

With coupling

Low Profile Single Axis Electric Actuator

Series **LG1H**

High Rigidity Direct Acting Guide

Series	Motor type	Guide type	Mounting orientation	Motor/Screw connection	Model	Lead screw <small>lead</small> mm		Page
						Ground ball screw	Rolled ball screw	
LG1H	Standard motor	High rigidity direct acting guide	Horizontal	With coupling	LG1H21	10	20	P.684
	Non-standard motor			With coupling	LG1H21	10	20	P.694

- Options _____ P.658
- Construction _____ P.714
- Mounting _____ P.716
- Non-standard Motor Mounting _____ P.717
- Deflection Data _____ P.718

LJ1

LG1

LTF

LC1

LC7

LC8

LXF

LXP

LXS

LC6□

LZ□

LC3F2

X□

D-□

E-MY

Part Number Designations

LG1 H 21 □ G 2 1 P A - 100 - F □ - X10

Guide type

H High rigidity direct acting guide

Series

21 With coupling

Controller

Nil	LC1 controller compatible
8	LC8 controller compatible

Motor specification

Nil	Standard motor
R	Mitsubishi Electric Corporation

Motor output

2	100 W
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Power supply voltage

1	100/110 VAC (50/60 Hz)
	100/115 VAC (50/60 Hz)
2	200/220 VAC (50/60 Hz)
	200/230 VAC (50/60 Hz)
0	Without motor

Stroke (mm)

100

Lead screw lead

A	10 mm
C	20 mm

Lead screw type

P	Ground ball screw
N	Rolled ball screw

Cable entry direction

F Axial

Switch

Nil	None
W	N.C. (B contact) NPN: 2 pcs.
H	N.C. (B contact) PNP: 2 pcs.

Cable length

2	2 m
3	3 m
4	4 m
5	5 m

X10 Non-standard motor Note

The tables above show the definition for each symbol only and cannot be used for actual model selection.

Standard Motor/ Horizontal Mount With Coupling

Motor Output
100 W

High Rigidity
Direct Acting
Guide

Ground Ball Screw
∅15 mm / 10 mm lead

Series **LG1H21**

How to Order

LC1 controller compatible

LG1H21 21 PA - 300 - F 2

LC8 controller compatible

LG1H218 21 PA - 300 - F 2 - []

Power supply voltage

Symbol	Power supply voltage	Compatible controller
21	100/110 VAC (50/60 Hz)	LC1, LC8
22*	200/220 VAC (50/60 Hz)	LC1
	200/230 VAC (50/60 Hz)	LC8

* The power supply voltage range differs according to each controller series.

Stroke (mm)
Refer to the standard stroke.

Cable entry directions

F	Axial
R	Right
L	Left
T	Top
B	Bottom

CE marking

Nil	—
Q	CE marked products

Cable length

2	2 m
3	3 m
4	4 m
5	5 m

Specifications

Standard stroke (mm)		100	200	300	400
Performance	Body weight (kg)	5.3	6.1	6.9	7.7
	Operating temperature range (°C)	5 to 40 (No condensation)			
	Work load (kg)	30			
	Maximum speed (mm/s)	500			
	Positioning repeatability (mm)	±0.02			
Main parts	Motor	AC servomotor (100 W)			
	Encoder	Incremental system			
	Lead screw	Ground ball screw ∅15 mm, 10 mm lead			
	Guide	High rigidity direct acting guide			
	Motor/Screw connection	With coupling			
Controller	Model	LC1	LC1-1D2HA□-□□ (Refer to page 829 for details.)		
		LC8	LC8-B2H□□-□□-□ (Refer to page 853 for details.)		

Intermediate strokes

For manufacture of strokes other than the standard strokes on the left, add "-X2" at the end of the part number.

Applicable strokes: 150, 250, 350
Example) **LG1H2121PA-150-F2-X2**
Example) **LG1H21821PA-150-F2-X2-Q**



Made to order specifications
(For details, refer to page 999)

Symbol	Specifications
X8	Dust seal specification

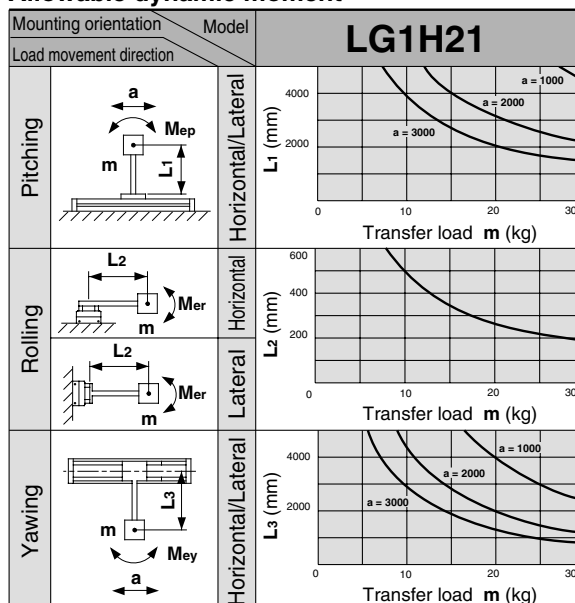
Allowable Moment (N·m)

Allowable static moment

Pitching	142
Rolling	79
Yawing	150

m : Transfer load (kg)
a : Work piece acceleration (mm/s²)
Me : Dynamic moment
L : Overhang to work piece center of gravity (mm)

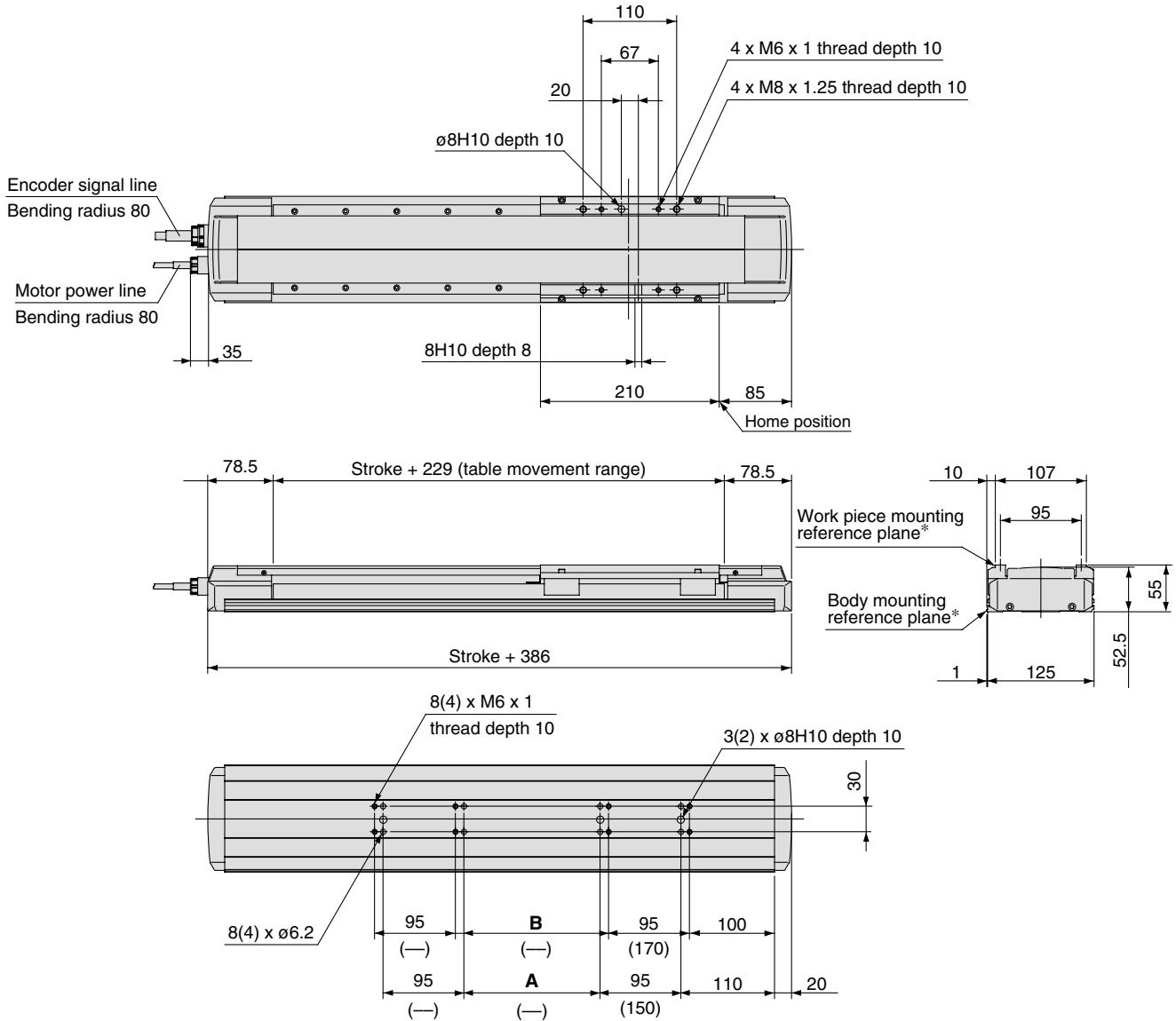
Allowable dynamic moment



Refer to page 718 for deflection data.

Standard Motor/Horizontal Mount Specification With Coupling **Series LG1H21**

Dimensions/LG1H212□PA



Model	Stroke	A	B
LG1H212□PA-100-F□*	100	—	—
LG1H212□PA-200-F□	200	60	80
LG1H212□PA-300-F□	300	160	180
LG1H212□PA-400-F□	400	260	280

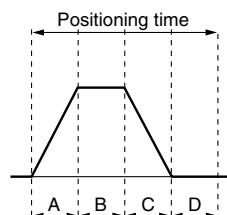
* Dimensions inside () are for a 100 mm stroke.

* The body mounting reference plane and work piece mounting reference plane should be used as standards when mounting onto equipment. Refer to page 716 for mounting.

Positioning Time Guide

		Positioning time (sec.)				
		1	10	100	200	400
Speed (mm/s)	10	0.5	1.4	10.4	20.4	40.4
	100	0.5	0.6	1.5	2.5	4.5
	250	0.5	0.6	0.9	1.3	2.1
	500	0.5	0.6	0.8	1.0	1.4

* Values will vary slightly depending on the operating conditions.



A: Acceleration time
B: Constant velocity time
C: Deceleration time
D: Resting time (0.4 sec.)
Maximum acceleration: 3000 mm/s²

LJ1

LG1

LTF

LC1

LC7

LC8

LXF

LXP

LXS

LC6□

LZ□

LC3F2

X□

D-□

E-MY

Standard Motor/ Horizontal Mount With Coupling

Motor Output
100 W

High Rigidity
Direct Acting
Guide

Ground Ball Screw
Ø 15 mm / 20 mm lead

Series **LG1H21**

How to Order

LC1 controller compatible

LG1H21 **21** **PC** - **500** - **F** **2**

LC8 controller compatible

LG1H218 **21** **PC** - **500** - **F** **2** -

Power supply voltage

Symbol	Power supply voltage	Compatible controller
21	100/110 VAC (50/60 Hz)	LC1, LC8
22*	200/220 VAC (50/60 Hz)	LC1
	200/230 VAC (50/60 Hz)	LC8

* The power supply voltage range differs according to each controller series.

Stroke (mm)
Refer to the standard stroke.

Cable entry directions

F	Axial
R	Right
L	Left
T	Top
B	Bottom

CE marking

Nil	—
Q	CE marked products

Cable length

2	2 m
3	3 m
4	4 m
5	5 m

Specifications

		Standard stroke (mm)		500	600	700	800	900	1000
Performance	Body weight (kg)			8.5	9.3	10.1	10.9	11.7	12.5
	Operating temperature range (°C)			5 to 40 (No condensation)					
	Work load (kg)			30					
	Maximum speed ^{Note)} (mm/s)			1000	1000	930	740	600	500
	Positioning repeatability (mm)			±0.02					
Main parts	Motor			AC servomotor (100 W)					
	Encoder			Incremental system					
	Lead screw			Ground ball screw Ø15 mm, 20 mm lead					
	Guide			High rigidity direct acting guide					
Motor/Screw connection				With coupling					
Controller	Model	LC1	LC1-1D2HC□-□□ (Refer to page 829 for details.)						
		LC8	LC8-B2H□□-□□-□ (Refer to page 853 for details.)						

Note) The speed is limited by the transfer load. Refer to the maximum speeds for each transfer load on the next page.

Intermediate strokes

For manufacture of strokes other than the standard strokes on the left, add "-X2" at the end of the part number.

