Dedicated for LCMR 200* Single-axis robot GX series

Highly efficient, highly accurate ground ball screws are now a standard feature for all types and models. The high precision models with reliability and durability.

Supported controller: YHX P.22

* The base structure of the robot is the same as the Robonity series. When you use a single-axis robot alone, consider Robonity series on P.62. (GX series and Robonity series have different control methods and controllers.)

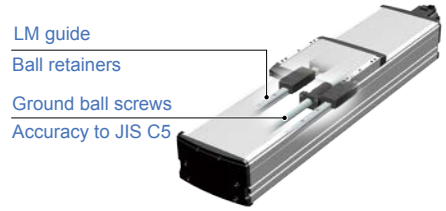
+/-5 µm positioning repeatability ensured for all models

Made to the clean specification as a standard feature

POINT 1 — Reliability

High precision, high rigidity, high durability

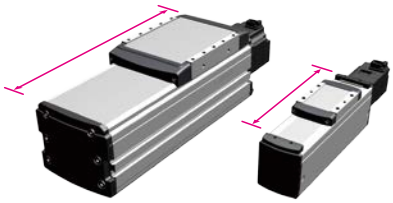
All product models employ highly efficient, highly accurate ground ball screws as the standard features. The lead accuracy complies with JIS accuracy class C5 that brings about the positioning accuracy repeatability of +/-5 µm.
The accuracy is about two times higher than the previous models. These new features contributes improving yield. In addition, noise level is reduced and structural life is extended serv.



POINT 2 — Save space

Shortest overall length in the industry

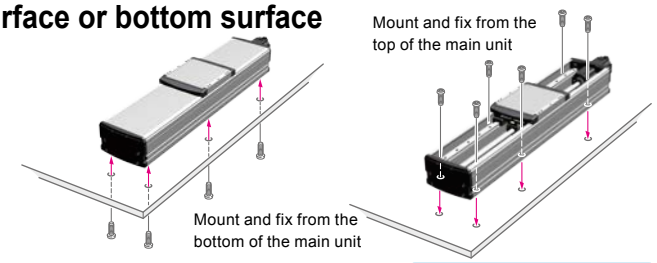
The industry's shortest class is achieved for the total length in relation to the operation stroke.
This significantly contributes to saving production facility footprints.



POINT 3 — Usability, Save space

All models can be mounted (fixed) from the top surface or bottom surface

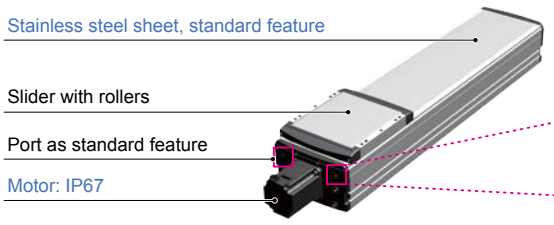
The main unit can be fixed from ether the bottom face or top face to respond to the system's densification and space saving.



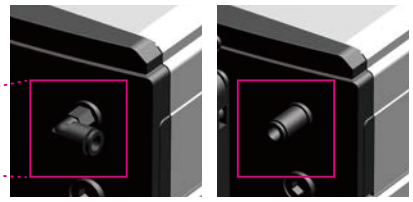
POINT 4 — Environment resistance

Clean specification as a standard feature

Dust-proof structure…Upper surface of main frame of all models is protected with durable stainless steel dust shield.
This structure helps reducing foreign particle contamination from outside. By applying negative air pressure from suction port it can be used in a clean environment.



■ Simply install suction joint



POINT 5

Usability

Battery-less absolute system / No origin process needed

The complete absolute method is adopted so there is no need to perform return-to-origin when restart and initial start up process.
The battery-less absolute is also supported.

POINT 6

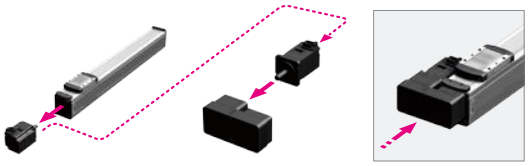
Usability Save space

Easy to alter specifications

Options available for retrofit

Converting cable outlet orientation

With conversion adapter on a standard motor orientation of cable outlet can be changed.

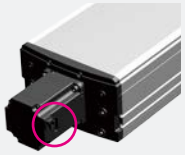


Standard model + Conversion adapter ▶ Motor folded type

Simply remove the motor from the robot body, set it onto the conversion adapter, and then mount onto the body again.

Changing the location of robot cable outlet

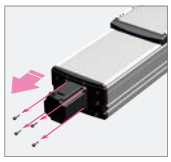
The direction of cable outlet can be converted to customer's preference.



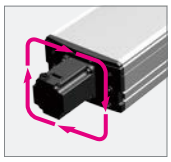
Side direction

Downward direction

Unscrew motor fixing bolts



Reposition the motor



Type Model		Motor output AC (W)	Repeat-ability (mm)	Ballscrew diameter [Class C5]	Size (mm) Note 1	Overall length (mm)		Lead (mm)	Maximum payload (kg)		Rated thrust (N)	Maximum speed (mm/sec) Note 2	Stroke (mm) [50 increment]
						Horizontal	Vertical		Horizontal	Vertical			
Small type	GX05	50	+/-0.005	ϕ12	W48 × H65	ST +188	ST +228.5	20	5	2	41	1333	50 to 800
								10	8	4	69	665	
								5	13	8	138	333	
	GX05L	100		ϕ12	W48 × H65	ST +230	ST +270.5	20	12	3	84	1333	
								10	24	6	169	666	
								5	32	12	339	333	
	GX07	100		ϕ15	W70 × H76.5	ST +270.5	ST +311	30	10	2	56	1800	50 to 1100
								20	25	4	84	1200	
								10	45	8	169	600	
								5	85	16	339	300	
Medium type	GX10	200		ϕ15	W100 × H99.5	ST +245	ST +285.5	30	25	4	113	1800	100 to 1250
								20	40	8	170	1200	
								10	80	20	341	600	
								5	100	30	683	300	
	GX12	400			W125 × H101	ST +297	ST +337.5	30	35	8	225	1800	100 to 1250
								20	50	15	339	1200	
								10	95	25	678	600	
								5	115	45	1360	300	
Large type	GX16	750		ϕ20	W160 × H130	ST +339.5	ST +386.5	40	45	12	320	2400	100 to 1450
								20	95	28	640	1200	
								10	130	55	1280	600	
	GX20				W200 × H140	ST +385.5	ST +432.5	40	65	15	415	2400	100 to 1450
								20	130	35	640	1200	
								10	160	65	1280	600	

Note 1. The size shows approximate maximum cross sectional size.

Note 2. The maximum speed will vary according to the stroke length. Refer to the descriptions of each model for details.

Controller dedicated for LCMR200 / GX
YHX Controller

Reduces production line configuration time

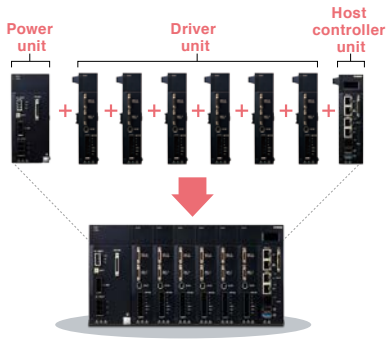
Supported product: LCMR200 P.8 / GXseries P.20

Controller for the linear conveyor module LCMR200 and single-axis robot GX series. Advanced production line can be constructed in a short period.

Stacking modular structure

No wiring between modules needed.

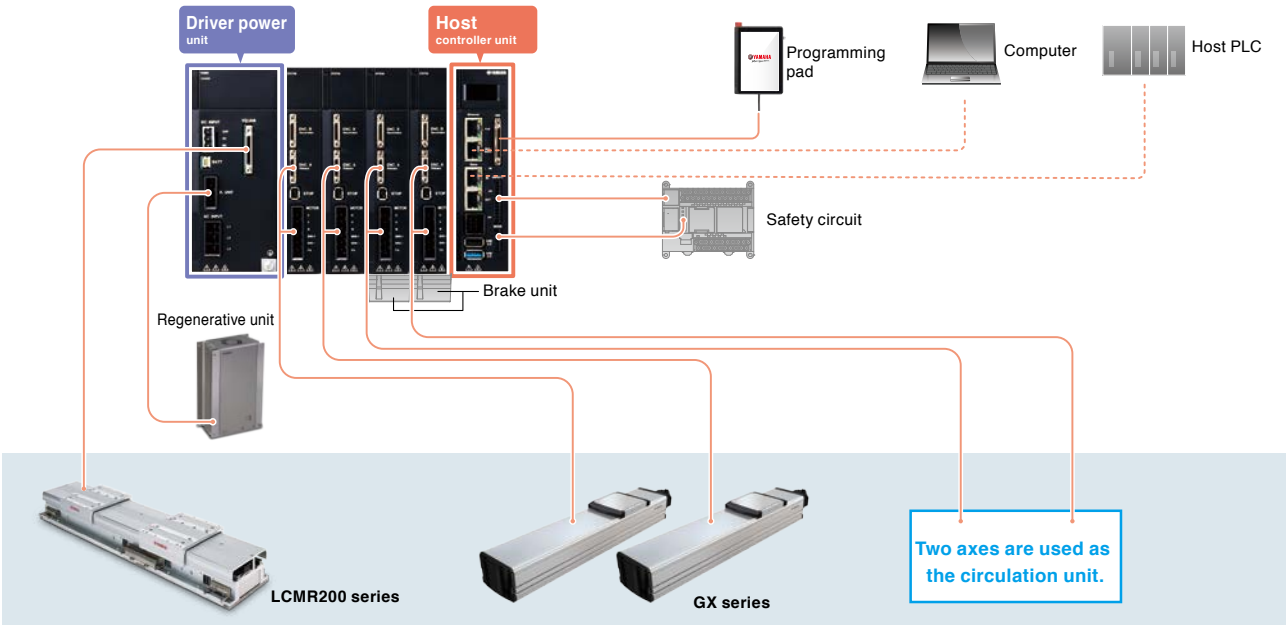
Incorporation a control power supply, motor drive power supply, high speed network communication, safety circuit into a stacking modular structure.
Eliminates wiring between units, reducing conventional wiring cost and wiring man-hour to 30% to 50%.
The stacking structure including host, power and driver is the very first in the industry.



