

GX05L

Single-axis AC servo motor robot



Ordering method

GX05L			EU					A10		
Model	Lead	Motor specification	Motor type ^{Note1}	Stroke	Cable length ^{Note2}	Cable entry location	Driver	Brake unit ^{Note3}	Absolute battery	
	20: 20mm 10: 10mm 5: 5mm	S40: Standard / With no brake BK40: Standard / With brake BL40: Battery-less absolute / With no brake BKBL40: Battery-less absolute / With brake		50 to 800 (50mm pitch)	R3: 3m R5: 5m R10: 10m	R: From rear of motor F: From front of motor	A10:YHX-A10-SET	V: With brake unit N: None	B: With absolute battery N: None	

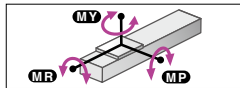
Note 1. RoHS2 (EU) 2015/863 compliant motor
 Note 2. All robot cables are flexible cables. The robot cable dimensions drawing is provided on page 732.
 Note 3. The brake unit cannot be used with an external brake power input.

Specifications

Motor	40 □ / 100 W		
Repeatability ^{Note 1}	+/- 0.005 mm		
Deceleration mechanism	Ground ball screw φ 12 (Class C5)		
Stroke	50 mm to 800 mm (50mm 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
	Vertical	3 kg	6 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 (Horizontal)	ST + 230 mm		
Overall length (Vertical)	ST + 270.5 mm		
Degree of cleanliness ^{Note 3}	ISO CLASS 3 (ISO14644-1) or equivalent		
Intake air ^{Note 4}	30 Nl/min to 100 Nl/min		
Controller	YHX series		

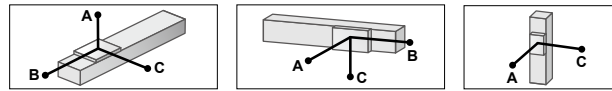
Note 1. Positioning repeatability in one direction.
 Note 2. The maximum speed may not be reached if the travel distance is short or because of other operation conditions.
 If the effective stroke exceeds 600 mm, the ball screw may resonate. (Critical speed)
 At this time, make the adjustment to decrease 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 when using at 1000 mm/sec or less.
 Note 4. The required suction amount will vary according to the operating conditions and operating environment.

Static loading moment



	(Unit: N·m)		
MY	MP	MR	
72	72	64	

Allowable overhang^{Note}



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	Horizontal installation (Unit: mm)			Wall installation (Unit: mm)			Vertical installation (Unit: mm)		
	A	B	C	A	B	C	A	C	
3kg	1755	559	426	3kg	396	486	1594	1kg	1486
8kg	737	200	153	8kg	106	128	525	2kg	730
12kg	608	133	104	12kg	52	61	329	3kg	478

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	Horizontal installation (Unit: mm)			Wall installation (Unit: mm)			Vertical installation (Unit: mm)		
	A	B	C	A	B	C	A	C	
6kg	2416	389	333	6kg	277	316	2192	4kg	555
12kg	1397	187	161	12kg	101	115	1084	6kg	360
24kg	875	87	74	24kg	12	14	276		

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	Horizontal installation (Unit: mm)			Wall installation (Unit: mm)			Vertical installation (Unit: mm)		
	A	B	C	A	B	C	A	C	
10kg	3127	254	225	10kg	162	181	2800	5kg	501
20kg	1841	120	106	20kg	42	47	1273	10kg	235
32kg	1554	70	62	32kg	0	0	0	12kg	190

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.