Applicable strokes: 450, 550, 650, 750, 850, 950

Example) **LG1H2121PC-550-F2-X2**

Example) **LG1H21821PC-150-F2-X2-Q**



Made to order specifications
(For details, refer to page 999)

Symbol	Specifications
X8	Dust seal specification

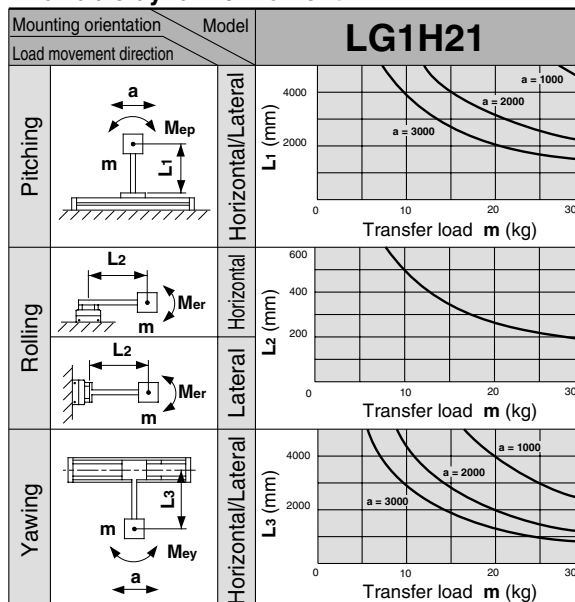
Allowable Moment (N·m)

Allowable static moment

Pitching	142
Rolling	79
Yawing	150

m : Transfer load (kg)
a : Work piece acceleration (mm/s²)
Me : Dynamic moment
L : Overhang to work piece center of gravity (mm)

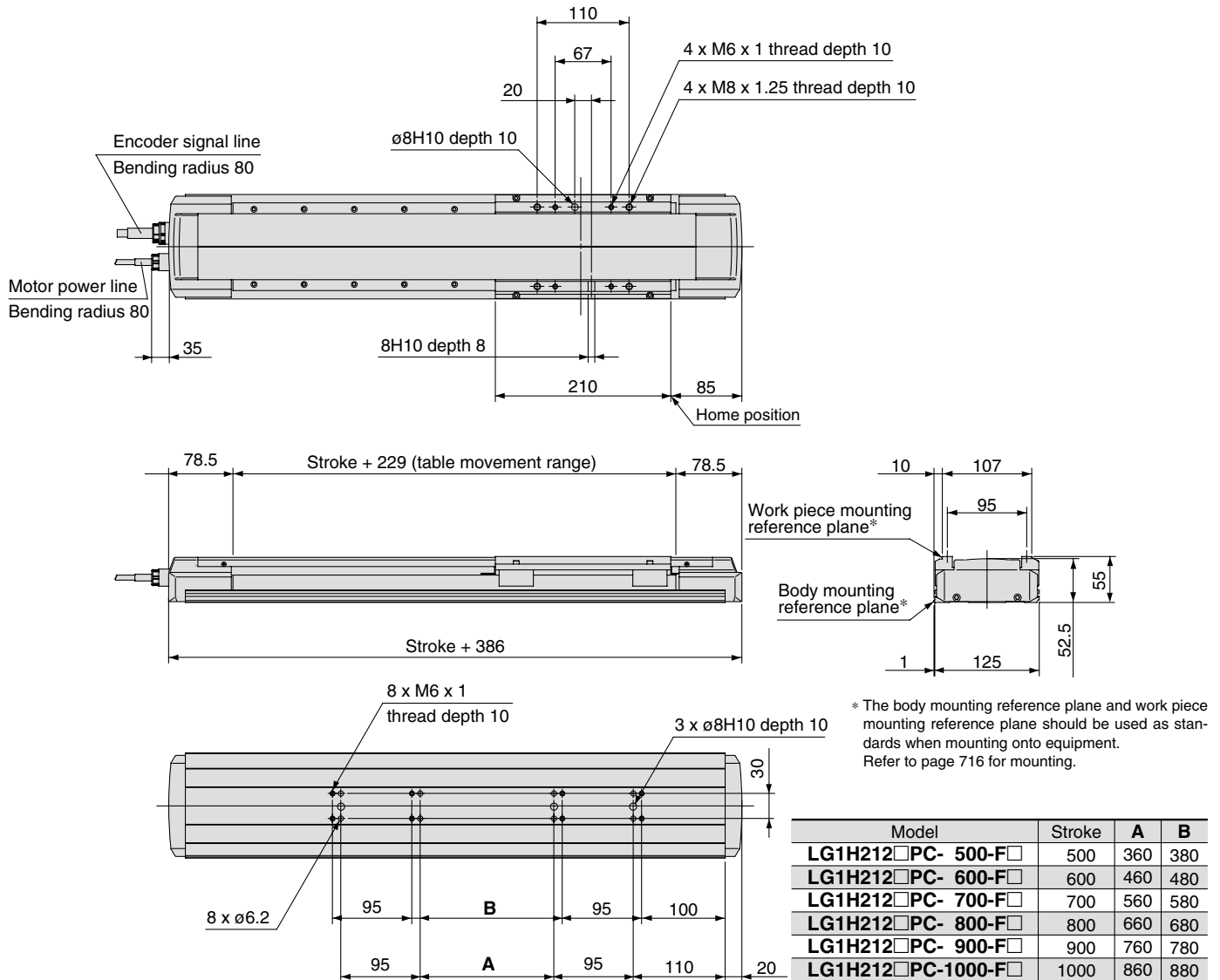
Allowable dynamic moment



Refer to page 718 for deflection data.

Standard Motor/Horizontal Mount Specification With Coupling **Series LG1H21**

Dimensions/LG1H212□PC

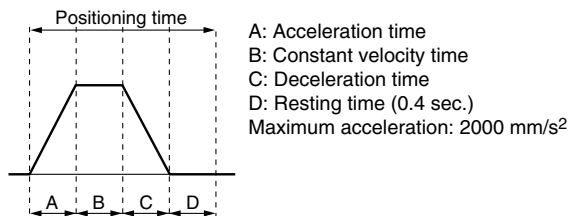


- LJ1
- LG1**
- LTF
- LC1
- LC7
- LC8
- LXF
- LXP
- LXS
- LC6□
- LZ□
- LC3F2
- X□
- D-□
- E-MY

Positioning Time Guide

		Positioning time (sec.)				
		1	10	100	500	1000
Speed (mm/s)	10	0.5	1.5	10.5	50.5	100.5
	100	0.5	0.6	1.5	5.5	10.5
	500	0.5	0.6	0.9	1.7	2.7
	1000	0.5	0.6	0.9	1.4	1.9

* Values will vary slightly depending on the operating conditions.



Maximum Speeds for Each Transfer Load

Model	Transfer load (kg)				Note
	15	20	25	30	
LG1H212□PC-500-F□	1000	700	500	500	Power supply: 100/110 (V)AC ±10% Compatible controller: LC1-1□2HC1-□□
LG1H212□PC-600-F□	1000	700	500	500	
LG1H212□PC-700-F□	930	600	500	500	
LG1H212□PC-800-F□	740	600	500	500	Power supply: 200/220 (V)AC ±10% Compatible controller: LC1-1□2HC2-□□
LG1H212□PC-900-F□	600	500	500	500	
LG1H212□PC-1000-F□	500	500	500	500	

* Consult SMC if outside of the above conditions.



Standard Motor/ Horizontal Mount With Coupling

Motor Output
100 W

High Rigidity
Direct Acting
Guide

Rolled Ball Screw
∅15 mm / 10 mm lead

Series **LG1H21**

How to Order

LC1 controller compatible **LG1H21** **21** **NA** - **300** - **F** **2**

LC8 controller compatible **LG1H218** **21** **NA** - **300** - **F** **2** -

Power supply voltage

Symbol	Power supply voltage	Compatible controller
21	100/110 VAC (50/60 Hz)	LC1, LC8
22*	200/220 VAC (50/60 Hz)	LC1
	200/230 VAC (50/60 Hz)	LC8

* The power supply voltage range differs according to each controller series.

Stroke (mm)
Refer to the standard stroke.

Cable entry directions

F	Axial
R	Right
L	Left
T	Top
B	Bottom

CE marking

Nil	—
Q	CE marked products

Cable length

2	2 m
3	3 m
4	4 m
5	5 m

Specifications

Standard stroke (mm)		100	200	300	400
Performance	Body weight (kg)	5.3	6.1	6.9	7.7
	Operating temperature range (°C)	5 to 40 (No condensation)			
	Work load (kg)	30			
	Maximum speed (mm/s)	500			
	Positioning repeatability (mm)	±0.05			
Main parts	Motor	AC servomotor (100 W)			
	Encoder	Incremental system			
	Lead screw	Rolled ball screw ∅15 mm, 10 mm lead			
	Guide	High rigidity direct acting guide			
Motor/Screw connection		With coupling			
Controller	Model	LC1	LC1-1D2HA□-□□ (Refer to page 829 for details.)		
		LC8	LC8-B2H□□-□□-□ (Refer to page 853 for details.)		

Intermediate strokes

For manufacture of strokes other than the standard strokes on the left, add "-X2" at the end of the part number.

Applicable strokes: 150, 250, 350

Example) **LG1H2121NA-150-F2-X2**
Example) **LG1H21821NA-150-F2-X2-Q**



Made to order specifications
(For details, refer to page 999)

Symbol	Specifications
X8	Dust seal specification

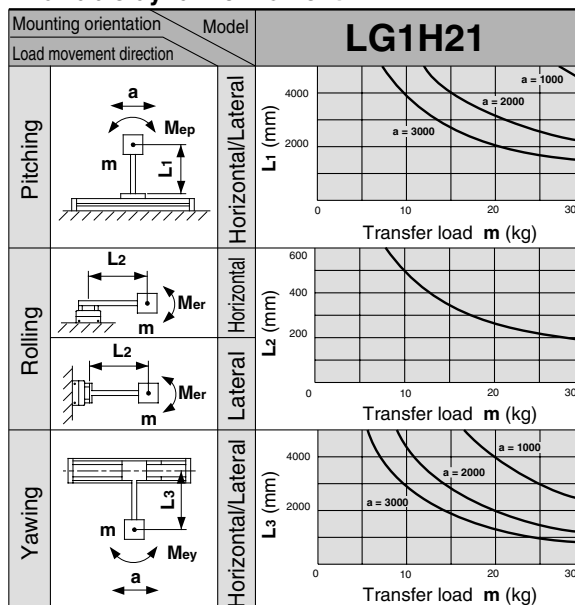
Allowable Moment (N·m)

Allowable static moment

Pitching	142
Rolling	79
Yawing	150

m : Transfer load (kg)
a : Work piece acceleration (mm/s²)
Me : Dynamic moment
L : Overhang to work piece center of gravity (mm)