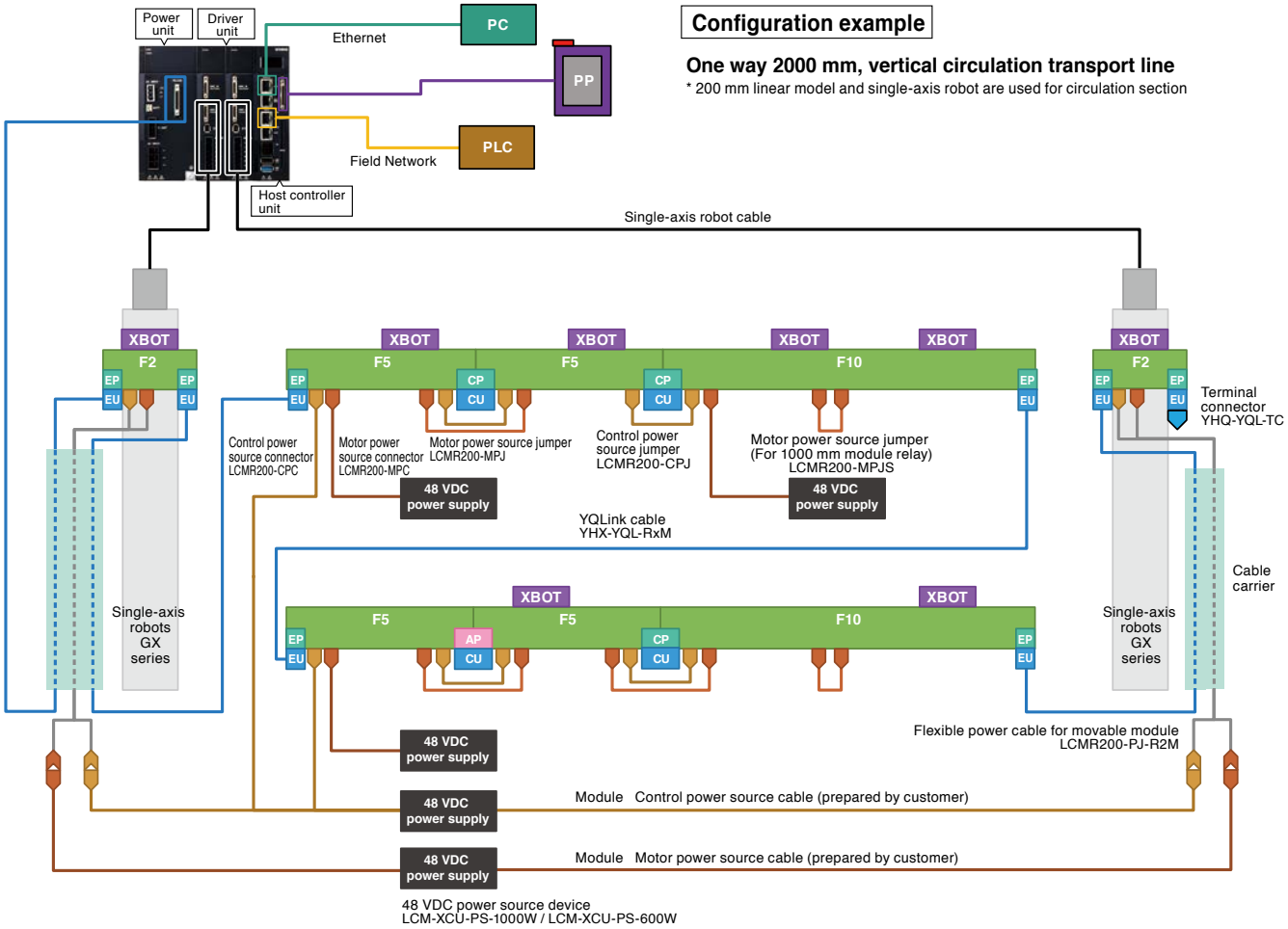
Typical photo image of stacking structure

Driver unit
up to 16 units
Stackable

Configuration example



System configuration diagram

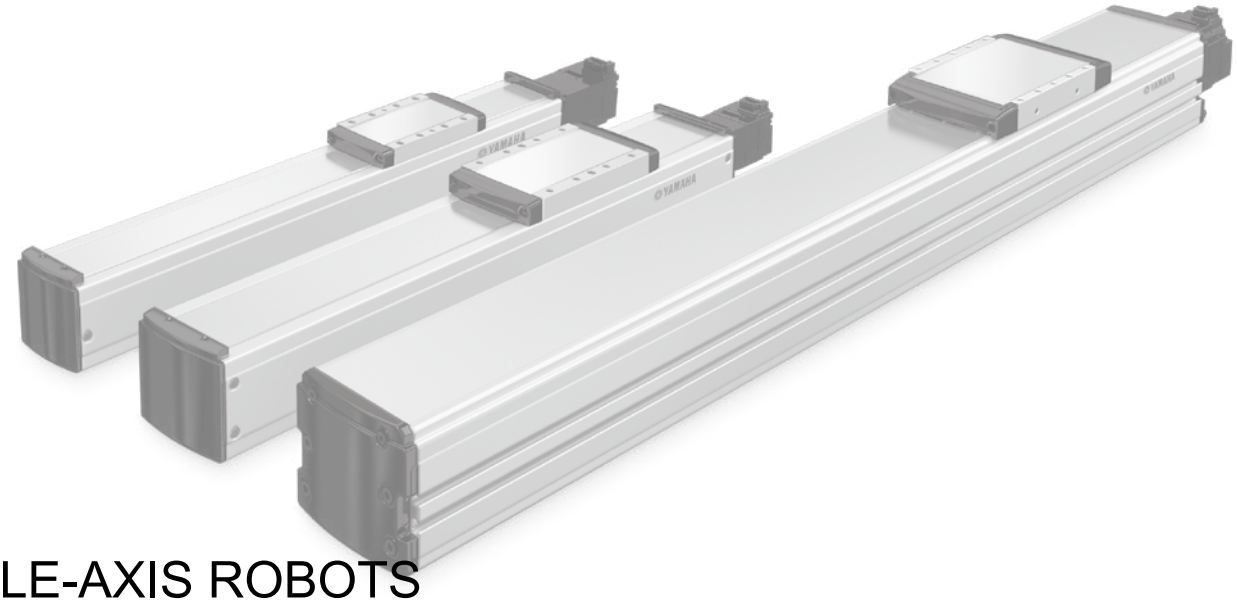


Configuration example

One way 2000 mm, vertical circulation transport line

* 200 mm linear model and single-axis robot are used for circulation section

Icon	Name	Description
	Linear module	Size of modules selected here is for reference only. The cable extraction direction can be selected in units of cluster (multiple linear modules are connected to configure one line). A linear module used in the circulation part is also common.
XBOT	**Robot slider**	A slider that operates on the linear module.
EP	**End plate**	Position a linear module on both ends of a cluster.
CP	**Connection plate**	The adjacent modules are positioned and connected.
AP	**Adjuster plate**	This adjuster plate is used to adjust the return line length to match the reference line.
EU	**End unit**	Connect with the YQLink cable or YQLink terminal end unit on both ends of a cluster.
CU	**Connection unit**	Between module communication of adjacent modules is connected.
	Control power source connector	A connector to supply control power source from 48 VDC power source to the linear module.
	Control power source jumper	A jumper cable to supply control power source to adjacent modules.
	Motor power source connector	A connector to supply motor power source from 48 VDC power source to the linear module.
	Motor power source jumper	A jumper cable to supply motor power source to adjacent modules.
	Motor power source jumper (for 1000 mm module relay)	A jumper cable to relay motor power source in 1000 mm module. When 3 to 4 robot sliders stop in 1000 mm module, remove this motor power source jumper, and connect the power source device for additional motor with the motor power source connector.
	YQLink cable	A communication cable between each linear module cluster and the controller. As shown in the above figure, connect from left to right with one line. Connect the YQLink end connector to the terminal of the end cluster.
48 VDC power supply	**48 VDC power supply**	General-purpose 48 VDC power source device that can be applied to both control and motor operations. With one power source device, 10 m module control power source can be supplied. Also, one power source device can supply motor power source of two robot sliders. Prepare power source devices for each control power source and motor power source.
	Flexible power cable for movable module	Flexible cable to supply power source to the module that performs reciprocal operation mainly in the circulation part.