Robot cable

R3R (3 m/extracted to rear)	
Encoder cable + Power cable set model	KES-M4710-30

R5R (5 m/extracted to rear)	
Encoder cable + Power cable set model	KES-M4710-50

R10R (10 m/extracted to rear)	
Encoder cable + Power cable set model	KES-M4710-A0

R3F (3 m/extracted to front)	
Encoder cable + Power cable set model	KES-M4720-30

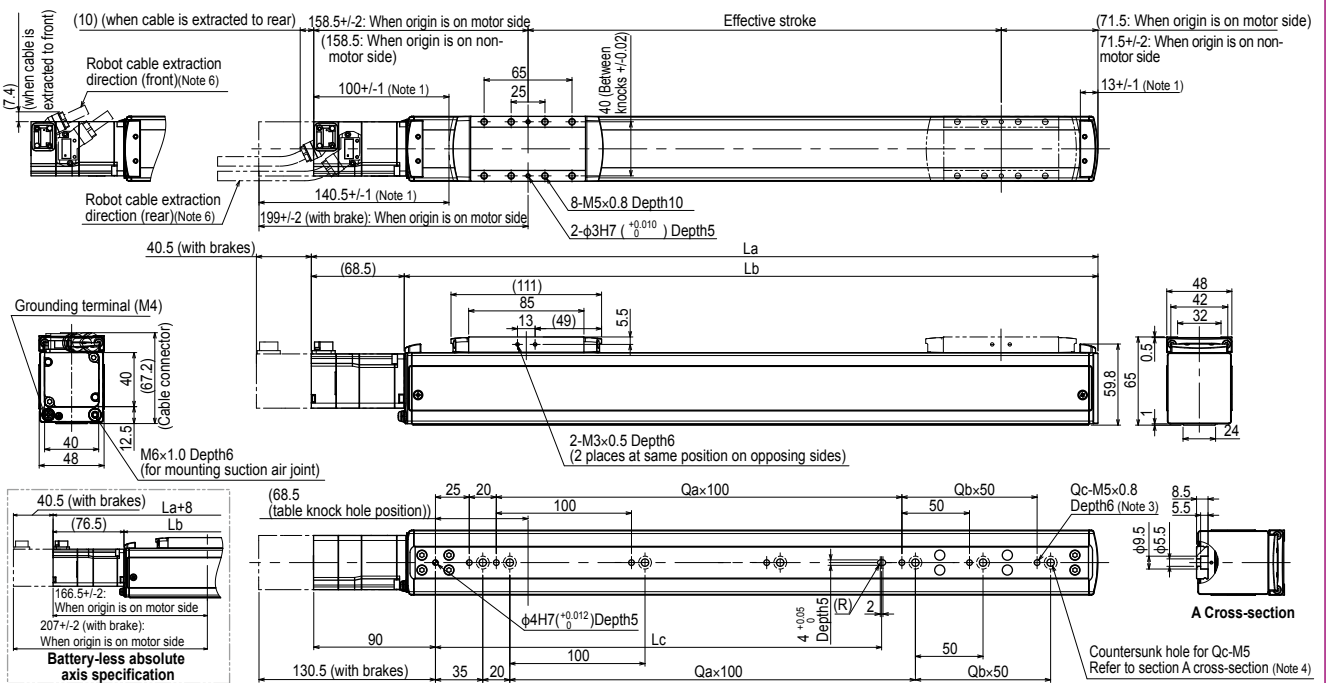
R5F (5 m/extracted to front)	
Encoder cable + Power cable set model	KES-M4720-50

R10F (10 m/extracted to front)	
Encoder cable + Power cable set model	KES-M4720-A0

Driver unit

10A Spec.	Model	YHX-A10-SET
	Control method	Standard profile

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Note 1. Stop positions are determined by the mechanical stoppers at both ends.
 Note 2. Adjustments are required when changing the return-to-origin direction. (The standard origin is on the motor side.)
 Note 3. When using the tap holes to mount the body, remove the set screws first.

Effective stroke	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800		
La	280	330	380	430	480	530	580	630	680	730	780	830	880	930	980	1030		
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	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%			

Note 4. When using the countersunk 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 x 0.8) used must be 15mm or less.

Note 5. This is the weight without brakes. When brakes are mounted, the weight will be 0.2 kg heavier than the body weight given in the table.

Note 6. The specifications of the robot cable will vary according to the extraction direction.

Note 7. When secured in place, the minimum bending radius of the robot cable is R30.