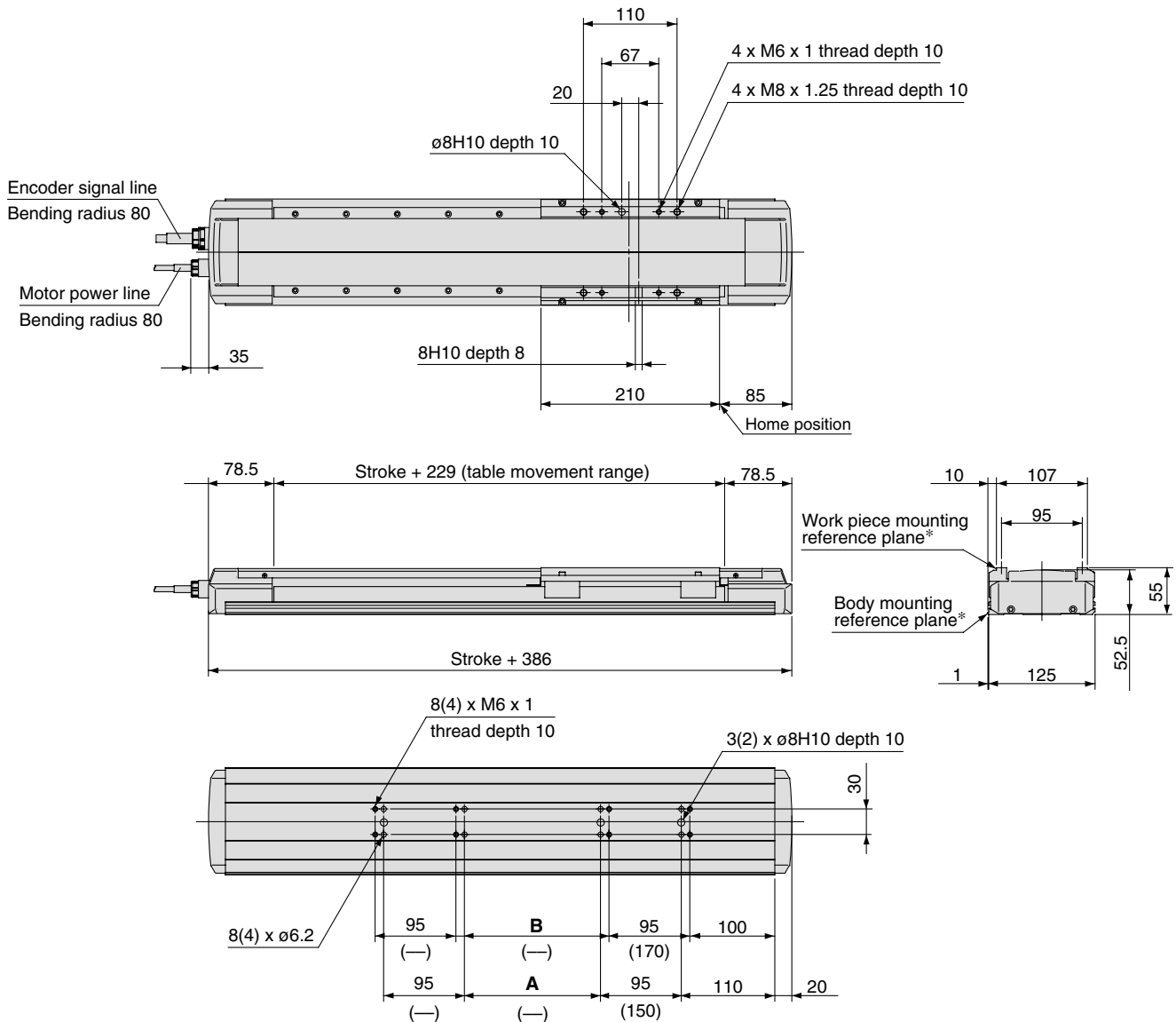
Allowable dynamic moment



Refer to page 718 for deflection data.

Standard Motor/Horizontal Mount Specification With Coupling **Series LG1H21**

Dimensions/LG1H212□NA



Model	Stroke	A	B
LG1H212□NA-100-F□*	100	—	—
LG1H212□NA-200-F□	200	60	80
LG1H212□NA-300-F□	300	160	180
LG1H212□NA-400-F□	400	260	280

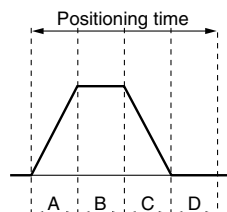
* Dimensions inside () are for a 100 mm stroke.

* The body mounting reference plane and work piece mounting reference plane should be used as standards when mounting onto equipment. Refer to page 716 for mounting.

Positioning Time Guide

		Positioning time (sec.)				
		1	10	100	200	400
Speed (mm/s)	10	0.5	1.4	10.4	20.4	40.4
	100	0.5	0.6	1.5	2.5	4.5
	250	0.5	0.6	0.9	1.3	2.1
	500	0.5	0.6	0.8	1.0	1.4

* Values will vary slightly depending on the operating conditions.



A: Acceleration time
B: Constant velocity time
C: Deceleration time
D: Resting time (0.4 sec.)
Maximum acceleration: 3000 mm/s²

LJ1

LG1

LTF

LC1

LC7

LC8

LXF

LXP

LXS

LC6□

LZ□

LC3F2

X□

D-□

E-MY

Standard Motor/ Horizontal Mount With Coupling

Motor Output
100 W

High Rigidity
Direct Acting
Guide

Rolled Ball Screw
Ø 15 mm / 20 mm lead

Series **LG1H21**

How to Order

LC1 controller compatible

LG1H21 **21** **NC** - **500** - **F** **2**

LC8 controller compatible

LG1H218 **21** **NC** - **500** - **F** **2** -

Power supply voltage

Symbol	Power supply voltage	Compatible controller
21	100/110 VAC (50/60 Hz)	LC1, LC8
22*	200/220 VAC (50/60 Hz)	LC1
	200/230 VAC (50/60 Hz)	LC8

* The power supply voltage range differs according to each controller series.

• **Stroke (mm)**
Refer to the standard stroke.

• **Cable entry directions**

F	Axial
R	Right
L	Left
T	Top
B	Bottom

• **CE marking**

Nil	—
Q	CE marked products

• **Cable length**

2	2 m
3	3 m
4	4 m
5	5 m

Specifications

Standard stroke (mm)		500	600	700	800	900	1000
Performance	Body weight (kg)	8.5	9.3	10.1	10.9	11.7	12.5
	Operating temperature range (°C)	5 to 40 (No condensation)					
	Work load (kg)	30					
	Maximum speed (mm/s)	1000	1000	930	740	600	500
	Positioning repeatability (mm)	±0.05					
Main parts	Motor	AC servomotor (100 W)					
	Encoder	Incremental system					
	Lead screw	Rolled ball screw Ø15 mm, 20 mm lead					
	Guide	High rigidity direct acting guide					
	Motor/Screw connection	With coupling					
Controller	Model	LC1	LC1-1D2HC□-□□ (Refer to page 829 for details.)				
		LC8	LC8-B2H□□-□□-□ (Refer to page 853 for details.)				

Note) The speed is limited by the transfer load. Refer to the maximum speeds for each transfer load on the next page.

Intermediate strokes

For manufacture of strokes other than the standard strokes on the left, add "-X2" at the end of the part number.

Applicable strokes: 150, 250, 350

Example) **LG1H2121NC-550-F2-X2**
Example) **LG1H21821NC-150-F2-X2-Q**



Made to order specifications
(For details, refer to page 999)

Symbol	Specifications
X8	Dust seal specification

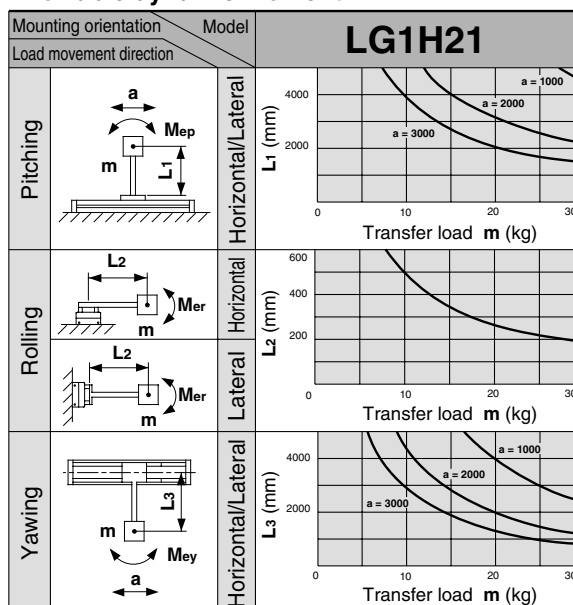
Allowable Moment (N·m)

Allowable static moment

Pitching	142
Rolling	79
Yawing	150

m : Transfer load (kg)
a : Work piece acceleration (mm/s²)
Me : Dynamic moment
L : Overhang to work piece center of gravity (mm)

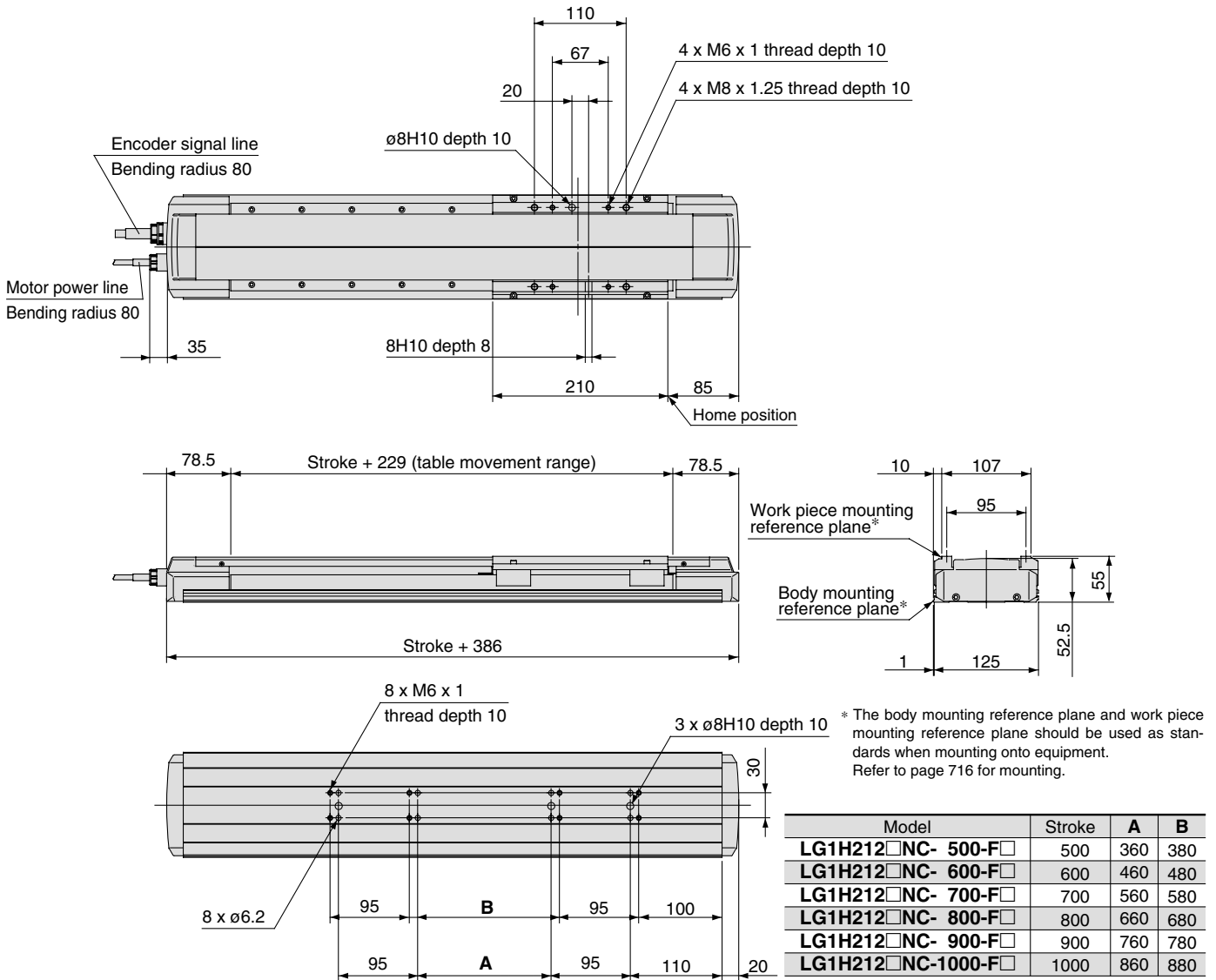
Allowable dynamic moment



Refer to page 718 for deflection data.

Standard Motor/Horizontal Mount Specification With Coupling **Series LG1H21**

Dimensions/LG1H212□NC

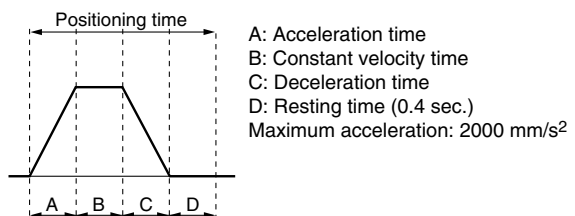


- LJ1
- LG1**
- LTF
- LC1
- LC7
- LC8
- LXF
- LXP
- LXS
- LC6□
- LZ□
- LC3F2
- X□
- D-□
- E-MY

Positioning Time Guide

		Positioning time (sec.)				
Positioning distance (mm)		1	10	100	500	1000
Speed (mm/s)	10	0.5	1.5	10.5	50.5	100.5
	100	0.5	0.6	1.5	5.5	10.5
	500	0.5	0.6	0.9	1.7	2.7
	1000	0.5	0.6	0.9	1.4	1.9

* Values will vary slightly depending on the operating conditions.



Maximum Speeds for Each Transfer Load

Model	Transfer load (kg)				Note
	15	20	25	30	
LG1H212□NC-500-F□	1000	700	500	500	Power supply: 100/110 (V)AC ±10% Compatible controller: LC1-1□2HC1-□□
LG1H212□NC-600-F□	1000	700	500	500	
LG1H212□NC-700-F□	930	600	500	500	
LG1H212□NC-800-F□	740	600	500	500	Power supply: 200/220 (V)AC ±10% Compatible controller: LC1-1□2HC2-□□
LG1H212□NC-900-F□	600	500	500	500	
LG1H212□NC-1000-F□	500	500	500	500	

* Consult SMC if outside of the above conditions.