SINGLE-AXIS ROBOTS

GX SERIES

CONTENTS

GX05

Single-axis AC servo motor robot

Ordering method

GX05 - [ ] - [ ] **EU** - [ ] - [ ] - [ ] - **A10** - [ ] - [ ]

Model	Lead	Motor specification	Motor type Note1	Stroke	Cable length Note2	Cable entry location	Driver	Brake unit Note3	Absolute battery
GX05	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	EU	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

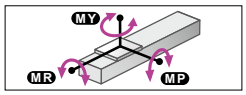
Note 1. RoHS2 (EU) 2015/863 compliant motor
Note 2. All robot cables are flexible cables. The robot cable dimensions drawing is provided on page 692.
Note 3. The brake unit cannot be used with an external brake power input.

Specifications

Motor		40 □ / 50 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	5 kg	8 kg	13 kg
	Vertical	2 kg	4 kg	8 kg
Rated thrust		41 N	69 N	138 N
Maximum dimensions of cross section of main unit		W 48 mm × H 65 mm		
Overall length (Horizontal)		ST + 188 mm		
Overall length (Vertical)		ST + 228.5 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 cleanness 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.

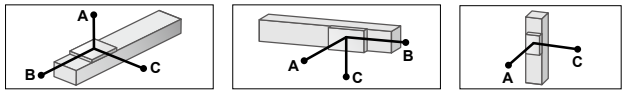
Static loading moment



(Unit: N·m)

MY	MP	MR
24	27	23

Allowable overhang Note



GX05-20

Horizontal installation (Unit: mm)

	A	B	C
2kg	898	269	350
5kg	583	112	159

Wall installation (Unit: mm)

	A	B	C
2kg	323	234	809
5kg	119	76	427

Vertical installation (Unit: mm)

	A	C
1kg	452	452
2kg	217	217

GX05-10

Horizontal installation (Unit: mm)

	A	B	C
2kg	2505	382	625
5kg	1366	149	246
8kg	1036	90	150

Wall installation (Unit: mm)

	A	B	C
2kg	585	346	2386
5kg	195	113	1164
8kg	95	54	745

Vertical installation (Unit: mm)

	A	C
1kg	732	732
2kg	351	351
4kg	160	160

GX05-5

Horizontal installation (Unit: mm)

	A	B	C
3kg	4604	281	497
8kg	2197	101	179
13kg	1593	59	105

Wall installation (Unit: mm)

	A	B	C
3kg	439	245	4371
8kg	117	65	1812
13kg	42	24	1000

Vertical installation (Unit: mm)

	A	C
4kg	183	183
6kg	111	111
8kg	75	75

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.

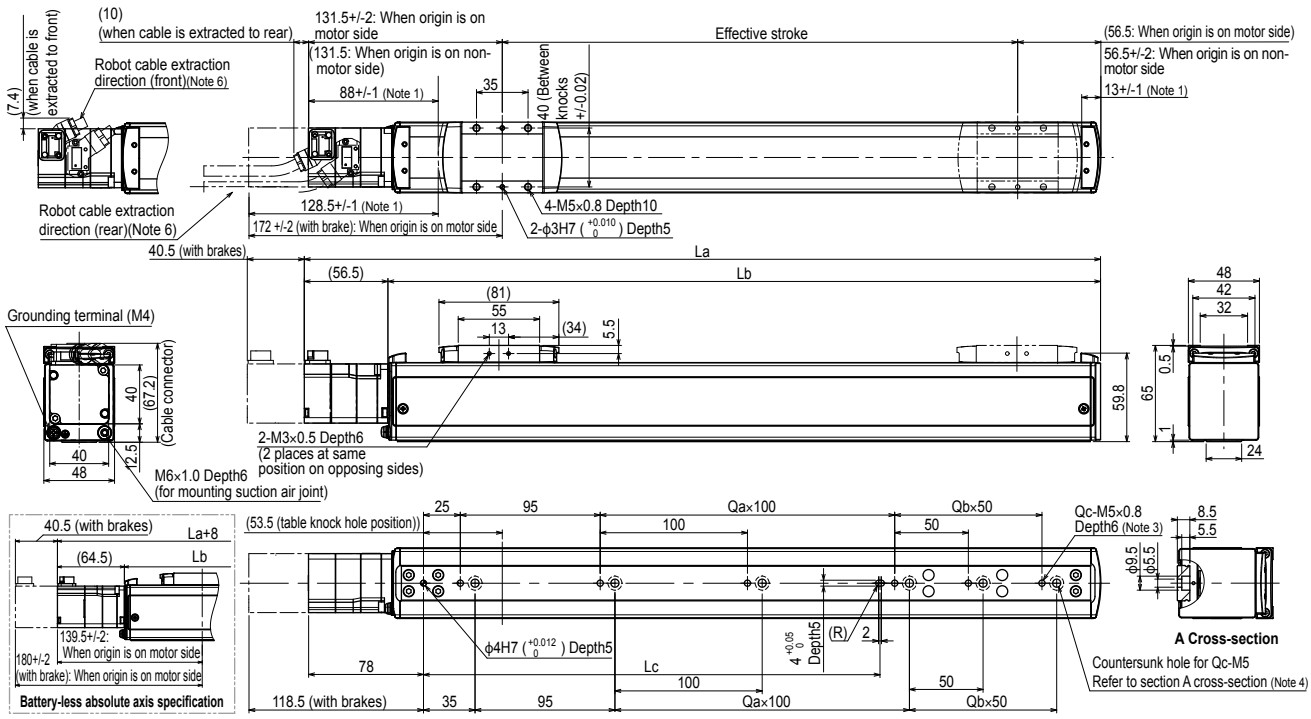
Robot cable

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

GX05



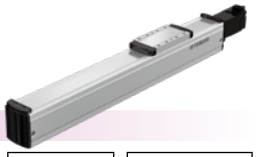
Note 1. Stop positions are determined by the mechanical stoppers at both ends.
Note 2. Adjustments are required when changing the return-to-origin direction. (The standard origin is on the motor side.)

Effective stroke		50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800
La		238	288	338	388	438	488	538	588	638	688	738	788	838	888	938	988
Lb		181.5	231.5	281.5	331.5	381.5	431.5	481.5	531.5	581.5	631.5	681.5	731.5	781.5	831.5	881.5	931.5
Lc		110	110	110	110	310	310	310	310	310	310	610	610	610	610	610	610
Qa		0	0	0	0	2	2	2	2	2	2	5	5	5	5	5	5
Qb		0	1	2	3	0	1	2	3	4	5	0	1	2	3	4	5
Qc		2	3	4	5	4	5	6	7	8	9	7	8	9	10	11	12
Weight (kg) Note 5		1.5	1.7	1.8	2	2.1	2.3	2.5	2.6	2.8	2.9	3.1	3.2	3.4	3.5	3.7	3.8
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 3. When using the tap holes to mount the body, remove the set screws first.
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.

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

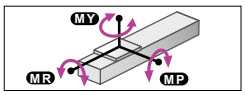
Note 1. RoHS2 (EU) 2015/863 compliant motor
Note 2. All robot cables are flexible cables. The robot cable dimensions drawing is provided on page 692.
Note 3. The brake unit cannot be used with an external brake power input.

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	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 (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 cleanness 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.

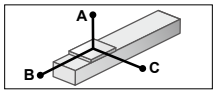
Static loading moment

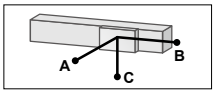


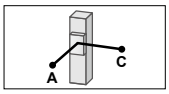
(Unit: N-m)

MY	MP	MR
72	72	64

Allowable overhang Note







GX05L-20

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

GX05L-10

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

GX05L-5

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 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

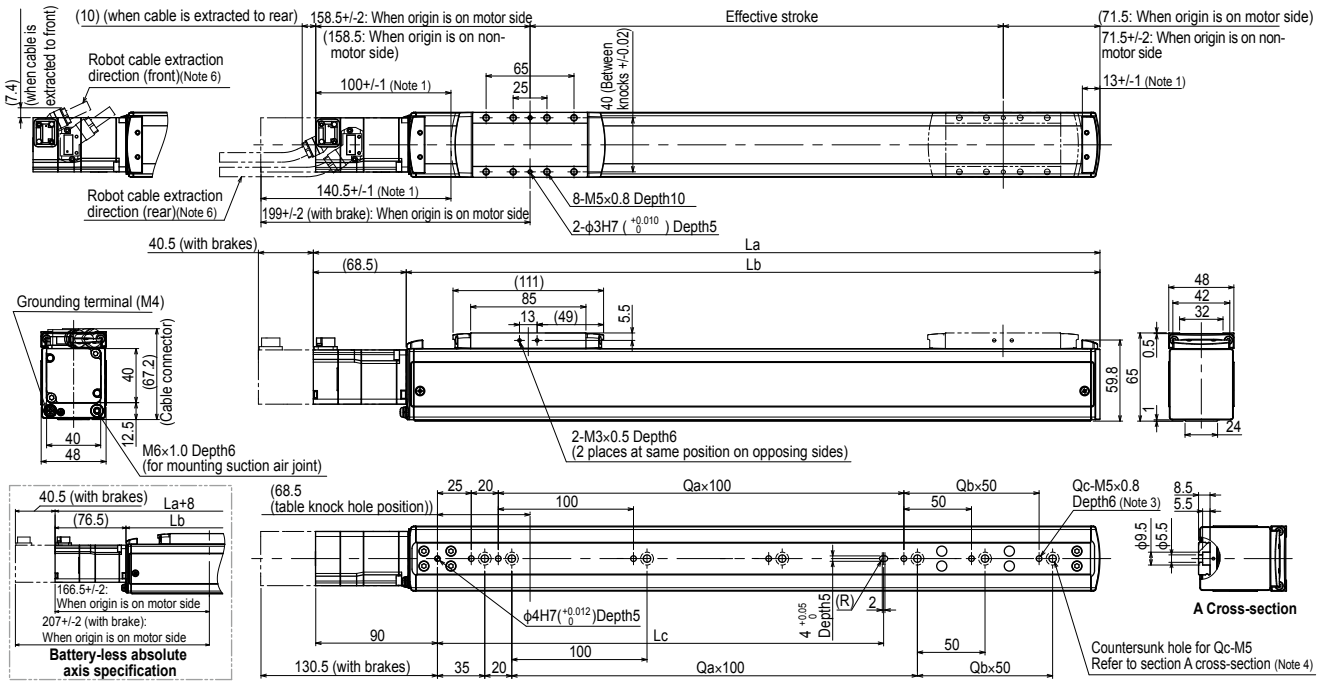
R5F (5 m/extracted to front)	
Encoder cable + Power cable set model	KES-M4720-50

