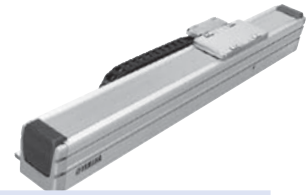


# MR12/MR12D



## Ordering method

Single carriage model

MR12						SR1-P	05		
<b>Model</b> MR12: Incremental MR12A: Semi-absolute <sup>Note 1</sup>	<b>Cable carrier entry location</b> RH: Horizontal, right LH: Horizontal, left RW: Wall mounted, right LW: Wall mounted, left	<b>Optional cable carrier for users</b> No entry: None S: S type M: M type	<b>Option</b> Origin position change None: Standard Z: R side Grease type None: Standard GC: Clean	<b>Stroke</b> 50 to 1050 (100mm pitch)	<b>Cable length</b> 3L: 3.5m (Standard) 5L: 5m 10L: 10m	<b>Controller</b> SR1-P	<b>Driver</b>	<b>Usable for CE</b> No entry: Standard E: CE marking	<b>I/O selection</b> N: NPN P: PNP CC: CC-Link DN: DeviceNet PB: Profibus YC: YC-Link <sup>Note 4</sup>

Double carriage model

MR12D						RCX221			
<b>Model</b> MR12D: Incremental MR12AD: Semi-absolute <sup>Note 1</sup>	<b>Installing direction</b> H: Horizontal installation W: Wall mounted installation	<b>Optional cable carrier for users</b> No entry: None S: S type M: M type	<b>Option</b> Grease type None: Standard GC: Clean	<b>Stroke</b> 50 to 1050 (100mm pitch)	<b>Cable length</b> 3L: 3.5m (Standard) 5L: 5m 10L: 10m	<b>Controller</b> RCX221 SR1-P (2 units) <sup>Note 3</sup>	<b>Usable for CE</b> No entry: Standard E: CE marking	<b>I/O selection 1</b> N: NPN P: PNP CC: CC-Link DN: DeviceNet PB: Profibus EN: Ethernet YC: YC-Link <sup>Note 5</sup>	<b>I/O selection 2</b> No entry: None N: OPDIO24/16 (NPN) P: OPDIO24/17 (PNP) EN: Ethernet

Note 1. Semi-absolute models are supported by the SR1-P and RCX221. For the details of the semi-absolute model, please refer to P.018. RDP has an incremental model only.

Note 2. To find RDP selection options, see the ordering method on P. 365.

Note 3. When using the SR1-P or PDP to control a double-carriage robot, two units are required.

Note 4. Available only for the slave.

Note 5. Available only for the master.

Note. It is possible to provide the model without a cable carrier. To find information on wiring (cable terminals) within the cable carrier see P. 427.

## Specification <sup>Note</sup>

Model	MR12	MR12D
Driving method / Shaft diameter	Shaft motor / $\phi 12$	
Repeatability ( $\mu\text{m}$ )	+/-5 or less	
Scale ( $\mu\text{m}$ )	Magnetic type: resolution of 1	
Maximum speed <sup>Note 1</sup> (mm/sec)	2500	
Rated thrust (N)	18	
Maximum payload <sup>Note 2</sup> (kg)	5	
Stroke (mm)	50 to 1050 (50mm pitch)	
Linear guide	4 rows of circular arc grooves x 2 rail	
Maximum cross-section outside dimensions (mm)	W60 x H90 (except the cable carrier section)	
Total length (mm)	Stroke+288	Stroke+488
Cable length (m)	Standard: 3.5 / Option: 5,10	

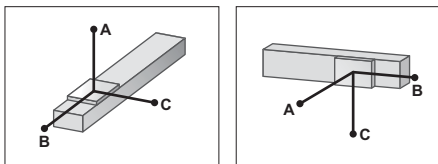
Note. A vertical model (with brake) is not available with the PHASER series.

Note. The basic specifications of semi-absolute model are the same as those of the incremental model.

Note 1. Maximum speed may not be obtained depending on operating conditions.

Note 2. Maximum payload per carriage.

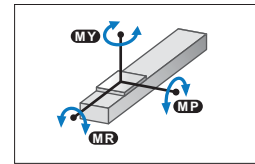
## Allowable overhang <sup>Note</sup>



	Horizontal installation (Unit: mm)			Wall installation (Unit: mm)		
	A	B	C	A	B	C
1kg	600	600	600	600	600	600
2kg	1200	1200	598	529	1200	1200
3kg	1800	1800	406	323	1450	1800
5kg	3000	1561	241	162	589	3000

Note. Distance from center of slider top to center of gravity of object being carried at a guide service life of 10,000 km.