Non-standard Motor/ Horizontal Mount With Coupling

Series LG1H21

Motor Output
100 W

High Rigidity
Direct Acting
Guide

Ground Ball Screw
∅15 mm / 10 mm lead

How to Order

LG1H21 R21 PA - 300 - F W - X10

● **Motor specification**

● **Stroke (mm)**
Refer to the standard stroke.

● **Switch**

Nil	None
W	N.C. (B contact) NPN: 2 pcs.

Symbol	Motor manufacturer	Motor model	Motor output	Compatible driver model	Power supply voltage
R21	Mitsubishi Electric Corporation	HC-PQ13	100 W	MR-C10A1	100/115 VAC
R22				MR-C10A	200/230 VAC
R20				—	—

* Motor/driver is included for R21 and R22.
Refer to page 717 for motor mounting dimensions.
Cable for joining motor and driver is optional.
Refer to page 659 for part nos.
Please contact individual motor manufacturers regarding motor/driver specifications or other details.

Specifications

		Standard stroke (mm)	100	200	300	400
Performance	Body weight (without motor) (kg)		5.2	6.0	6.8	7.6
	Operating temperature range (°C)		5 to 40 (No condensation)			
	Work load (kg)		30			
	Maximum speed (mm/s)		500			
	Positioning repeatability (mm)		±0.02			
Main parts	Motor		AC servomotor (100 W)			
	Encoder		Incremental system			
	Lead screw		Ground ball screw ∅15 mm, 10 mm lead			
	Guide		High rigidity direct acting guide			
	Motor/Screw connection		With coupling			
Switch	Model		Photo micro sensor EE-SX674 (Refer to page 1084 for details.)			

Intermediate strokes

Strokes other than the standard strokes on the left are available by special order. Consult SMC.



Made to order specifications
(For details, refer to page 999)

Symbol	Specifications
X8	Dust seal specification

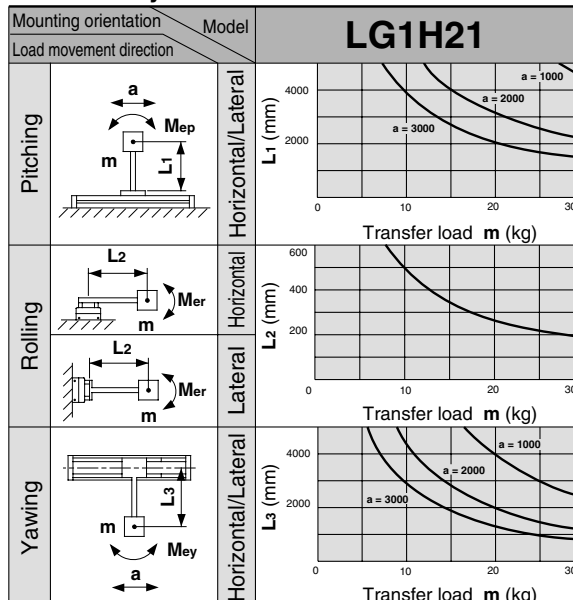
Allowable Moment (N·m)

Allowable static moment

Pitching	142
Rolling	79
Yawing	150

m : Transfer load (kg)
a : Work piece acceleration (mm/s²)
Me: Dynamic moment
L : Overhang to work piece center of gravity (mm)

Allowable dynamic moment



Refer to page 718 for deflection data.

Non-standard Motor/ Horizontal Mount With Coupling

Motor Output
100 W

High Rigidity
Direct Acting
Guide

Ground Ball Screw
∅ 15 mm / 10 mm lead

Series **LG1H21**

How to Order

LG1H21 **R21** **PA** - **300** - F **H** - X10 - **Q**

• Switch

• CE marking

Nil	None
H	N.C. (B contact) PNP: 2 pcs.
W	N.C. (B contact) NPN: 2 pcs.

• Stroke (mm)

For details, refer to page 696.

• Motor specification

Symbol	Motor manufacturer	Motor model	Motor output	Compatible driver model	Power supply voltage
R21	Mitsubishi Electric Corporation*2	HC-PQ13	100 W	MR-C10A1-UE	100/115 VAC
R22				MR-C10A-UE	200/230 VAC
R29				—	—
R20*1		—	—	—	—
RM21		HC-MFS13	100 W	MR-J2S-10A1	AC100/115V
RM22				MR-J2S-10A	AC200/230V
RM29				—	—
RM20*1		—	—	—	—
RK21		HC-KFS13	100 W	MR-J2S-10A1	AC100/115V
RK22				MR-J2S-10A	AC200/230V
RK29				—	—
RK20*1		—	—	—	—
RP21		HF-KP13	100 W	MR-J3-10A1	AC100/115V
RP22				MR-J3-10A	AC200/230V
RP29				—	—
RP20*1		—	—	—	—

*1 Without motor/driver. Refer to page 717 for motor mounting dimensions.

*2 Can be supplied including motor/driver for non-standard motors by Mitsubishi Electric Corporation.
Cable for joining motor and driver is optional.
Refer to page 659 for part nos.

Please contact individual motor manufacturers regarding motor/driver specifications or other details.

*3 For with RP (motor symbol) motors, the motor will not be mounted, but packed in the same container as the main body.



Made to order specifications
(For details, refer to page 999)

Symbol	Specifications
X8	Dust seal specification

LJ1

LG1

LTF

LC1

LC7

LC8

LXF

LXP

LXS

LC6□

LZ□

LC3F2

X□

D-□

E-MY

Series LG1H21

Specifications

Standard stroke (mm)		100	200	300	400
Performance	Body weight (without motor) (kg)	5.2	6.0	6.8	7.6
	Operating temperature range (°C)	5 to 40 (No condensation)			
	Work load (kg)	30			
	Maximum speed (mm/s)	500			
	Positioning repeatability (mm)	±0.02			
Main parts	Motor	AC servomotor (100 W)			
	Encoder	Incremental system			
	Lead screw	Ground ball screw ø15 mm, 10 mm lead			
	Guide	High rigidity direct acting guide			
	Motor/Screw connection	With coupling			
Switch	Model	Photo micro sensor EE-SX674P, EE-SX674 (Refer to page 1084 for details.)			

Intermediate strokes

Strokes other than the standard strokes on the left are available by special order. Consult SMC.

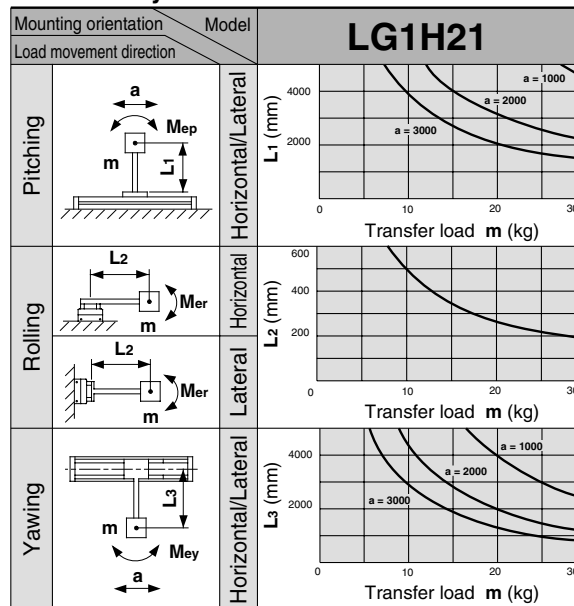
Allowable Moment (N·m)

Allowable static moment

Pitching	142
Rolling	79
Yawing	150

m : Transfer load (kg)
a : Work piece acceleration (mm/s²)
Me : Dynamic moment
L : Overhang to work piece center of gravity (mm)

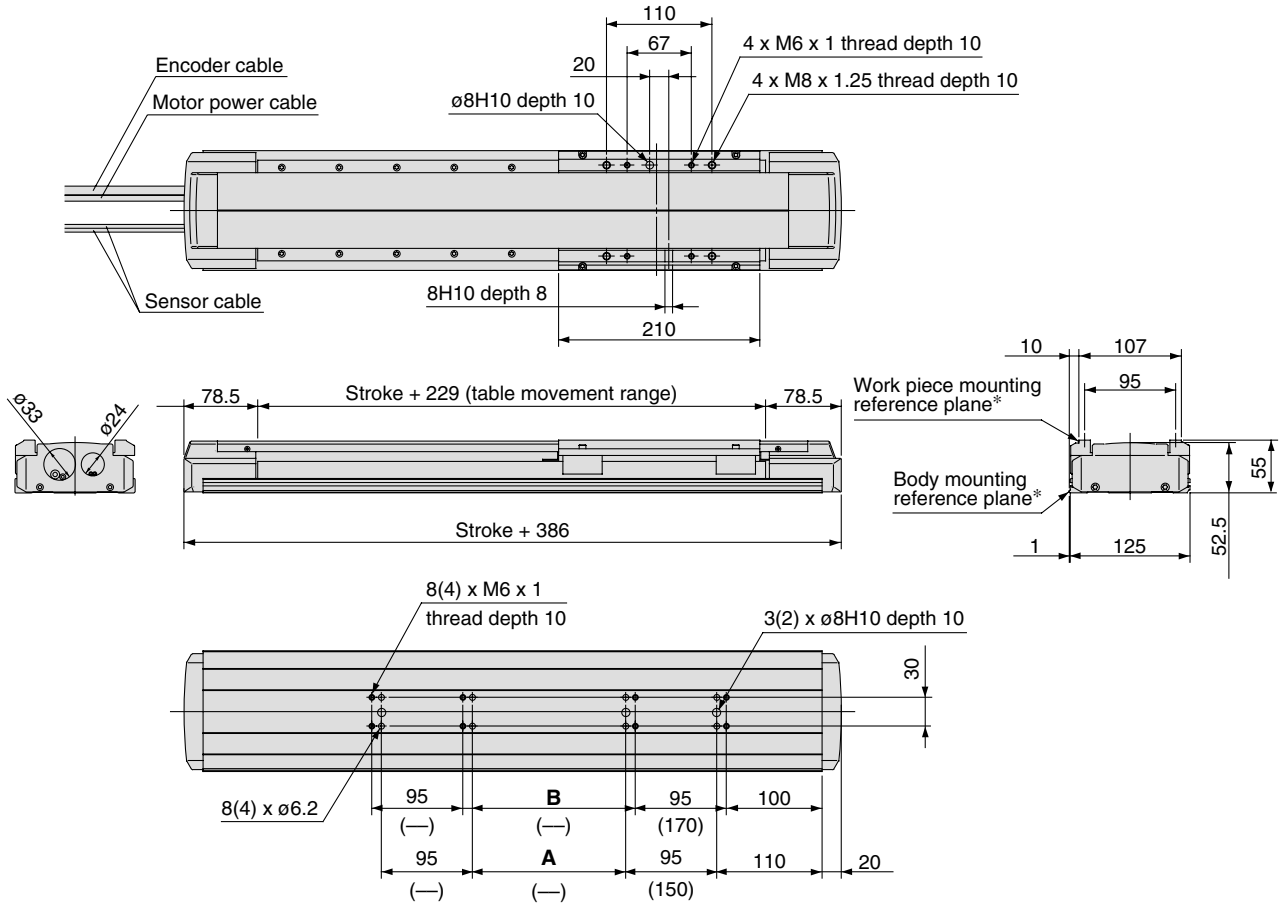
Allowable dynamic moment



Refer to page 718 for deflection data.

Non-standard Motor/Horizontal Mount Specification With Coupling **Series LG1H21**

Dimensions/LG1H21□2□PA(X10)



Model	Stroke	A	B
LG1H21□2□PA-100-F□-X10*	100	—	—
LG1H21□2□PA-200-F□-X10	200	60	80
LG1H21□2□PA-300-F□-X10	300	160	180
LG1H21□2□PA-400-F□-X10	400	260	280

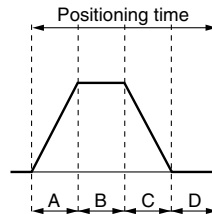
* Dimensions inside () are for a 100 mm stroke.

* The body mounting reference plane and work piece mounting reference plane should be used as standards when mounting onto equipment. Refer to page 716 for mounting.

Positioning Time Guide

		Positioning time (sec.)				
Positioning distance (mm)		1	10	100	200	400
Speed (mm/s)	10	0.5	1.4	10.4	20.4	40.4
	100	0.5	0.6	1.5	2.5	4.5
	250	0.5	0.6	0.9	1.3	2.1
	500	0.5	0.6	0.8	1.0	1.4

* Values will vary slightly depending on the operating conditions.