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

GX05L



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.

GX07

Single-axis AC servo motor robot

Ordering method

GX07 - [ ] [ ] - **EU** - [ ] - [ ] [ ] - **A10** [ ] [ ]

Model	Lead	Motor specification	Motor type Note1	Stroke	Cable length Note2	Cable entry location	Driver	Brake unit Note3	Absolute battery
GX07	30: 30mm 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	EU	50 to 1100 (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

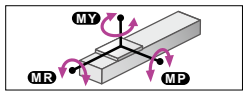
Note 1. RoHS2 (EU) 2015/863 compliant motor
Note 2. All robot cables are flexible cables. The robot cable dimensions drawing is provided on page 692.
Note 3. The brake unit cannot be used with an external brake power input.

Specifications

Motor	40 □ / 100 W				
Repeatability Note 1	+/-0.005 mm				
Deceleration mechanism	Ground ball screw ϕ 15 (Class C5)				
Stroke	50 mm to 1100 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	10 kg	25 kg	45 kg	85 kg
	Vertical	2 kg	4 kg	8 kg	16 kg
Rated thrust	56 N	84 N	169 N	339 N	
Maximum dimensions of cross section of main unit	W 70 mm × H 76.5 mm				
Overall length (Horizontal)	ST + 270.5 mm				
Overall length (Vertical)	ST + 311 mm				
Degree of cleanliness Note 3	ISO CLASS 3 (ISO14644-1) or equivalent				
Intake air Note 4	30 Nℓ/min to 115 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 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 cleanness 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.

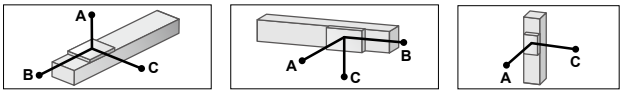
Static loading moment



(Unit: N-m)

MY	MP	MR
138	121	121

Allowable overhang Note



GX07-30

Horizontal installation (Unit: mm)

	A	B	C
2kg	3078	1509	1221
6kg	1191	501	418
10kg	957	317	282

Wall installation (Unit: mm)

	A	B	C
2kg	1237	1442	2975
6kg	393	435	1062
10kg	244	251	793

Vertical installation (Unit: mm)

	A	C
1kg	2335	2335
2kg	1158	1158

GX07-20

Horizontal installation (Unit: mm)

	A	B	C
10kg	1327	370	358
20kg	1136	186	188
25kg	1509	163	173

Wall installation (Unit: mm)

	A	B	C
10kg	313	304	1164
20kg	131	119	804
25kg	109	97	1010

Vertical installation (Unit: mm)

	A	C
1kg	3416	3416
2kg	1701	1701
4kg	841	841

GX07-10

Horizontal installation (Unit: mm)

	A	B	C
15kg	2420	338	372
30kg	1531	160	176
45kg	1181	101	111

Wall installation (Unit: mm)

	A	B	C
15kg	306	271	2192
30kg	106	94	1155
45kg	39	34	623

Vertical installation (Unit: mm)

	A	C
3kg	1688	1688
6kg	827	827
8kg	612	612

GX07-5

Horizontal installation (Unit: mm)

	A	B	C
30kg	2915	172	197
50kg	2535	96	110
85kg	2024	49	56

Wall installation (Unit: mm)

	A	B	C
30kg	122	106	2458
50kg	34	30	1476
85kg	0	0	0

Vertical installation (Unit: mm)

	A	C
6kg	907	907
9kg	591	591
16kg	314	314

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.

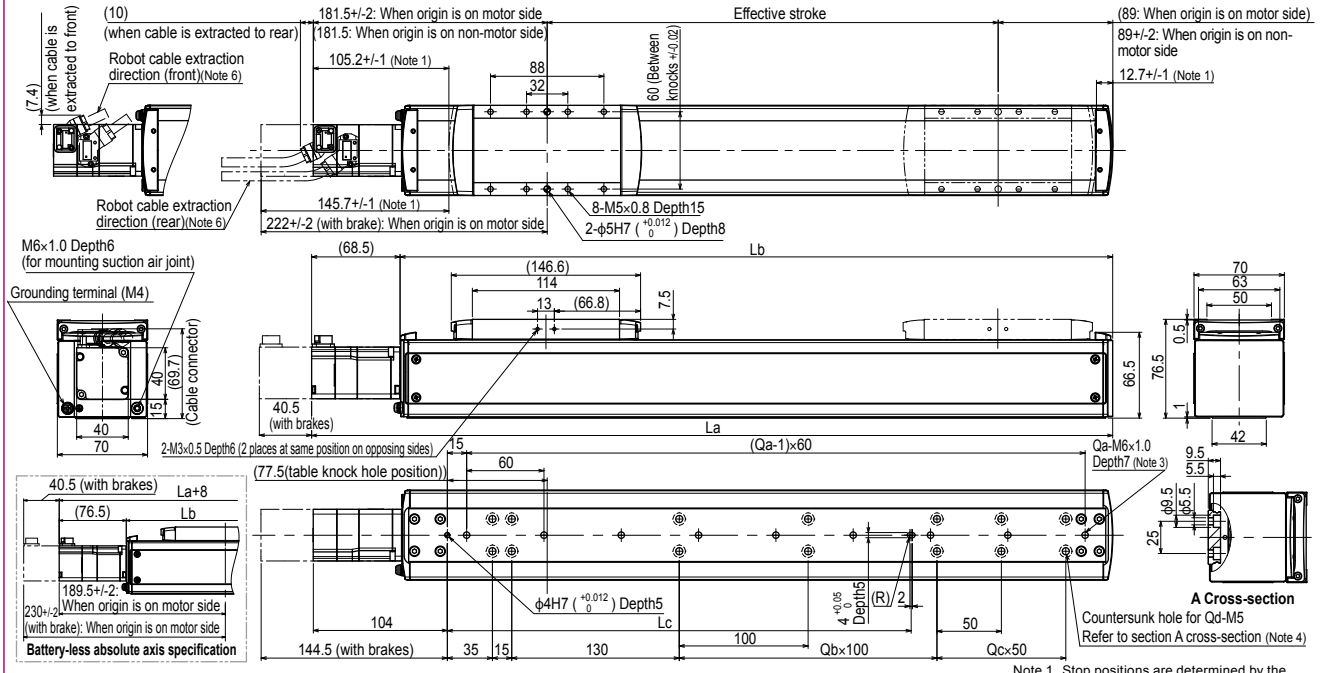
Robot cable

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

GX07



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	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
Lb	252	302	352	402	452	502	552	602	652	702	752	802	852	902	952	1002	1052	1102	1152	1202	1252	1302
Lc	160	160	160	160	360	360	360	360	360	360	360	360	760	760	760	760	760	760	760	760	760	760
Qa	4	5	5	6	7	8	9	10	10	11	12	13	14	15	15	16	17	18	19	20	20	21
Qb	0	0	0	0	2	2	2	2	2	2	2	6	6	6	6	6	6	6	6	6	6	6
Qc	0	1	2	3	0	1	2	3	4	5	6	7	0	1	2	3	4	5	6	7	8	9
Qd	6	8	10	12	10	12	14	16	18	20	22	24	18	20	22	24	26	28	30	32	34	36
Weight (kg) Note 5	3.6	3.8	4.1	4.4	4.7	4.9	5.2	5.5	5.7	6	6.3	6.6	6.8	7.1	7.4	7.6	7.9	8.2	8.5	8.7	9	9.3
Maximum speed (mm/sec) Lead 30	1800														1530	1350	1170	990	900	810	720	630
Maximum speed (mm/sec) Lead 20	1200														1020	900	780	660	600	540	480	420
Maximum speed (mm/sec) Lead 10	600														510	450	390	330	300	270	240	210
Maximum speed (mm/sec) Lead 5	300														255	225	195	165	150	135	120	105
Maximum speed (mm/sec) Speed setting	-														85%	75%	65%	55%	50%	45%	40%	35%

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.
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.
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.