## Static loading moment



(Unit: N·m)		
MY	MP	MR
107	107	89

## Controller

Controller	Operating method
SR1-P-05	Programming / I/O point trace / (BCD) Remote command
RCX221	Operation using RS-232C communication

## Cable carrier entry location

**RH** Horizontal, right

**LH** Horizontal, left

**RW** Wall mounted, right

**LW** Wall mounted, left

Note. Be sure to install in the direction as specified (in cable carrier take-out direction drawing and various specification drawings) individually. Installation in any other way will cause a failure. For requirement of installation in any way other than the above standard installation, please consult YAMAHA as special arrangement will be available.

## Optional cable carrier for users

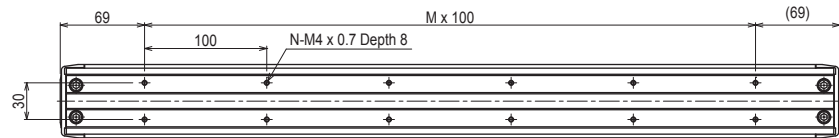
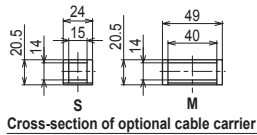
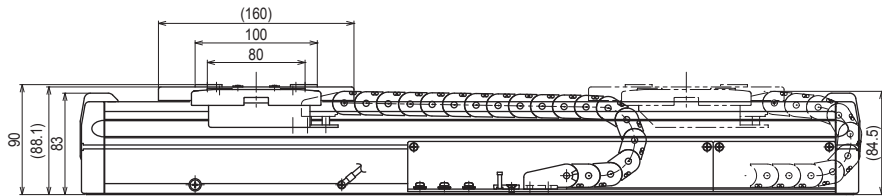
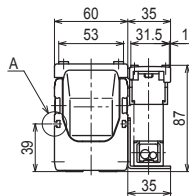
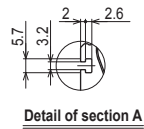
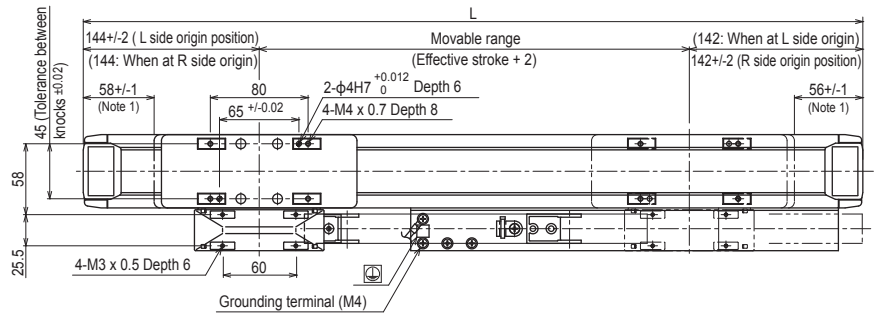
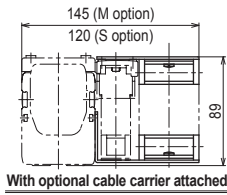
S type

M type

Space for optional cable for users

Note. The cable and air hoses should take up less than 30% of the space when storing them inside the cable carrier. Lay out the cables and air hoses in rows inside the cable carrier so they do not cross each other.

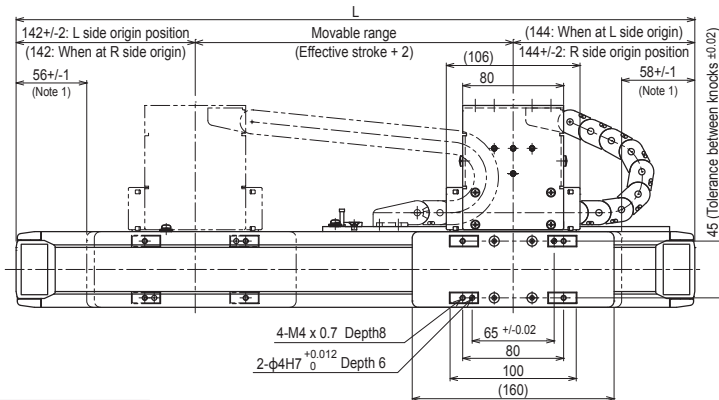
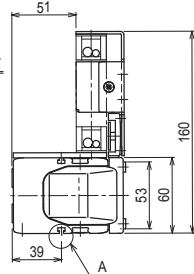
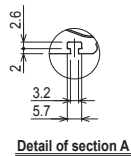
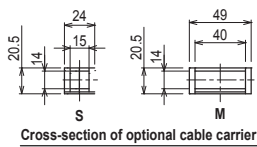
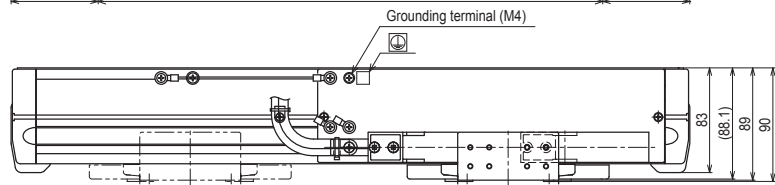
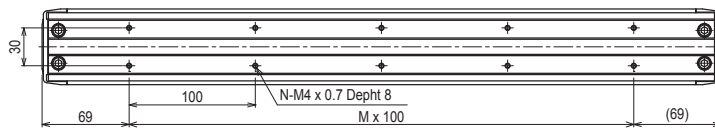
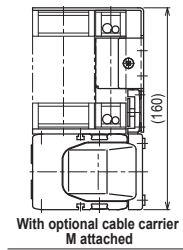
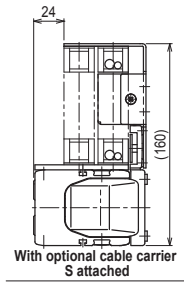
## MR12 single carriage horizontal mount model **RH**



