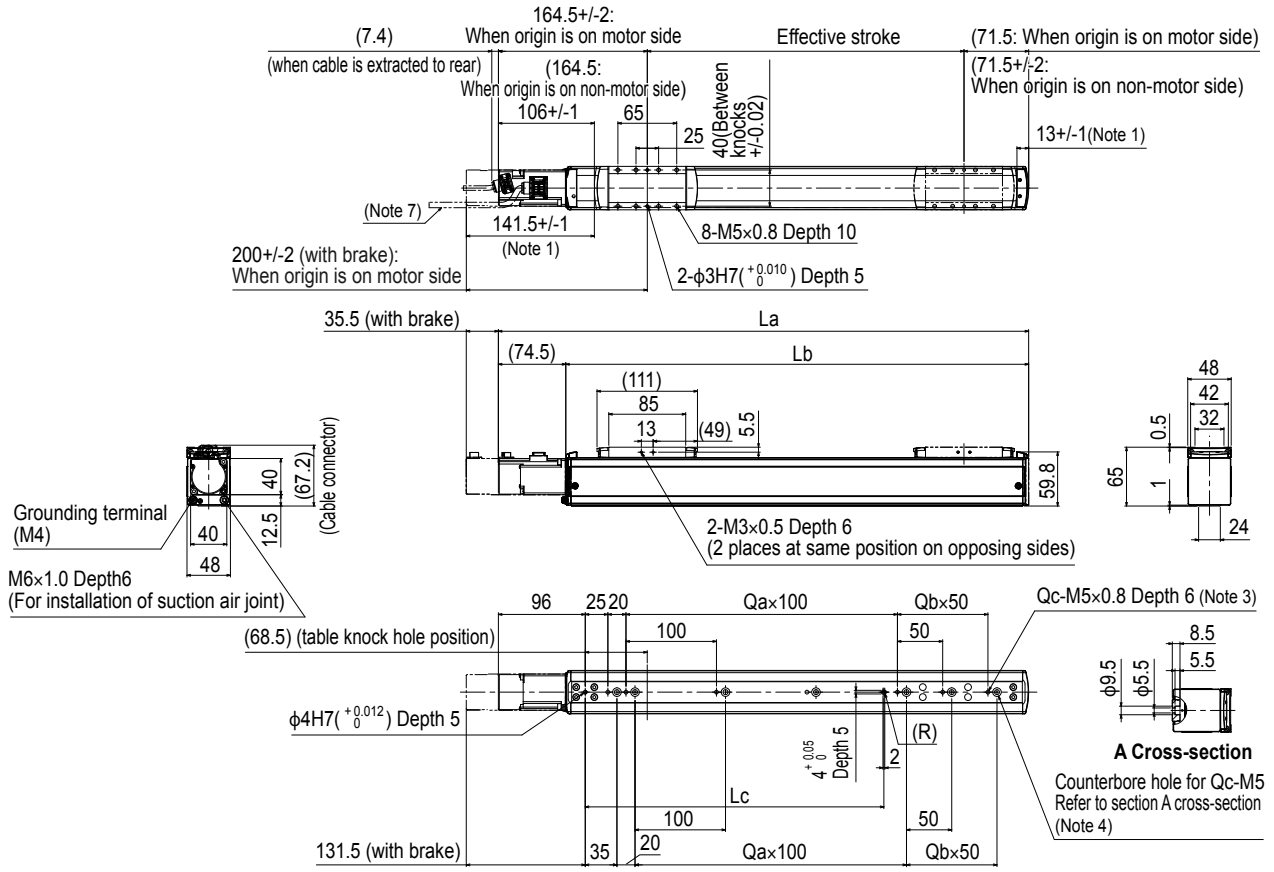
Note. The bending unit cannot be used for the high agility mode.
Note. The high agility mode is used in an effective stroke range of 50 to 550 (50 mm pitch).
Note. There is no critical speed setting. The maximum speed can be set for a selectable stroke. The speed may not reach the maximum speed if the movement distance is short or depending on the operating conditions.
Note. When the actuator is used with the high acceleration/deceleration specifications, the operation duty and motor load factor need to be considered. (See P.93.)
Note. See P.118 for acceleration/deceleration.