GX10

Single-axis AC servo motor robot

Ordering method

GX10 – [ ] – [ ] **EU** – [ ] – [ ] – [ ] – **A10** – [ ] – [ ]

Model	Lead	Motor specification	Motor type Note1	Stroke	Cable length Note2	Cable entry location	Driver	Brake unit Note3	Absolute battery
GX10	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	100 to 1250 (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

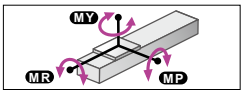
Note 1. RoHS2 (EU) 2015/863 compliant motor
Note 2. All robot cables are flexible cables. The robot cable dimensions drawing is provided on page 693.
Note 3. The brake unit cannot be used with an external brake power input.

Specifications

Motor		60 □ / 200 W			
Repeatability Note 1		+/-0.005 mm			
Deceleration mechanism		Ground ball screw ϕ 15 (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	25 kg	40 kg	80 kg	100 kg
	Vertical	4 kg	8 kg	20 kg	30 kg
Rated thrust		113 N	170 N	341 N	683 N
Maximum dimensions of cross section of main unit		W 100 mm × H 99.5 mm			
Overall length (Horizontal)		ST + 245 mm			
Overall length (Vertical)		ST + 285.5 mm			
Degree of cleanliness Note 3		ISO CLASS 3 (ISO14644-1) or equivalent			
Intake air Note 4		30 Nℓ/min to 90 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 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 cleanness 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.

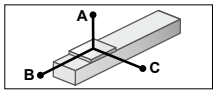
Static loading moment

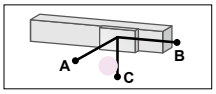


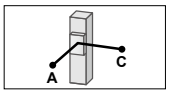
(Unit: N·m)

MY	MP	MR
274	274	241

Allowable overhang Note







GX10-30

Horizontal installation (Unit: mm)

	A	B	C
10kg	878	537	292
20kg	609	256	146
25kg	608	211	124

Wall installation (Unit: mm)

	A	B	C
10kg	271	473	803
20kg	118	192	481
25kg	93	147	454

Vertical installation (Unit: mm)

	A	C
1kg	4135	4135
4kg	985	985

GX10-20

Horizontal installation (Unit: mm)

	A	B	C
15kg	1269	451	282
25kg	754	253	158
40kg	466	142	88

Wall installation (Unit: mm)

	A	B	C
15kg	252	387	1159
25kg	123	189	629
40kg	51	78	311

Vertical installation (Unit: mm)

	A	C
3kg	2062	2062
6kg	1012	1012
8kg	750	750

GX10-10

Horizontal installation (Unit: mm)

	A	B	C
30kg	1794	298	203
50kg	1358	162	111
80kg	1266	86	59

Wall installation (Unit: mm)

	A	B	C
30kg	162	234	1623
50kg	68	98	1060
80kg	16	22	552

Vertical installation (Unit: mm)

	A	C
5kg	1926	1926
10kg	931	931
20kg	434	434

GX10-5

Horizontal installation (Unit: mm)

	A	B	C
30kg	5605	321	225
50kg	3694	177	124
80kg	2619	95	67
100kg	2224	68	48

Wall installation (Unit: mm)

	A	B	C
30kg	181	258	5195
50kg	79	113	3111
80kg	22	31	1557
100kg	0	0	0

Vertical installation (Unit: mm)

	A	C
10kg	1018	1018
20kg	477	477
30kg	296	296

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	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

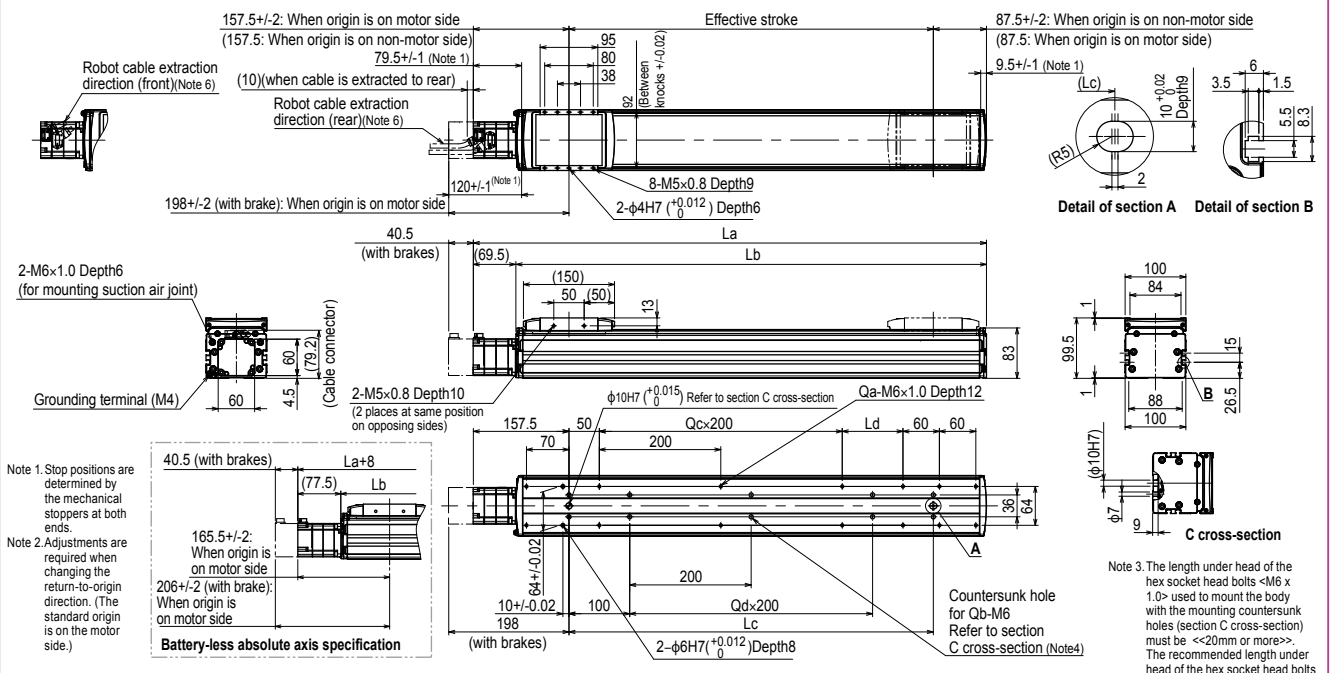
R5F (5 m/extracted to front)	
Encoder cable + Power cable set model	KEV-M4720-50

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

Driver unit

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

GX10



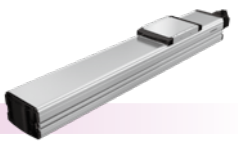
Note 1. Stop positions are determined by the mechanical stoppers at both ends.
Note 2. Adjustments are required when changing the return-to-origin direction. (The standard origin is on the motor side.)

Note 3. 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.

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	345	395	445	495	545	595	645	695	745	795	845	895	945	995	1045	1095	1145	1195	1245	1295	1345	1395	1445	1495
Lb	275.5	325.5	375.5	425.5	475.5	525.5	575.5	625.5	675.5	725.5	775.5	825.5	875.5	925.5	975.5	1025.5	1075.5	1125.5	1175.5	1225.5	1275.5	1325.5	1375.5	1425.5
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	5.4	5.9	6.4	6.9	7.4	7.9	8.4	8.9	9.4	9.9	10.4	10.9	11.4	11.9	12.4	12.9	13.4	13.9	14.4	14.9	15.4	15.9	16.4	16.9
Maximum speed (mm/sec) Lead 30	1800													1530	1350	1170	990	900	810	720	630	540		450
Lead 20	1200													1020	900	780	660	600	540	480	420	360		300
Lead 10	600													510	450	390	330	300	270	240	210	180		150
Lead 5	300													255	225	195	165	150	135	120	105	90		75
Speed setting	-													85%	75%	65%	55%	50%	45%	40%	35%	30%		25%

GX12

Single-axis AC servo motor robot



Ordering method

GX12 -			EU -				- A30		
Model	Lead	Motor specification	Motor type Note1	Stroke	Cable length Note2	Cable entry location	Driver	Brake unit Note3	Absolute battery
	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		100 to 1250 (50mm pitch)	R3: 3m R5: 5m R10: 10m	R: From rear of motor F: From front of motor	A30:YHX-A30-SET	V: With brake unit N: None	B: With absolute battery N: None

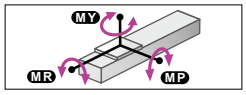
Note 1. RoHS2 (EU) 2015/863 compliant motor
Note 2. All robot cables are flexible cables. The robot cable dimensions drawing is provided on page 693.
Note 3. The brake unit cannot be used with an external brake power input.

Specifications

Motor	60 □ / 400 W			
Repeatability Note 1	+/-0.005 mm			
Deceleration mechanism	Ground ball screw ϕ 15 (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
Maximum payload 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 Nℓ/min to 90 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 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 cleanness 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.