Effective stroke	50	150	250	350	450	550	650	750	850	950	1050
<b>L</b>	338	438	538	638	738	838	938	1038	1138	1238	1338
<b>M</b>	2	3	4	5	6	7	8	9	10	11	12
<b>N</b>	6	8	10	12	14	16	18	20	22	24	26
<b>Weight (kg)</b>	3.9	4.4	5.0	5.6	6.1	6.7	7.3	7.9	8.4	9.0	9.5

Note 1. Distance from both ends to the mechanical stopper.  
 Note. The origin is set on the L side at the time of shipment. It can be changed to the R side by parameter setting.

## MR12 single carriage wall mount model **RW**

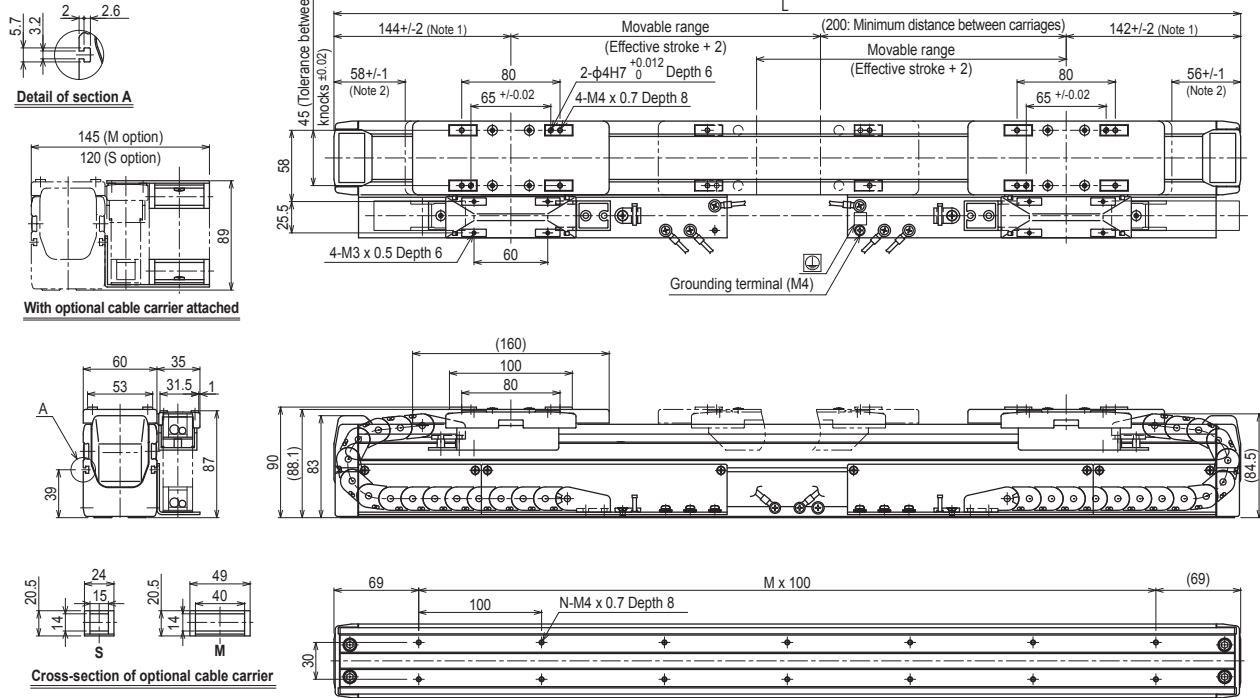


Effective stroke	50	150	250	350	450	550	650	750	850	950	1050
<b>L</b>	338	438	538	638	738	838	938	1038	1138	1238	1338
<b>M</b>	2	3	4	5	6	7	8	9	10	11	12
<b>N</b>	6	8	10	12	14	16	18	20	22	24	26
<b>Weight (kg)</b>	3.9	4.4	5.0	5.6	6.1	6.7	7.3	7.9	8.4	9.0	9.5