A: Acceleration time
 B: Constant velocity time
 C: Deceleration time
 D: Resting time (0.4 sec.)*
 Maximum acceleration: 3000 mm/s²

* The value is a guide when SMC's series LC1 controller is used and may vary depending on the driver capacity.

- LJ1
- LG1**
- LTF
- LC1
- LC7
- LC8
- LXF
- LXP
- LXS
- LC6□
- LZ□
- LC3F2
- X□
- D-□
- E-MY

Non-standard Motor/ Horizontal Mount With Coupling

Motor Output
100 W

High Rigidity
Direct Acting
Guide

Ground Ball Screw
ø15 mm / 20 mm lead

Series **LG1H21**

How to Order

LG1H21 R21 PC - 500 - F W - X10

● **Motor specification**

Symbol	Motor manufacturer	Motor model	Motor output	Compatible driver model	Power supply voltage
R21	Mitsubishi Electric Corporation	HC-PQ13	100 W	MR-C10A1	100/115 VAC
R22				MR-C10A	200/230 VAC
R20				—	—

* Motor/driver is included for R21 and R22.
Refer to page 717 for motor mounting dimensions.
Cable for joining motor and driver is optional.
Refer to page 659 for part nos.

● **Stroke (mm)**
Refer to the standard stroke.

● **Switch**

Nil	None
W	N.C. (B contact) NPN 2: pcs.

Specifications

		Standard stroke (mm)					
		500	600	700	800	900	1000
Performance	Body weight (without motor) (kg)	8.4	9.2	10.0	10.8	11.6	12.4
	Operating temperature range (°C)	5 to 40 (No condensation)					
	Work load (kg)	30					
	Maximum speed ^{Note)} (mm/s)	1000	1000	930	740	600	500
	Positioning repeatability (mm)	±0.02					
Main parts	Motor	AC servomotor (100 W)					
	Encoder	Incremental system					
	Lead screw	Ground ball screw ø15 mm, 20 mm lead					
	Guide	High rigidity direct acting guide					
	Motor/Screw connection	With coupling					
Switch	Model	Photo micro sensor EE-SX674 (Refer to page 1084 for details.)					

Intermediate strokes

Strokes other than the standard strokes on the left are available by special order. Consult SMC.



Made to order specifications
(For details, refer to page 999)

Symbol	Specifications
X8	Dust seal specification

Note) When the work load exceeds 15kg, the speed may be limited. Contact SMC in this case.

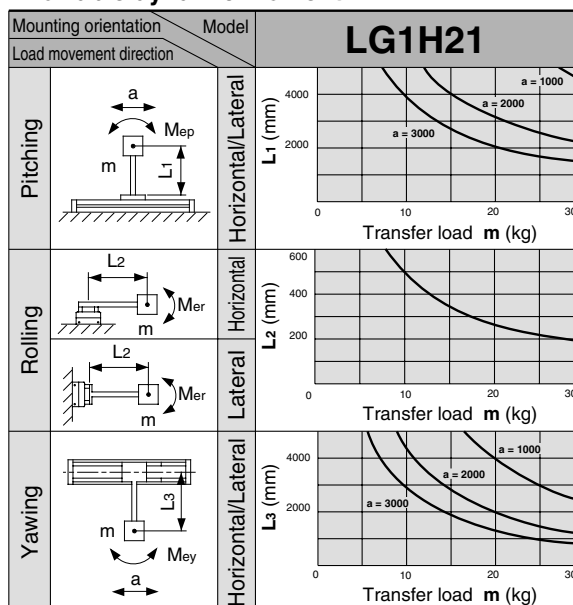
Allowable Moment (N·m)

Allowable static moment

Pitching	142
Rolling	79
Yawing	150

m : Transfer load (kg)
a : Work piece acceleration (mm/s²)
Me : Dynamic moment
L : Overhang to work piece center of gravity (mm)

Allowable dynamic moment



Refer to page 718 for deflection data.

Non-standard Motor/ Horizontal Mount With Coupling

Motor Output
100 W

High Rigidity
Direct Acting
Guide

Ground Ball Screw
ø15 mm / 20 mm lead

Series **LG1H21**

How to Order

LG1H21 **R21** **PC** - **500** - F **H** - X10 - **Q**

• Switch

• CE marking

Nil	None
H	N.C. (B contact) PNP: 2 pcs.
W	N.C. (B contact) NPN: 2 pcs.

• Stroke (mm)

For details, refer to page 700.

• Motor specification

Symbol	Motor manufacturer	Motor model	Motor output	Compatible driver model	Power supply voltage
R21	Mitsubishi Electric Corporation*2	HC-PQ13	100 W	MR-C10A1-UE	100/115 VAC
R22				MR-C10A-UE	200/230 VAC
R29				—	—
R20*1		—	—	—	—
RM21		HC-MFS13	100 W	MR-J2S-10A1	AC100/115V
RM22				MR-J2S-10A	AC200/230V
RM29				—	—
RM20*1		—	—	—	—
RK21		HC-KFS13	100 W	MR-J2S-10A1	AC100/115V
RK22				MR-J2S-10A	AC200/230V
RK29				—	—
RK20*1		—	—	—	—
RP21		HF-KP13	100 W	MR-J3-10A1	AC100/115V
RP22				MR-J3-10A	AC200/230V
RP29				—	—
RP20*1		—	—	—	—

*1 Without motor/driver. Refer to page 717 for motor mounting dimensions.

*2 Can be supplied including motor/driver for non-standard motors by Mitsubishi Electric Corporation.
Cable for joining motor and driver is optional.
Refer to page 659 for part nos.

Please contact individual motor manufacturers regarding motor/driver specifications or other details.

*3 For with RP (motor symbol) motors, the motor will not be mounted, but packed in the same container as the main body.



Made to order specifications
(For details, refer to page 999)

Symbol	Specifications
X8	Dust seal specification

LJ1

LG1

LTF

LC1

LC7

LC8

LXF

LXP

LXS

LC6□

LZ□

LC3F2

X□

D-□

E-MY

Series LG1H21

Specifications

Standard stroke (mm)		500	600	700	800	900	1000
Performance	Body weight (without motor) (kg)	8.4	9.2	10.0	10.8	11.6	12.4
	Operating temperature range (°C)	5 to 40 (No condensation)					
	Work load (kg)	30					
	Maximum speed ^{Note)} (mm/s)	1000	1000	930	740	600	500
	Positioning repeatability (mm)	±0.02					
Main parts	Motor	AC servomotor (100 W)					
	Encoder	Incremental system					
	Lead screw	Ground ball screw ø15 mm, 20 mm lead					
	Guide	High rigidity direct acting guide					
	Motor/Screw connection	With coupling					
Switch	Model	Photo micro sensor EE-SX674P, EE-SX674 (Refer to page 1084 for details.)					

Intermediate strokes

Strokes other than the standard strokes on the left are available by special order. Consult SMC.

Note) When the work load exceeds 15kg, the speed may be limited. Contact SMC in this case.

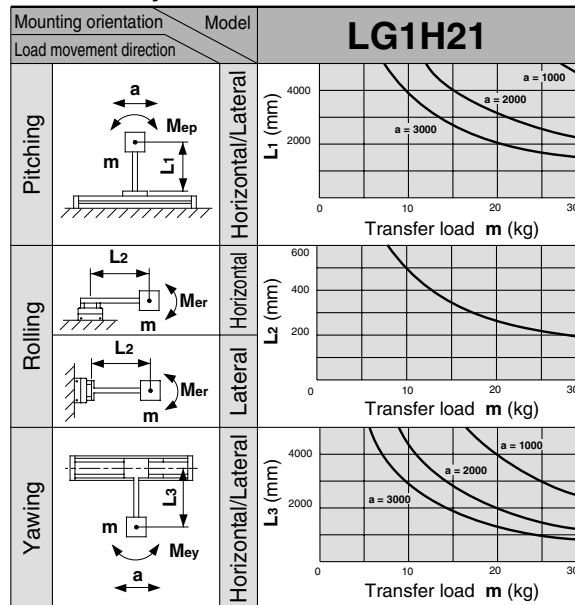
Allowable Moment (N·m)

Allowable static moment

Pitching	142
Rolling	79
Yawing	150

m : Transfer load (kg)
a : Work piece acceleration (mm/s²)
Me : Dynamic moment
L : Overhang to work piece center of gravity (mm)

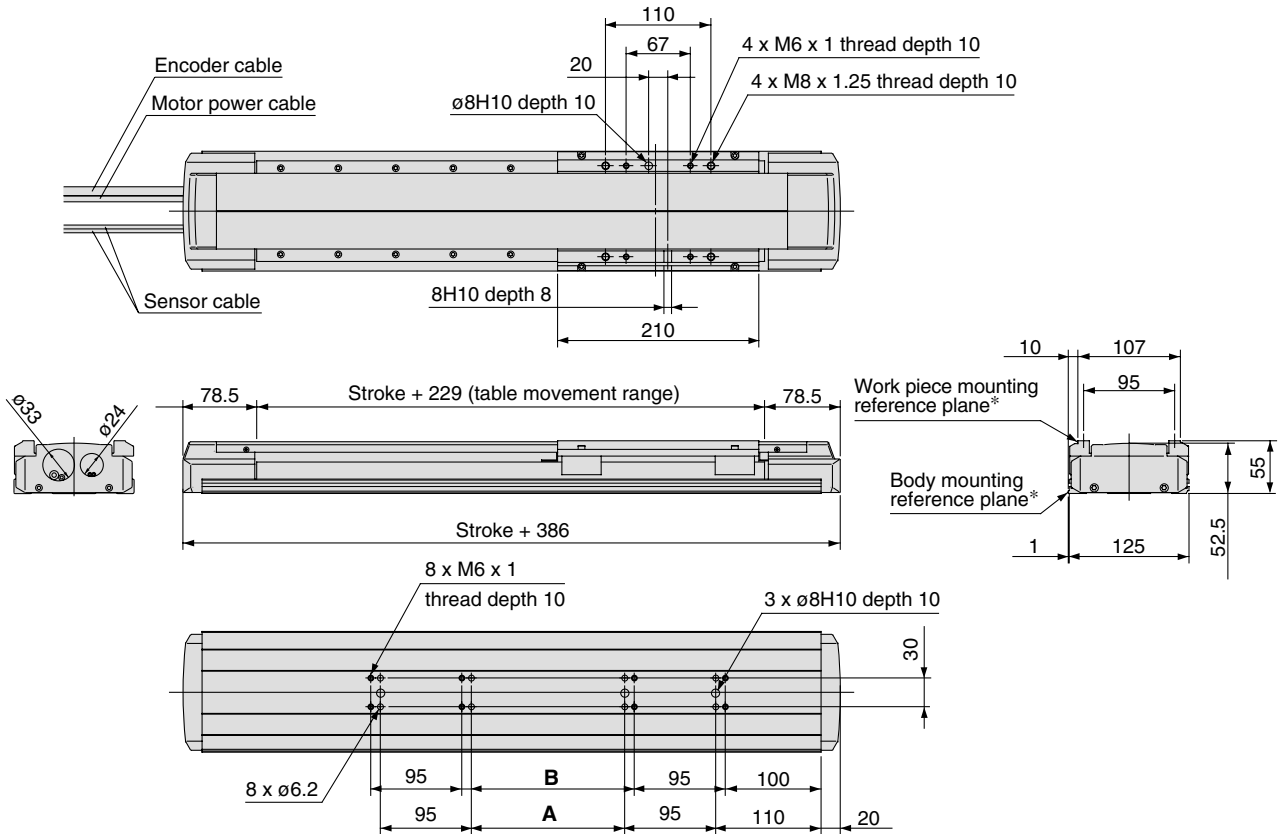
Allowable dynamic moment



Refer to page 718 for deflection data.

Non-standard Motor/Horizontal Mount Specification With Coupling **Series LG1H21**

Dimensions/LG1H21□2□PC(X10)



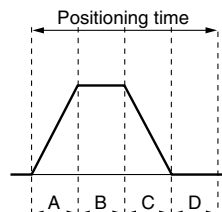
Model	Stroke	A	B
LG1H21□2□PC- 500-F□-X10	500	360	380
LG1H21□2□PC- 600-F□-X10	600	460	480
LG1H21□2□PC- 700-F□-X10	700	560	580
LG1H21□2□PC- 800-F□-X10	800	660	680
LG1H21□2□PC- 900-F□-X10	900	760	780
LG1H21□2□PC-1000-F□-X10	1000	860	880

* The body mounting reference plane and work piece mounting reference plane should be used as standards when mounting onto equipment. Refer to page 716 for mounting.