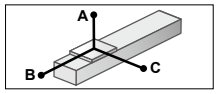
Static loading moment

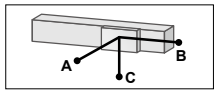


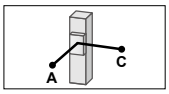
(Unit: N-m)

MY	MP	MR
334	334	294

Allowable overhang Note







GX12-30

Horizontal installation (Unit: mm)

	A	B	C
10kg	1796	1074	637
20kg	1300	531	332
35kg	1341	334	227

Wall installation (Unit: mm)

	A	B	C
10kg	631	1009	1720
20kg	316	466	1171
35kg	197	269	1130

Vertical installation (Unit: mm)

	A	C
3kg	2642	2642
6kg	1289	1289
8kg	951	951

GX12-20

Horizontal installation (Unit: mm)

	A	B	C
15kg	2231	904	613
30kg	1290	428	293
50kg	882	237	164

Wall installation (Unit: mm)

	A	B	C
15kg	591	839	2141
30kg	260	363	1167
50kg	126	172	710

Vertical installation (Unit: mm)

	A	C
5kg	2424	2424
10kg	1207	1207
15kg	803	803

GX12-10

Horizontal installation (Unit: mm)

	A	B	C
30kg	3109	607	456
50kg	2421	345	260
80kg	2417	198	150
95kg	2559	159	121

Wall installation (Unit: mm)

	A	B	C
30kg	413	542	2978
50kg	215	280	2208
80kg	103	133	1927
95kg	73	95	1830

Vertical installation (Unit: mm)

	A	C
10kg	1862	1862
15kg	1221	1221
25kg	708	708

GX12-5

Horizontal installation (Unit: mm)

	A	B	C
30kg	11079	653	504
50kg	7434	373	288
80kg	5458	215	166
115kg	4364	136	105

Wall installation (Unit: mm)

	A	B	C
30kg	456	588	10692
50kg	239	308	6935
80kg	117	150	4713
115kg	55	71	3221

Vertical installation (Unit: mm)

	A	C
15kg	1332	1332
30kg	634	634
45kg	402	402

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	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

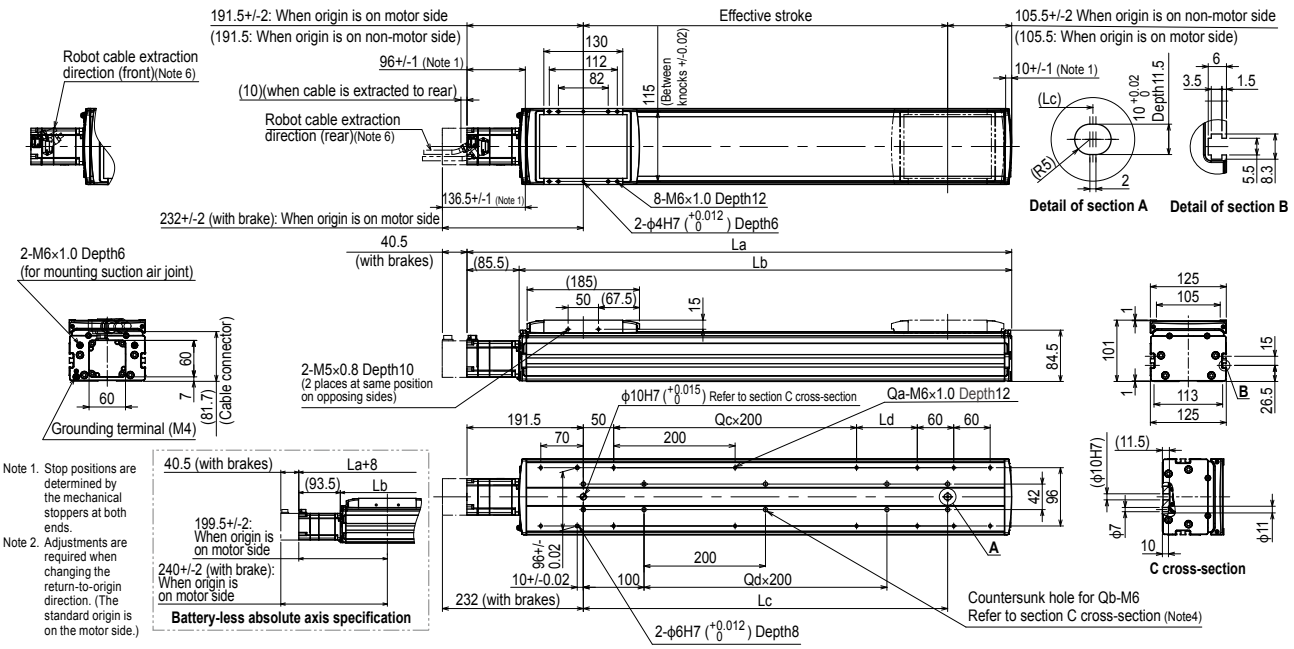
R10F (10 m/extracted to front)

Encoder cable + Power cable set model	KEV-M4720-A0

Driver unit

30A Spec.	Model	YHX-A30-SET
	Control method	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
Maximum speed (mm/sec) Lead 30	1800													1530	1350	1170	990	900	810	720	630	540		450
Maximum speed (mm/sec) Lead 20	1200													1020	900	780	660	600	540	480	420	360		300
Maximum speed (mm/sec) Lead 10	600													510	450	390	330	300	270	240	210	180		150
Maximum speed (mm/sec) Lead 5	300													255	225	195	165	150	135	120	105	90		75
Maximum speed (mm/sec) Speed setting	-													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.

GX16

Single-axis AC servo motor robot

Ordering method

GX16 - [ ] [ ] **EU** - [ ] - [ ] [ ] - **A30** [ ] [ ]

Model	Lead	Motor specification	Motor type Note1	Stroke	Cable length Note2	Cable entry location	Driver	Brake unit Note3	Absolute battery
GX16	40: 40mm 20: 20mm 10: 10mm	S80: Standard / With no brake BK80: Standard / With brake BL80: Battery-less absolute / With no brake BKBL80: Battery-less absolute / With brake	EU	100 to 1450 (50mm pitch)	R3: 3m R5: 5m R10: 10m	R: From rear of motor F: From front of motor	A30:YHX-A30-SET	V: With brake unit N: None	B: With absolute battery N: None

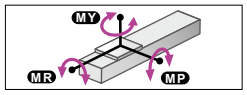
Note 1. RoHS2 (EU) 2015/863 compliant motor
Note 2. All robot cables are flexible cables. The robot cable dimensions drawing is provided on page 693.
Note 3. The brake unit cannot be used with an external brake power input.

Specifications

Motor		80 □ / 750 W		
Repeatability Note 1		+/-0.005 mm		
Deceleration mechanism		Ground ball screw ϕ20 (Class C5)		
Stroke		100 mm to 1450 mm (50mm pitch)		
Maximum speed Note 2		2400 mm/sec	1200 mm/sec	600 mm/sec
Ball screw lead		40 mm	20 mm	10 mm
Maximum payload	Horizontal	45 kg	95 kg	130 kg
	Vertical	12 kg	28 kg	55 kg
Rated thrust		320 N	640 N	1280 N
Maximum dimensions of cross section of main unit		W 160 mm × H 130 mm		
Overall length (Horizontal)		ST + 339.5 mm		
Overall length (Vertical)		ST + 386.5 mm		
Degree of cleanliness Note 3		ISO CLASS 3 (ISO14644-1) or equivalent		
Intake air Note 4		30 Nℓ/min to 90 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 800 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 cleanness 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.

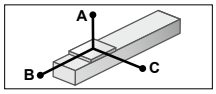
Static loading moment

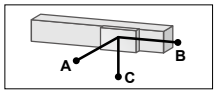


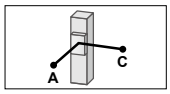
(Unit: N-m)

MY	MP	MR
706	706	620

Allowable overhang Note







GX16-40

Horizontal installation (Unit: mm)

	A	B	C
15kg	2876	1866	1253
30kg	2385	997	776
45kg	2339	720	604

Wall installation (Unit: mm)

	A	B	C
15kg	1273	1802	2797
30kg	782	935	2263
45kg	598	658	2174

Vertical installation (Unit: mm)

	A	C
3kg	6605	6605
6kg	3699	3699
12kg	2827	2827

GX16-20

Horizontal installation (Unit: mm)

	A	B	C
30kg	3862	1255	1106
50kg	2568	733	652
80kg	1798	440	394
95kg	1579	362	325

Wall installation (Unit: mm)

	A	B	C
30kg	1102	1192	3742
50kg	630	671	2422
80kg	360	377	1612
95kg	288	300	1373

Vertical installation (Unit: mm)

	A	C
10kg	3404	3404
20kg	1740	1740
28kg	1504	1504

GX16-10

Horizontal installation (Unit: mm)

	A	B	C
50kg	6253	1026	1024
80kg	4447	623	624
100kg	3957	489	490
130kg	3786	365	367

Wall installation (Unit: mm)

	A	B	C
50kg	980	964	6089
80kg	573	561	4240
100kg	437	426	3706
130kg	312	302	3422

Vertical installation (Unit: mm)

	A	C
15kg	3434	3434
30kg	1684	1684
55kg	889	889

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.