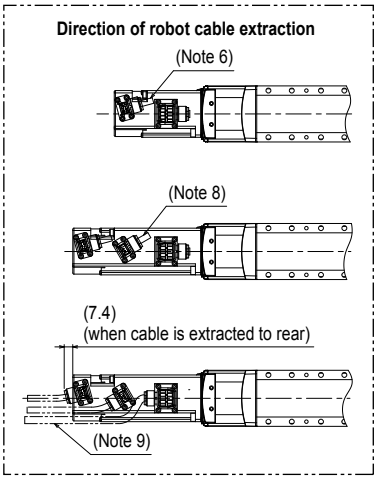
Access the website below.

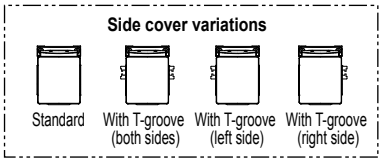
▶ The cycle time simulation and service life calculation can be performed easily from our member site. For details, see P.12.

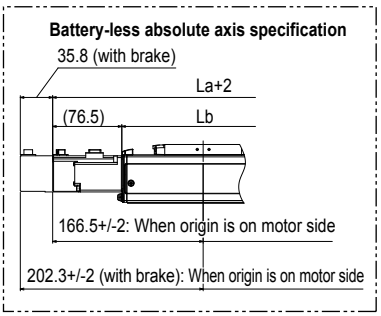
Controller EP-01 ▶ 146

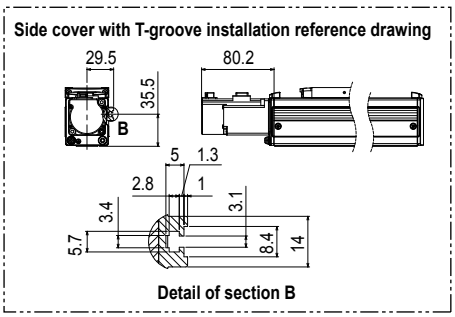
AGXS05L Straight type (S)