Positioning Time Guide

		Positioning time (sec.)				
		1	10	100	500	1000
Speed (mm/s)	10	0.5	1.5	10.5	50.5	100.5
	100	0.5	0.6	1.5	5.5	10.5
	500	0.5	0.6	0.9	1.7	2.7
	1000	0.5	0.6	0.9	1.4	1.9

* Values will vary slightly depending on the operating conditions.



A: Acceleration time
 B: Constant velocity time
 C: Deceleration time
 D: Resting time (0.4 sec.)*
 Maximum acceleration: 2000 mm/s²
 * The value is a guide when SMC's series LC1 controller is used and may vary depending on the driver capacity.

- LJ1
- LG1**
- LTF
- LC1
- LC7
- LC8
- LXF
- LXP
- LXS
- LC6□
- LZ□
- LC3F2
- X□
- D-□
- E-MY

Non-standard Motor/ Horizontal Mount With Coupling

Motor Output
100 W

High Rigidity
Direct Acting
Guide

Rolled Ball Screw
ø15 mm / 10 mm lead

Series **LG1H21**

How to Order

LG1H21 R21 NA - 300 - F W - X10

• **Motor specification**

• **Stroke (mm)**
Refer to the standard stroke.

• **Switch**

Nil	None
W	N.C. (B contact) NPN: 2 pcs.

Symbol	Motor manufacturer	Motor model	Motor output	Compatible driver model	Power supply voltage
R21	Mitsubishi Electric Corporation	HC-PQ13	100 W	MR-C10A1	100/115 VAC
R22				MR-C10A	200/230 VAC
R20				—	—

* Motor/driver is included for R21 and R22.
Refer to page 717 for motor mounting dimensions.
Cable for joining motor and driver is optional.
Refer to page 659 for part nos.
Please contact individual motor manufacturers regarding motor/driver specifications or other details.

Specifications

Standard stroke (mm)		100	200	300	400
Performance	Body weight (without motor) (kg)	5.2	6.0	6.8	7.6
	Operating temperature range (°C)	5 to 40 (No condensation)			
	Work load (kg)	30			
	Maximum speed (mm/s)	500			
	Positioning repeatability (mm)	±0.05			
Main parts	Motor	AC servomotor (100 W)			
	Encoder	Incremental system			
	Lead screw	Rolled ball screw ø15 mm, 10 mm lead			
	Guide	High rigidity direct acting guide			
	Motor/Screw connection	With coupling			
Switch	Model	Photo micro sensor EE-SX674 (Refer to page 1084 for details.)			

Intermediate strokes

Strokes other than the standard strokes on the left are available by special order. Consult SMC.



Made to order specifications
(For details, refer to page 999)

Symbol	Specifications
X8	Dust seal specification

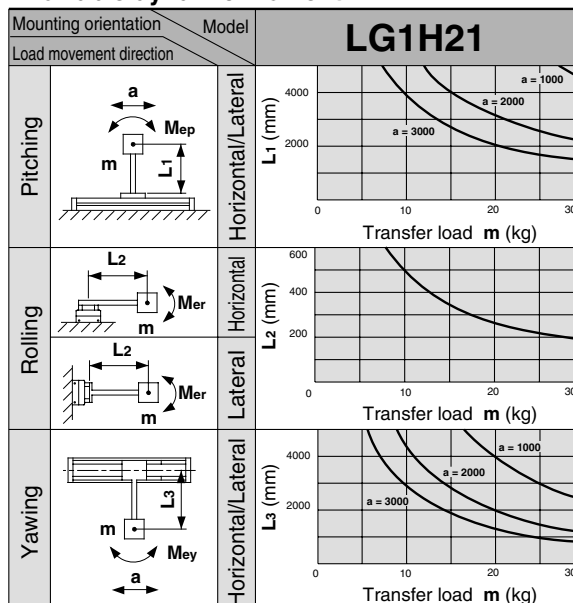
Allowable Moment (N·m)

Allowable static moment

Pitching	142
Rolling	79
Yawing	150

m : Transfer load (kg)
a : Work piece acceleration (mm/s²)
Me : Dynamic moment
L : Overhang to work piece center of gravity (mm)

Allowable dynamic moment



Refer to page 718 for deflection data.

Non-standard Motor/ Horizontal Mount With Coupling

Motor Output
100 W

High Rigidity
Direct Acting
Guide

Rolled Ball Screw
ø15 mm / 10 mm lead

Series **LG1H21**

How to Order

LG1H21 **R21** **NA** - **300** - F **H** - X10 - **Q**

• Switch

• CE marking

Nil	None
H	N.C. (B contact) PNP: 2 pcs.
W	N.C. (B contact) NPN: 2 pcs.

• Stroke (mm)

For details, refer to page 704.

• Motor specification

Symbol	Motor manufacturer	Motor model	Motor output	Compatible driver model	Power supply voltage
R21	Mitsubishi Electric Corporation*2	HC-PQ13	100 W	MR-C10A1-UE	100/115 VAC
R22				MR-C10A-UE	200/230 VAC
R29				—	—
R20*1		—	—	—	—
RM21		HC-MFS13	100 W	MR-J2S-10A1	AC100/115V
RM22				MR-J2S-10A	AC200/230V
RM29				—	—
RM20*1		—	—	—	—
RK21		HC-KFS13	100 W	MR-J2S-10A1	AC100/115V
RK22				MR-J2S-10A	AC200/230V
RK29				—	—
RK20*1		—	—	—	—
RP21		HF-KP13	100 W	R-J3-10A1	AC100/115V
RP22				MR-J3-10A	AC200/230V
RP29				—	—
RP20*1		—	—	—	—

*1 Without motor/driver. Refer to page 717 for motor mounting dimensions.

*2 Can be supplied including motor/driver for non-standard motors by Mitsubishi Electric Corporation.
Cable for joining motor and driver is optional.
Refer to page 659 for part nos.

Please contact individual motor manufacturers regarding motor/driver specifications or other details.

*3 For with RP (motor symbol) motors, the motor will not be mounted, but packed in the same container as the main body.



Made to order specifications
(For details, refer to page 999)

Symbol	Specifications
X8	Dust seal specification

LJ1

LG1

LTF

LC1

LC7

LC8

LXF

LXP

LXS

LC6□

LZ□

LC3F2

X□

D-□

E-MY

Series LG1H21

Specifications

Standard stroke (mm)		100	200	300	400
Performance	Body weight (without motor) (kg)	5.2	6.0	6.8	7.6
	Operating temperature range (°C)	5 to 40 (No condensation)			
	Work load (kg)	30			
	Maximum speed (mm/s)	500			
	Positioning repeatability (mm)	±0.05			
Main parts	Motor	AC servomotor (100 W)			
	Encoder	Incremental system			
	Lead screw	Rolled ball screw ø15 mm, 10 mm lead			
	Guide	High rigidity direct acting guide			
	Motor/Screw connection	With coupling			
Switch	Model	Photo micro sensor EE-SX674P, EE-SX674 (Refer to page 1084 for details.)			

Intermediate strokes

Strokes other than the standard strokes on the left are available by special order. Consult SMC.

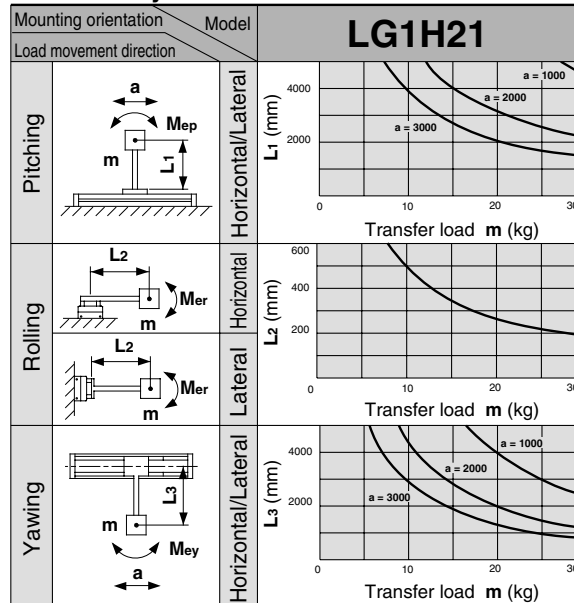
Allowable Moment (N·m)

Allowable static moment

Pitching	142
Rolling	79
Yawing	150

m : Transfer load (kg)
 a : Work piece acceleration (mm/s²)
 Me : Dynamic moment
 L : Overhang to work piece center of gravity (mm)

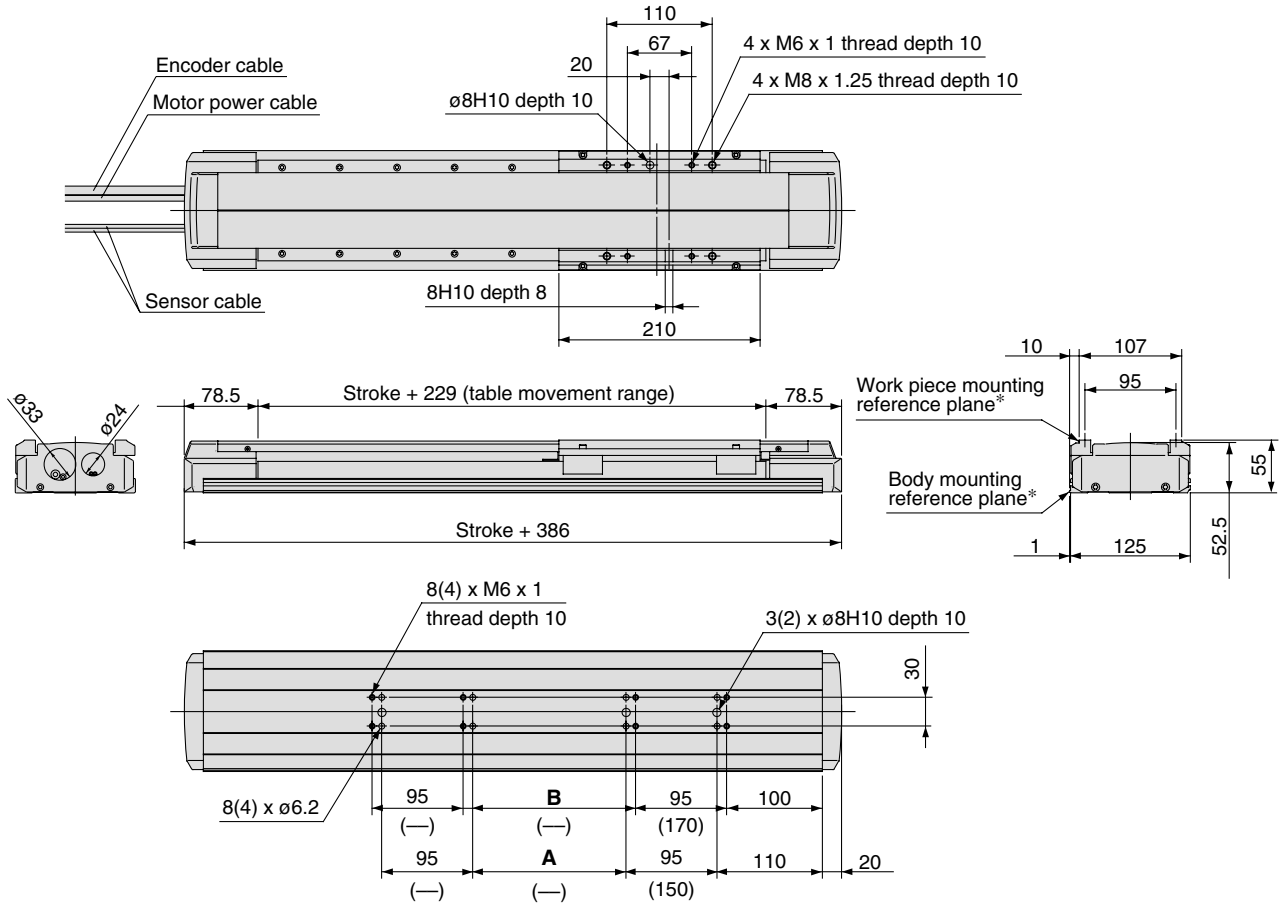
Allowable dynamic moment



Refer to page 718 for deflection data.

Non-standard Motor/Horizontal Mount Specification With Coupling **Series LG1H21**

Dimensions/LG1H21□2□NA(X10)



Model	Stroke	A	B
LG1H21□2□NA-100-F□-X10*	100	—	—
LG1H21□2□NA-200-F□-X10	200	60	80
LG1H21□2□NA-300-F□-X10	300	160	180
LG1H21□2□NA-400-F□-X10	400	260	280

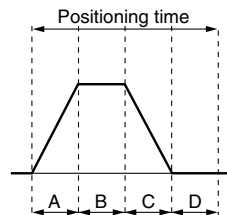
* Dimensions inside () are for a 100 mm stroke.