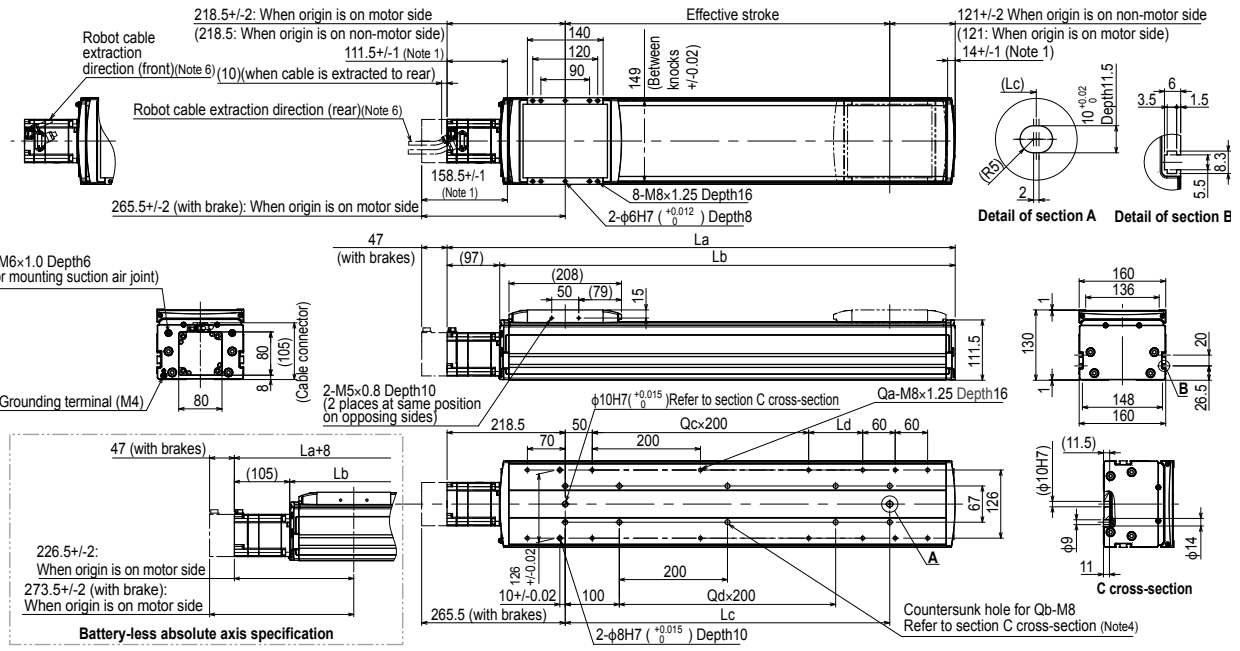
Robot cable

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

Driver unit

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

GX16



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. The length under head of the hex socket head bolts <M8 x 1.25> used to mount the body with the mounting countersunk holes (section C cross-section) must be <<25mm or more>>. The recommended length under head of the hex socket head bolts <M8 x 1.25> used to mount the body with the mounting tap hole specifications is <<frame thickness + 15 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 1.1 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.

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	1300	1350	1400	1450
La	439.5	489.5	539.5	589.5	639.5	689.5	739.5	789.5	839.5	889.5	939.5	989.5	1039.5	1089.5	1139.5	1189.5	1239.5	1289.5	1339.5	1389.5	1439.5	1489.5	1539.5	1589.5	1639.5	1689.5	1739.5	1789.5
Lb	342.5	392.5	442.5	492.5	542.5	592.5	642.5	692.5	742.5	792.5	842.5	892.5	942.5	992.5	1042.5	1092.5	1142.5	1192.5	1242.5	1292.5	1342.5	1392.5	1442.5	1492.5	1542.5	1592.5	1642.5	1692.5
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	1300	1350	1400	1450
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	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	20	22	22	22
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	16	18	18	18
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	5	6	6	6
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	5	6	6	6
Weight (kg) Note 5	13.9	14.9	15.9	16.9	17.9	18.8	19.8	20.8	21.8	22.8	23.7	24.7	25.7	26.7	27.7	28.7	29.6	30.6	31.6	32.6	33.6	34.6	35.5	36.5	37.5	38.5	39.5	40.4
Maximum speed (mm/sec) Lead 40	2400															2160	1920	1680	1440	1320	1200	1080	960		840	720		600
Lead 20	1200															1080	960	840	720	660	600	540	480		420	360		300
Lead 10	600															540	480	420	360	330	300	270	240		210	180		150
Speed setting	-															90%	80%	70%	60%	55%	50%	45%	40%		35%	30%		25%

GX20

Single-axis AC servo motor robot

Ordering method

GX20 - [ ] - [ ] **EU** - [ ] - [ ] - [ ] - **A30** - [ ] - [ ]

Model	Lead	Motor specification	Motor type Note1	Stroke	Cable length Note2	Cable entry location	Driver	Brake unit Note3	Absolute battery
GX20	40: 40mm 20: 20mm 10: 10mm	S80: Standard / With no brake BK80: Standard / With brake BL80: Battery-less absolute / With no brake BKBL80: Battery-less absolute / With brake	EU	100 to 1450 (50mm pitch)	R3: 3m R5: 5m R10: 10m	R: From rear of motor F: From front of motor	A30:YHX-A30-SET	V: With brake unit N: None	B: With absolute battery N: None

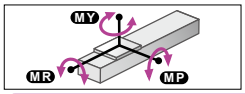
Note 1. RoHS2 (EU) 2015/863 compliant motor
Note 2. All robot cables are flexible cables. The robot cable dimensions drawing is provided on page 693.
Note 3. The brake unit cannot be used with an external brake power input.

Specifications

Motor		80 □ / 750 W		
Repeatability Note 1		+/-0.005 mm		
Deceleration mechanism		Ground ball screw ϕ 20 (Class C5)		
Stroke		100 mm to 1450 mm (50mm pitch)		
Maximum speed Note 2		2400 mm/sec	1200 mm/sec	600 mm/sec
Ball screw lead		40 mm	20 mm	10 mm
Maximum payload	Horizontal	65 kg	130 kg	160 kg
	Vertical	15 kg	35 kg	65 kg
Rated thrust		320 N	640 N	1280 N
Maximum dimensions of cross section of main unit		W 200 mm × H 140 mm		
Overall length (Horizontal)		ST + 385.5 mm		
Overall length (Vertical)		ST + 432.5 mm		
Degree of cleanliness Note 3		ISO CLASS 3 (ISO14644-1) or equivalent		
Intake air Note 4		30 Nℓ/min to 90 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 800 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 cleanness 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.

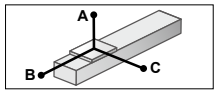
Static loading moment

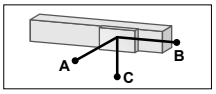


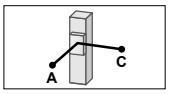
(Unit: N·m)

MY	MP	MR
1423	1423	1251

Allowable overhang Note







GX20-40

Horizontal installation (Unit: mm)

	A	B	C
20kg	5318	2821	2096
40kg	4836	1609	1369
65kg	4824	1088	1001

Wall installation (Unit: mm)

	A	B	C
20kg	2171	2751	5211
40kg	1417	1539	4667
65kg	1013	1018	4575

Vertical installation (Unit: mm)

	A	C
5kg	8187	8187
10kg	5203	5203
15kg	4810	4810

GX20-20

Horizontal installation (Unit: mm)

	A	B	C
50kg	5436	1493	1377
80kg	4417	911	854
100kg	4592	756	727
130kg	4338	596	584

Wall installation (Unit: mm)

	A	B	C
50kg	1390	1423	5265
80kg	849	841	4153
100kg	708	686	4253
130kg	550	526	3933

Vertical installation (Unit: mm)

	A	C
20kg	3436	3436
30kg	2600	2600
35kg	3073	3073

GX20-10

Horizontal installation (Unit: mm)

	A	B	C
40kg	22519	2607	2713
80kg	16716	1274	1331
120kg	14066	830	868
160kg	12284	608	637

Wall installation (Unit: mm)

	A	B	C
40kg	2704	2537	22210
80kg	1293	1204	16141
120kg	818	760	13223
160kg	580	538	11190

Vertical installation (Unit: mm)

	A	C
20kg	5157	5157
40kg	2553	2553
65kg	1600	1600

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.