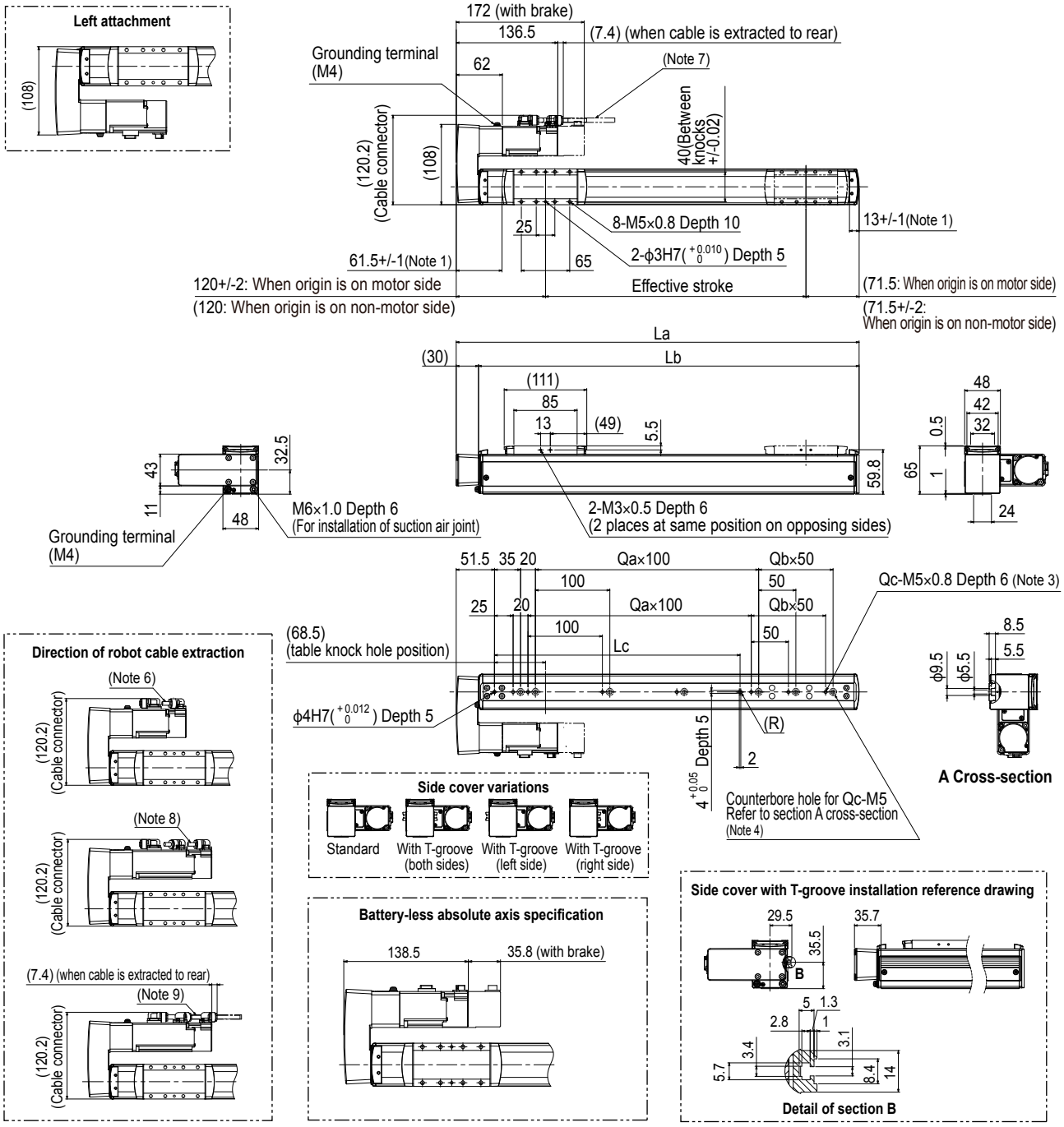




Note 1. Stop positions are determined by the mechanical stoppers at both ends.
Note 2. When changing the return-to-origin direction, the parameter needs to be changed. (The standard is that the origin is located on the motor side.)
Note 3. When using the tap holes to mount the body, remove the set screws first.
Note 4. When using the counterbore holes (section A cross section) to mount the body, remove the cap from the inner side and then fix. The length under head of the hex socket head bolts (M5 × 0.8) used must be 15 mm or less.
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.
Note 11. Side cover with T-groove is used to install the sensor.
Note 12. 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
La		286	336	386	436	486	536	586	636	686	736	786	836	886	936	986	1036
Lb		211.5	261.5	311.5	361.5	411.5	461.5	511.5	561.5	611.5	661.5	711.5	761.5	811.5	861.5	911.5	961.5
Lc		130	130	130	130	330	330	330	330	330	330	630	630	630	630	630	630
Qa		1	1	1	1	3	3	3	3	3	3	6	6	6	6	6	6
Qb		0	1	2	3	0	1	2	3	4	5	0	1	2	3	4	5
Qc		3	4	5	6	5	6	7	8	9	10	8	9	10	11	12	13
Weight (kg) Note 5		1.8	1.9	2.1	2.2	2.4	2.6	2.7	2.9	3.0	3.2	3.3	3.5	3.6	3.8	3.9	4.1
Maximum speed (mm/sec)	Lead 20	1333												1066	933	800	666
	Lead 10	666												532	466	400	333
	Lead 5	333												266	233	200	166
	Speed setting	–												80%	70%	60%	50%

AGXS05L Bending type (R/L)



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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. When using the tap holes to mount the body, remove the set screws first.
Note 4. When using the counterbore holes (section A cross section) to mount the body, remove the cap from the inner side and then fix. The length under head of the hex socket head bolts (M5 × 0.8) used must be 15 mm or less.
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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.
Note 11. Side cover with T-groove is used to install the sensor.
Note 12. When the shape is bending (R, L), the high acceleration/deceleration specifications cannot be selected.
Note 13. 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
La		241.5	291.5	341.5	391.5	4415	491.5	541.5	591.5	641.5	691.5	741.5	791.5	841.5	891.5	941.5	991.5
Lb		211.5	261.5	311.5	361.5	411.5	461.5	511.5	561.5	611.5	661.5	711.5	761.5	811.5	861.5	911.5	961.5
Lc		130	130	130	130	330	330	330	330	330	330	630	630	630	630	630	630
Qa		1	1	1	1	3	3	3	3	3	3	6	6	6	6	6	6
Qb		0	1	2	3	0	1	2	3	4	5	0	1	2	3	4	5
Qc		3	4	5	6	5	6	7	8	9	10	8	9	10	11	12	13
Weight (kg) Note 5		2.2	2.3	2.5	2.6	2.8	3.0	3.1	3.3	3.4	3.6	3.7	3.9	4.0	4.2	4.3	4.5
Maximum speed (mm/sec)	Lead 20	1333												1066	933	800	666
	Lead 10	666												532	466	400	333
	Lead 5	333												266	233	200	166
	Speed setting	–												80%	70%	60%	50%