* The body mounting reference plane and work piece mounting reference plane should be used as standards when mounting onto equipment. Refer to page 716 for mounting.

Positioning Time Guide

		Positioning time (sec.)				
Positioning distance (mm)		1	10	100	200	400
Speed (mm/s)	10	0.5	1.4	10.4	20.4	40.4
	100	0.5	0.6	1.5	2.5	4.5
	250	0.5	0.6	0.9	1.3	2.1
	500	0.5	0.6	0.8	1.0	1.4

* Values will vary slightly depending on the operating conditions.



A: Acceleration time
 B: Constant velocity time
 C: Deceleration time
 D: Resting time (0.4 sec.)*
 Maximum acceleration: 3000 mm/s²

* The value is a guide when SMC's series LC1 controller is used and may vary depending on the driver capacity.

- LJ1
- LG1**
- LTF
- LC1
- LC7
- LC8
- LXF
- LXP
- LXS
- LC6□
- LZ□
- LC3F2
- X□
- D-□
- E-MY

Non-standard Motor/ Horizontal Mount With Coupling

Motor Output
100 W

High Rigidity
Direct Acting
Guide

Rolled Ball Screw
ø15 mm / 20 mm lead

Series **LG1H21**

How to Order

LG1H21 R21 NC - 500 - F W - X10

• **Motor specification**
 • **Stroke (mm)** Refer to the standard stroke.
 • **Switch**

Symbol	Motor manufacturer	Motor model	Motor output	Compatible driver model	Power supply voltage
R21	Mitsubishi Electric Corporation	HC-PQ13	100W	MR-C10A1	100/115 VAC
R22				MR-C10A	200/230 VAC
R20				—	—

Symbol	Specifications
Nil	None
W	N.C. (B contact) NPN: 2 pcs.

* Motor/driver is included for R21 and R22.
 Refer to page 717 for motor mounting dimensions.
 Cable for joining motor and driver is optional.
 Refer to page 659 for part nos.
 Please contact individual motor manufacturers regarding motor/driver specifications or other details.

Specifications

		Standard stroke (mm)					
		500	600	700	800	900	1000
Performance	Body weight (without motor) (kg)	8.4	9.2	10.0	10.8	11.6	12.4
	Operating temperature range (°C)	5 to 40 (No condensation)					
	Work load (kg)	30					
	Maximum speed (mm/s)	1000	1000	930	740	600	500
	Positioning repeatability (mm)	±0.05					
Main parts	Motor	AC servomotor (100 W)					
	Encoder	Incremental system					
	Lead screw	Rolled ball screw ø15 mm, 20 mm lead					
	Guide	High rigidity direct acting guide					
	Motor/Screw connection	With coupling					
Switch	Model	Photo micro sensor EE-SX674 (Refer to page 1084 for details.)					

Intermediate strokes

Strokes other than the standard strokes on the left are available by special order. Consult SMC.



Made to order specifications
(For details, refer to page 999)

Symbol	Specifications
X8	Dust seal specification

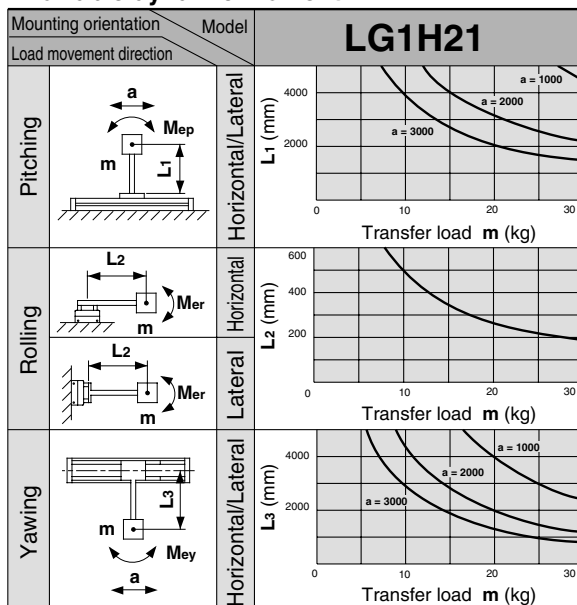
Allowable Moment (N·m)

Allowable static moment

Pitching	142
Rolling	79
Yawing	150

m : Transfer load (kg)
a : Work piece acceleration (mm/s²)
Me : Dynamic moment
L : Overhang to work piece center of gravity (mm)

Allowable dynamic moment



Refer to page 718 for deflection data.

Non-standard Motor/ Horizontal Mount With Coupling

Motor Output
100 W

High Rigidity
Direct Acting
Guide

Rolled Ball Screw
ø15 mm / 20 mm lead

Series **LG1H21**

How to Order

LG1H21 R21 NC - 500 - F H - X10 - Q

• Switch

• CE marking

Nil	None
H	N.C. (B contact) PNP: 2 pcs.
W	N.C. (B contact) NPN: 2 pcs.

• Stroke (mm)

For details, refer to page 708.

• Motor specification

Symbol	Motor manufacturer	Motor model	Motor output	Compatible driver model	Power supply voltage
R21	Mitsubishi Electric Corporation*2	HC-PQ13	100 W	MR-C10A1-UE	100/115 VAC
R22				MR-C10A-UE	200/230 VAC
R29				—	—
R20*1		—	—	—	—
RM21		HC-MFS13	100 W	MR-J2S-10A1	AC100/115V
RM22				MR-J2S-10A	AC200/230V
RM29				—	—
RM20*1		—	—	—	—
RK21		HC-KFS13	100 W	MR-J2S-10A1	AC100/115V
RK22				MR-J2S-10A	AC200/230V
RK29				—	—
RK20*1		—	—	—	—
RP21		HF-KP13	100 W	MR-J3-10A1	AC100/115V
RP22				MR-J3-10A	AC200/230V
RP29				—	—
RP20*1		—	—	—	—

*1 Without motor/driver. Refer to page 717 for motor mounting dimensions.

*2 Can be supplied including motor/driver for non-standard motors by Mitsubishi Electric Corporation.
Cable for joining motor and driver is optional.
Refer to page 659 for part nos.

Please contact individual motor manufacturers regarding motor/driver specifications or other details.

*3 For with RP (motor symbol) motors, the motor will not be mounted, but packed in the same container as the main body.



Made to order specifications
(For details, refer to page 999)

Symbol	Specifications
X8	Dust seal specification

LJ1

LG1

LTF

LC1

LC7

LC8

LXF

LXP

LXS

LC6□

LZ□

LC3F2

X□

D-□

E-MY

Series LG1H21

Specifications

Standard stroke (mm)		500	600	700	800	900	1000
Performance	Body weight (without motor) (kg)	8.4	9.2	10.0	10.8	11.6	12.4
	Operating temperature range (°C)	5 to 40 (No condensation)					
	Work load (kg)	30					
	Maximum speed (mm/s)	1000	1000	930	740	600	500
	Positioning repeatability (mm)	±0.05					
Main parts	Motor	AC servomotor (100 W)					
	Encoder	Incremental system					
	Lead screw	Rolled ball screw ø15 mm, 20 mm lead					
	Guide	High rigidity direct acting guide					
	Motor/Screw connection	With coupling					
Switch	Model	Photo micro sensor EE-SX674P, EE-SX674 (Refer to page 1084 for details.)					

Intermediate strokes

Strokes other than the standard strokes on the left are available by special order. Consult SMC.

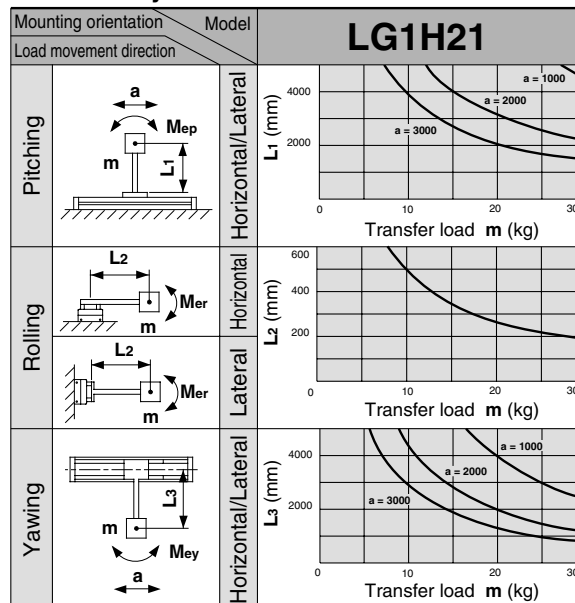
Allowable Moment (N·m)

Allowable static moment

Pitching	142
Rolling	79
Yawing	150

m : Transfer load (kg)
a : Work piece acceleration (mm/s²)
Me : Dynamic moment
L : Overhang to work piece center of gravity (mm)

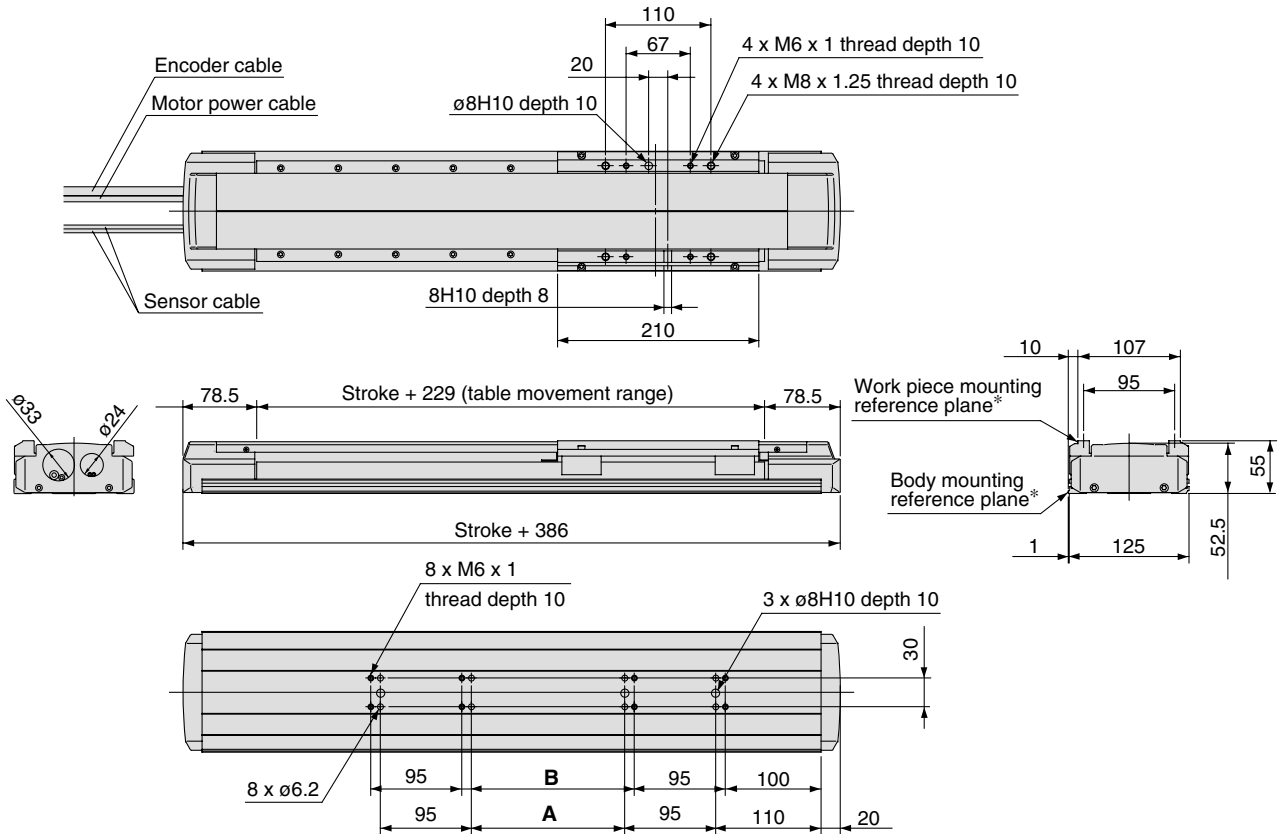
Allowable dynamic moment



Refer to page 718 for deflection data.