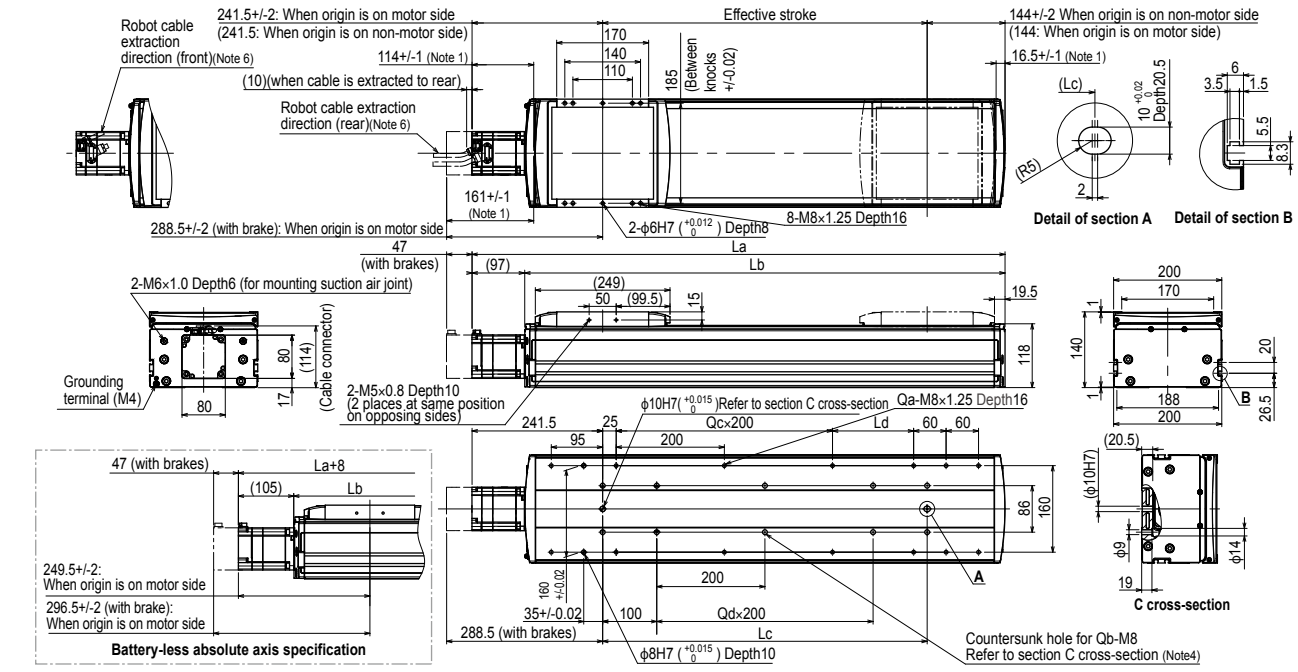
Robot cable

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

Driver unit

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

GX20

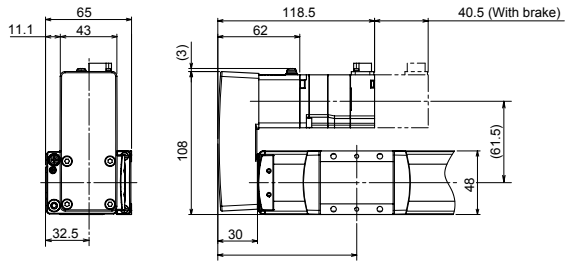


Note 1. Stop positions are determined by the mechanical stoppers at both ends.
Note 2. Adjustments are required when changing the return-to-origin direction.
(The standard origin is on the motor side.)
Note 3. The length under head of the hex socket head bolts <M8 x 1.25> used to mount the body with the mounting countersunk holes (section C cross-section) must be <<25mm or more>>. The recommended length under head of the hex socket head bolts <M8 x 1.25> used to mount the body with the mounting tap hole specifications is <<frame thickness + 15 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 1.1 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.

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	1300	1350	1400	1450
La	485.5	535.5	585.5	635.5	685.5	735.5	785.5	835.5	885.5	935.5	985.5	1035.5	1085.5	1135.5	1185.5	1235.5	1285.5	1335.5	1385.5	1435.5	1485.5	1535.5	1585.5	1635.5	1685.5	1735.5	1785.5	1835.5
Lb	388.5	438.5	488.5	538.5	588.5	638.5	688.5	738.5	788.5	838.5	888.5	938.5	988.5	1038.5	1088.5	1138.5	1188.5	1238.5	1288.5	1338.5	1388.5	1438.5	1488.5	1538.5	1588.5	1638.5	1688.5	1738.5
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	1300	1350	1400	1450
Ld	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200	50	100	150	200
Qa	10	10	10	10	12	12	12	12	14	14	14	14	16	16	16	16	18	18	18	18	20	20	20	20	22	22	22	22
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	16	18	18	18
Qc	0	0	0	0	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5	5	6	6	6	6
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	5	6	6	6
Weight (kg) Note 5	19.4	20.7	22	23.3	24.6	25.9	27.2	28.5	29.8	31	32.3	33.6	34.9	36.2	37.5	38.8	40.1	41.4	42.6	43.9	45.2	46.5	47.8	49.1	50.4	51.7	53	54.2
Maximum speed (mm/sec) Lead 40	2400															2160	1920	1680	1440	1320	1200	1080	960		840	720		600
Lead 20	1200															1080	960	840	720	660	600	540	480		420	360		300
Lead 10	600															540	480	420	360	330	300	270	240		210	180		150
Speed setting	-															90%	80%	70%	60%	55%	50%	45%	40%		35%	30%		25%

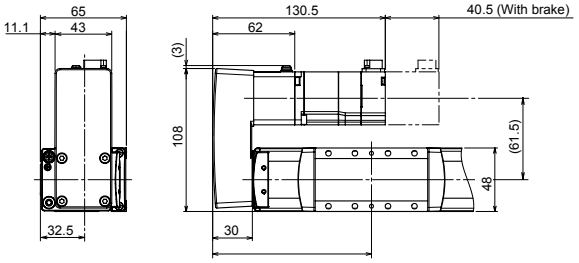
GX series Reference drawing for mounting bending unit (example of right side mounting)

GX05



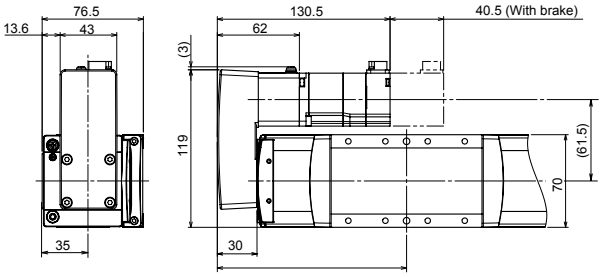
105+/-2: When origin is on motor side

GX05L



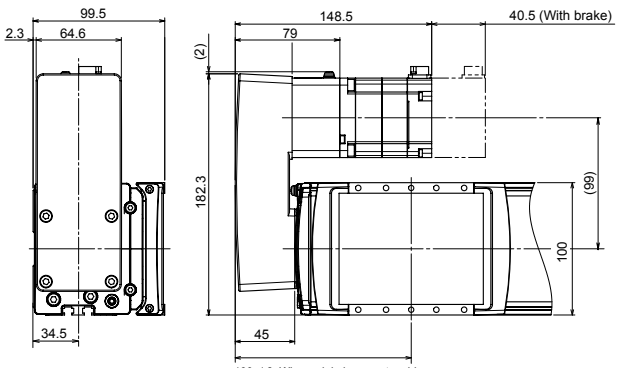
120+/-2: When origin is on motor side

GX07



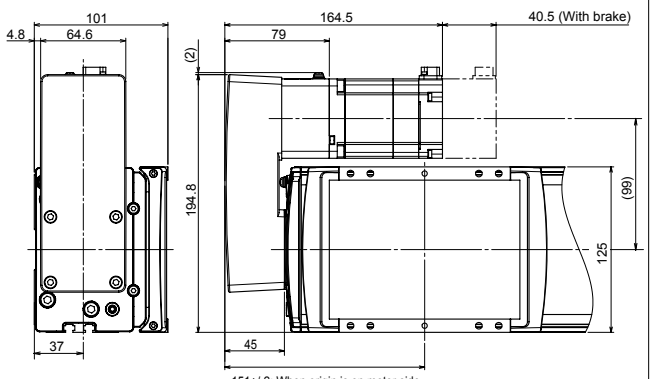
143+/-2: When origin is on motor side

GX10



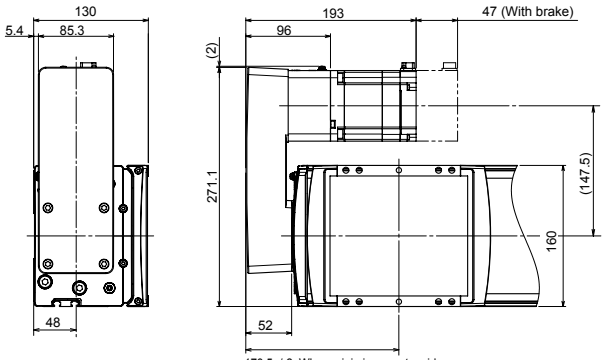
133+/-2: When origin is on motor side

GX12



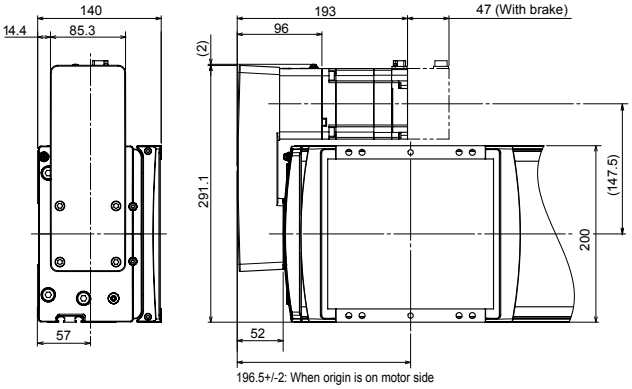
151+/-2: When origin is on motor side

GX16



173.5+/-2: When origin is on motor side

GX20



196.5+/-2: When origin is on motor side

*1. Mount the bending unit onto the body. Refer to the user's Manual for details on mounting.
*2. The motor is not enclosed with the bending unit. Remove the motor from the robot body, and mount the bending unit.
*3. The bending unit can be mounted on the right or left sides.

Model	Product model	Part No.	Weight
GX05, GX05L, GX07	GX-BEND-40	KES-M221M-00	0.4kg
GX10, GX12	GX-BEND-60	KEV-M221M-00	1.2kg
GX16, GX20	GX-BEND-80	KEX-M221M-00	2.7kg