

GX12

Single-axis AC servo motor robot



Ordering method

GX12

Model	Lead	Motor specification
30: 30mm 20: 20mm 10: 10mm 5: 5mm	S60: Standard / With no brake BK60: Standard / With brake BL60: Battery-less absolute / With no brake BKBL60: Battery-less absolute / With brake	

EU

Motor type ^{Note1}	Stroke	Cable length ^{Note2}	Cable entry location
	100 to 1250 (50mm pitch)	R3: 3m R5: 5m R10: 10m	R: From rear of motor F: From front of motor

A30

Driver	Brake unit ^{Note3}	Absolute battery
A30:YHX-A30-SET	V: With brake unit N: None	B: With absolute battery N: None

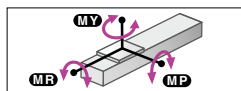
Note 1. RoHS2 (EU) 2015/863 compliant motor
Note 2. All robot cables are flexible cables. The robot cable dimensions drawing is provided on page 733.
Note 3. The brake unit cannot be used with an external brake power input.

Specifications

Motor	60 □ / 400 W
Repeatability ^{Note 1}	+/- 0.005 mm
Deceleration mechanism	Ground ball screw φ15 (Class C5)
Stroke	100 mm to 1250 mm (50mm pitch)
Maximum speed ^{Note 2}	1800 mm/sec / 1200 mm/sec / 600 mm/sec / 300 mm/sec
Ball screw lead	30 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, 45 kg
Rated thrust	225 N / 339 N / 678 N / 1360 N
Maximum dimensions of cross section of main unit	W 125 mm × H 101 mm
Overall length (Horizontal)	ST + 297 mm
Overall length (Vertical)	ST + 337.5 mm
Degree of cleanliness ^{Note 3}	ISO CLASS 3 (ISO14644-1) or equivalent
Intake air ^{Note 4}	30 N _l /min to 90 N _l /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 700 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



	MY	MP	MR
(Unit: N·m)	334	334	294

Allowable overhang Note

GX12-30	GX12-20	GX12-10	GX12-5
Horizontal installation (Unit: mm)	Horizontal installation (Unit: mm)	Horizontal installation (Unit: mm)	Horizontal installation (Unit: mm)
Wall installation (Unit: mm)	Wall installation (Unit: mm)	Wall installation (Unit: mm)	Wall installation (Unit: mm)
Vertical installation (Unit: mm)	Vertical installation (Unit: mm)	Vertical installation (Unit: mm)	Vertical installation (Unit: mm)

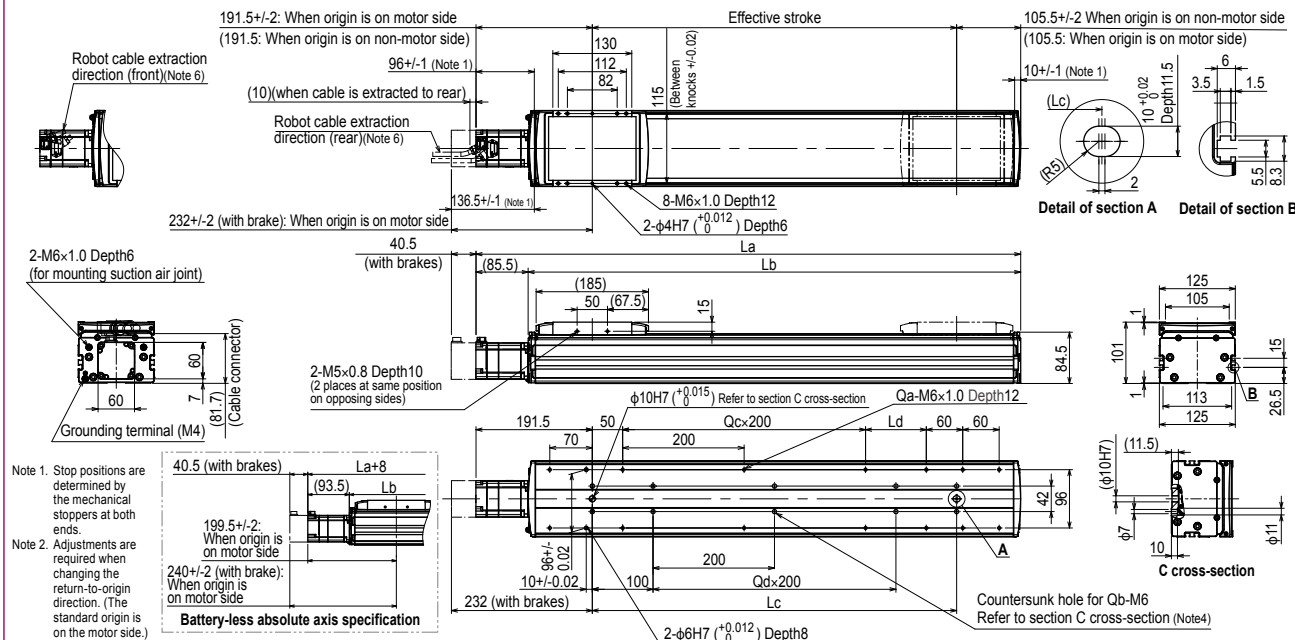
Robot cable

R3R (3 m/extracted to rear)	Encoder cable + Power cable set model	KEV-M4710-30
R5R (5 m/extracted to rear)	Encoder cable + Power cable set model	KEV-M4710-50
R10R (10 m/extracted to rear)	Encoder cable + Power cable set model	KEV-M4710-A0
R3F (3 m/extracted to front)	Encoder cable + Power cable set model	KEV-M4720-30
R5F (5 m/extracted to front)	Encoder cable + Power cable set model	KEV-M4720-50
R10F (10 m/extracted to front)	Encoder cable + Power cable set model	KEV-M4720-A0

Driver unit

30A Spec.	Model	Control method
	YHX-A30-SET	Standard profile

GX12



Effective stroke	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	397	447	497	547	597	647	697	747	797	847	897	947	997	1047	1097	1147	1197	1247	1297	1347	1397	1447	1497	1547	
Lb	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	1011.5	1061.5	1111.5	1161.5	1211.5	1261.5	1311.5	1361.5	1411.5	1461.5	
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	
Ld	0	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	
Qa	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18	18	20	20	20	
Qb	4	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	
Qc	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	
Qd	0	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	
Weight (kg) ^{Note 5}	7.6	8.2	8.9	9.6	10.2	10.9	11.6	12.3	12.9	13.6	14.3	15	15.6	16.3	17	17.6	18.3	19	19.7	20.3	21	21.7	22.4	23	
Lead 30	1800																								
Lead 20	1200																								
Lead 10	600																								
Lead 5	300																								
Speed setting	-																								
Maximum speed (mm/sec)	1530	1350	1170	990	900	810	720	630	540	450	360	300	250	200	150	100	75	50	40	30	20	15	10	7.5	
	85%	75%	65%	55%	50%	45%	40%	35%	30%	25%															

Note 3. The length under head of the hex socket head bolts <M6 x 1.0> used to mount the body with the mounting countersunk holes (section C cross-section) must be <<20mm or more>>. The recommended length under head of the hex socket head bolts <M6 x 1.0> used to mount the body with the mounting tap hole specifications is <<frame thickness + 10 mm or less>>.

Note 4. When using the mounting countersunk holes (section C cross-section) to mount the body, remove the seal, and then fix.

Note 5. This is the weight without brakes. When brakes are mounted, the weight will be 0.5 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.