Non-standard Motor/Horizontal Mount Specification With Coupling **Series LG1H21**

Dimensions/LG1H21□2□NC(X10)



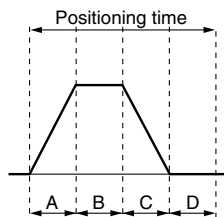
Model	Stroke	A	B
LG1H21□2□NC- 500-F□-X10	500	360	380
LG1H21□2□NC- 600-F□-X10	600	460	480
LG1H21□2□NC- 700-F□-X10	700	560	580
LG1H21□2□NC- 800-F□-X10	800	660	680
LG1H21□2□NC- 900-F□-X10	900	760	780
LG1H21□2□NC-1000-F□-X10	1000	860	880

* The body mounting reference plane and work piece mounting reference plane should be used as standards when mounting onto equipment. Refer to page 716 for mounting.

Positioning Time Guide

		Positioning time (sec.)				
Positioning distance (mm)		1	10	100	500	1000
Speed (mm/s)	10	0.5	1.5	10.5	50.5	100.5
	100	0.5	0.6	1.5	5.5	10.5
	500	0.5	0.6	0.9	1.7	2.7
	1000	0.5	0.6	0.9	1.4	1.9

* Values will vary slightly depending on the operating conditions.



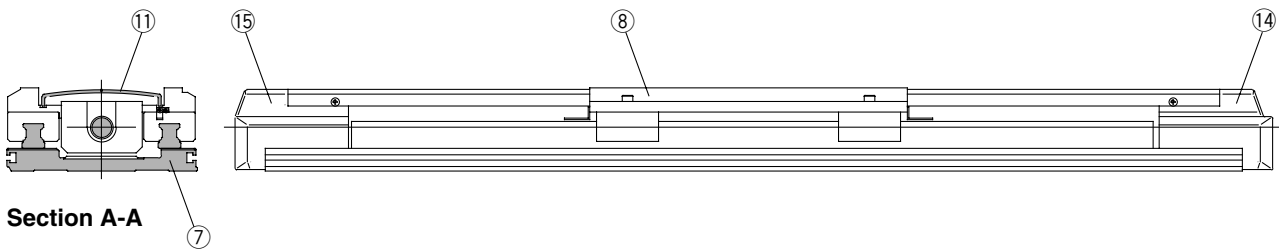
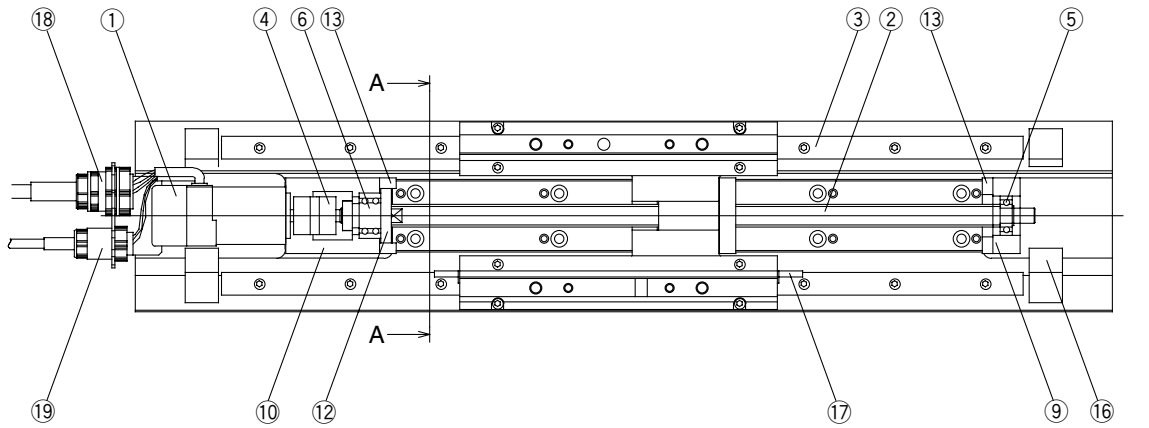
A: Acceleration time
B: Constant velocity time
C: Deceleration time
D: Resting time (0.4 sec.)*
Maximum acceleration: 2000 mm/s²

* The value is a guide when SMC's series LC1 controller is used and may vary depending on the driver capacity.

- LJ1
- LG1**
- LTF
- LC1
- LC7
- LC8
- LXF
- LXP
- LXS
- LC6□
- LZ□
- LC3F2
- X□
- D-□
- E-MY

Construction/ With Coupling

LG1H21



- LJ1
- LG1**
- LTF
- LC1
- LC7
- LC8
- LXF
- LXP
- LXS
- LC6□
- LZ□
- LC3F2
- X□
- D-□
- E-MY

Parts list

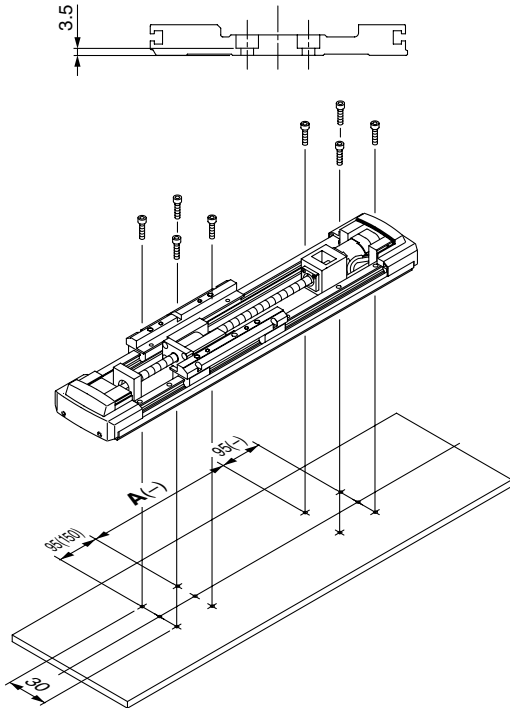
No.	Description	Material	Note
1	AC servomotor	—	100 W
2	Lead screw	—	Ball screw
3	High rigidity direct acting guide	—	
4	Coupling	—	
5	Bearing R	—	
6	Bearing F	—	
7	Body	Aluminum alloy	
8	Table	Aluminum alloy	
9	Housing A	Aluminum alloy	
10	Housing B	Aluminum alloy	

No.	Description	Material	Note
11	Top cover	Aluminum alloy	
12	Bearing retainer	Aluminum alloy	
13	Bumper	IIR	
14	End cover A	PC	
15	End cover B	PC	
16	Photo micro sensor	—	
17	Sensor plate	—	
18	Connector A	—	
19	Connector B	—	

Series **LG1H** Mounting

Top Mount

LG1H21/ With coupling

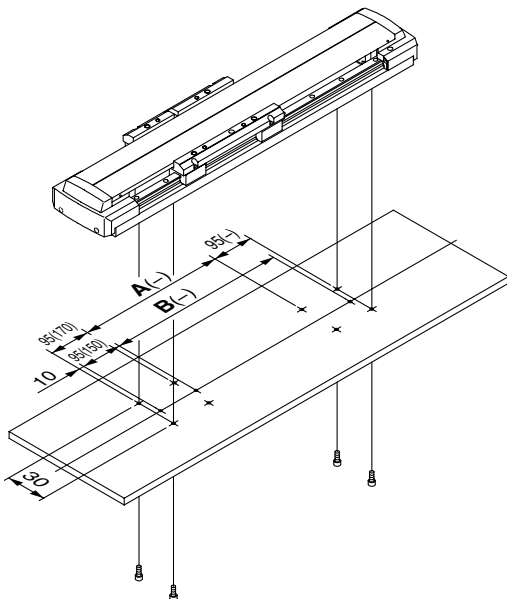


Stroke	A	Stroke	A
100	—	600	460
200	60	700	560
300	160	800	660
400	260	900	760
500	360	1000	860

Dimensions inside () are for a 100 mm stroke.

Bottom Mount

LG1H21/ With coupling



Stroke	A	B	Stroke	A	B
100	—	—	600	480	555
200	80	155	700	580	655
300	180	255	800	680	755
400	280	355	900	780	855
500	380	455	1000	880	955

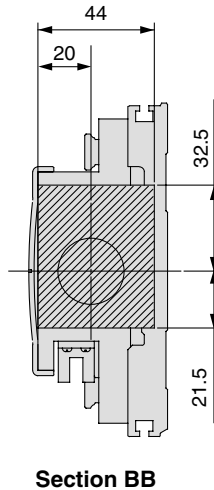
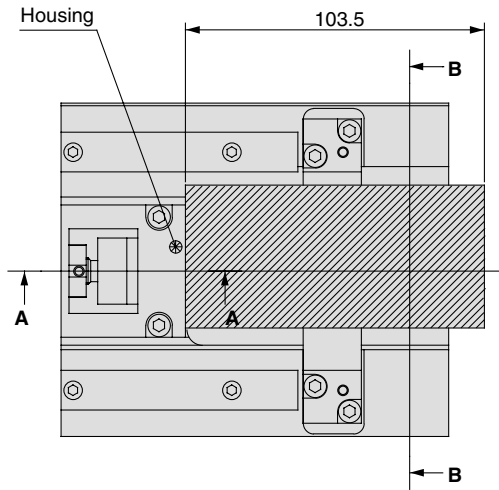
Dimensions inside () are for a 100 mm stroke.

Series LG1H

Non-standard Motor Mounting Dimensions

Non-standard Motor Mounting Dimensions/ With Coupling

LG1H21

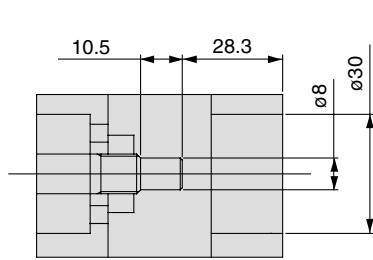


Motor mounting area dimensions

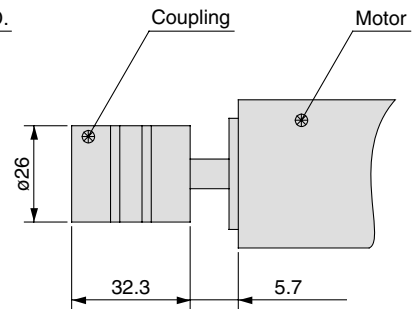
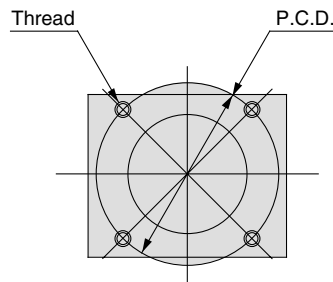
Manufacturer	Mitsubishi Electric Corporation
Thread size	M4 x 0.7
Effective thread length (mm)	8
Quantity	2
P.C.D.	46

Motor mounting area

* When mounting a coupling on the motor, mount it within the dimensional range shown on the left.



Section AA (Housing interior)



Coupling mounting dimensions

LJ1

LG1

LTF

LC1

LC7

LC8

LXF

LXP

LXS

LC6□

LZ□

LC3F2

X□

D-□

E-MY

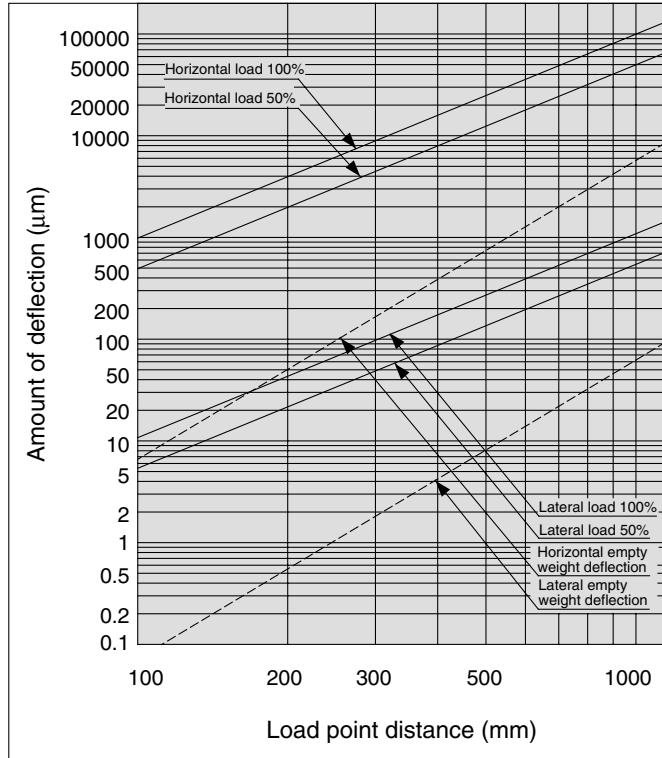
Series LG1H Deflection Data

Deflection Data

* Calculated values based on the body's sectional secondary moment.

The load and the amount of deflection at load point W are shown in the graphs below.

LG1H/ Aluminum body



With single end support and table moved to the end of the stroke