Note 1. Distance from both ends to the mechanical stopper.  
 Note. The origin is set on the R side at the time of shipment. It can be changed to the L side by parameter setting.

# MR12/MR12D

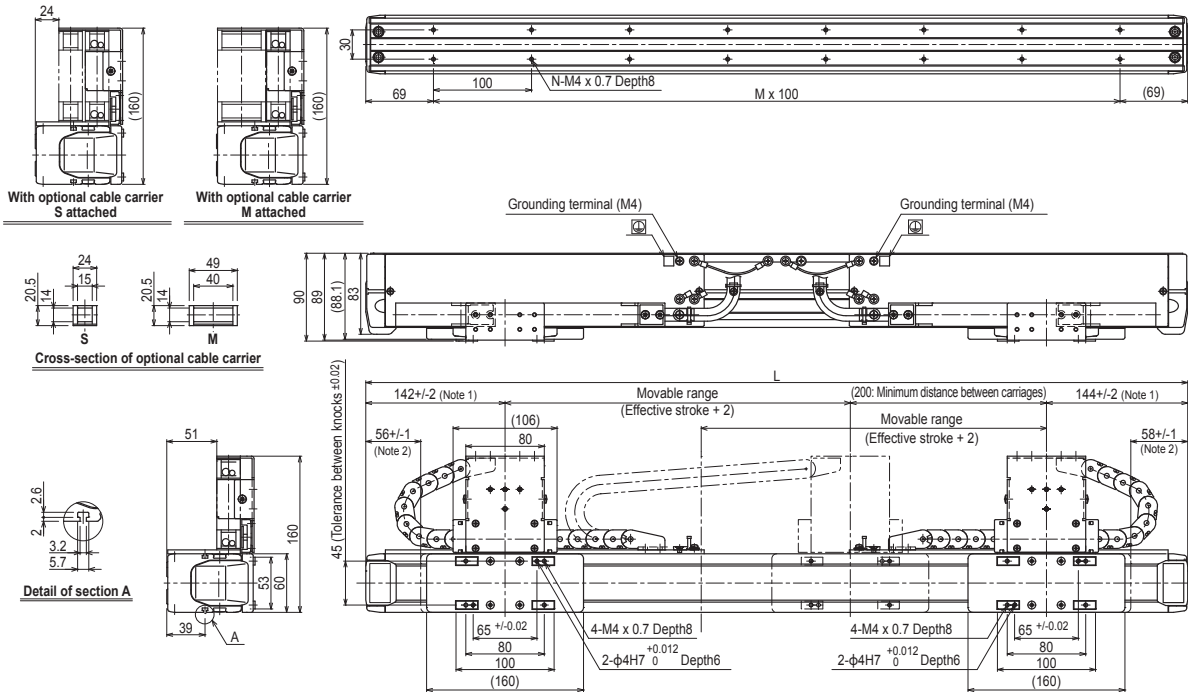
## MR12D double carriage horizontal mount model H



Effective stroke	50	150	250	350	450	550	650	750	850	950	1050
L	538	638	738	838	938	1038	1138	1238	1338	1438	1538
M	4	5	6	7	8	9	10	11	12	13	14
N	10	12	14	16	18	20	22	24	26	28	30
Weight (kg)	5.7	6.3	6.8	7.3	8.0	8.6	9.1	9.7	10.2	10.8	11.3

Note 1. Position of the table slider when returned to the origin.  
 Note 2. Distance from both ends to the mechanical stopper.

## MR12D double carriage wall mount model W



Effective stroke	50	150	250	350	450	550	650	750	850	950	1050
L	538	638	738	838	938	1038	1138	1238	1338	1438	1538
M	4	5	6	7	8	9	10	11	12	13	14
N	10	12	14	16	18	20	22	24	26	28	30
Weight (kg)	5.7	6.3	6.8	7.3	8.0	8.6	9.1	9.7	10.2	10.8	11.3

Note 1. Position of the table slider when returned to the origin.  
 Note 2. Distance from both ends to the mechanical stopper.