

# MF30/MF30D

Can be used for wall-mount



## Ordering method

Single carriage model

**MF30**

<b>Model</b> MF30: Incremental MF30A: Semi-absolute <sup>Note 1</sup>	<b>Cable carrier entry location</b> RH: Horizontal, right LH: Horizontal, left RW: Wall mount, right LW: Wall mount, left	<b>Optional cable carrier for users</b> <sup>Note 2</sup> No entry: None S: S type M: M type L: L type	<b>Origin position change</b> Hor: No entry: L side (Standard) Z: R side Wall: No entry: R side (Standard) Z: L side	<b>Grease type</b> No entry: Standard GC: Clean	<b>Stroke</b> 100 to 4000 (100mm pitch)	<b>Cable length</b> <sup>Note 3</sup> 3L: 3.5m 5L: 5m 10L: 10m 3K/5K/10K (Flexible cable)	<b>TSP</b> <b>Positioner</b> TS-P	<b>220</b> <b>Driver</b> : Power supply voltage / Power capacity 220: 200V/400 to 600W	<b>R</b> <b>Regenerative unit</b> R: With RGT	<b>LCD monitor</b> No entry: None L: With LCD	<b>I/O selection</b> NP: NPN PN: PNP CC: CC-Link DN: DeviceNet
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<b>SR1-P</b> <b>Controller</b>	<b>20</b> <b>Driver</b> : Power capacity 20: 400 to 600W	<b>Usable for CE</b> No entry: Standard E: CE marking	<b>R</b> <b>Regenerative unit</b> R: With RGT	<b>I/O selection</b> N: NPN P: PNP CC: CC-Link DN: DeviceNet PB: Profibus
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<b>RDP</b> <b>Driver</b>	<b>20</b> <b>Driver</b> : Power capacity 20: 400W or less	<b>RBR1</b> <b>Regenerative unit</b>
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Double carriage model

**MF30D**

<b>Model</b> MF30D: Incremental MF30AD: Semi-absolute <sup>Note 1</sup>	<b>Installing direction</b> H: Horizontal installation W: Wall mount installation	<b>Optional cable carrier for users</b> <sup>Note 2</sup> No entry: None S: S type M: M type L: L type	<b>Grease type</b> No entry: Standard GC: Clean	<b>Stroke</b> 150 to 3750 (100mm pitch)	<b>Cable length</b> 3L: 3.5m 5L: 5m 10L: 10m 3K/5K/10K (Flexible cable) <sup>Note 3</sup>	<b>RCX221HP</b> <b>Controller</b> RCX221HP SR1-P (2 units) TS-P (2 units) RDP (2 units)	<b>Usable for CE</b> No entry: Standard E: CE marking	<b>Regenerative unit</b> R: RG2 (RCX221HP)	<b>I/O selection 1</b> N: NPN P: PNP CC: CC-Link DN: DeviceNet PB: Profibus EN: Ethernet	<b>I/O selection 2</b> No entry: None N1: OPDIO24/16 (NPN) P1: OPDIO24/17 (PNP) EN: Ethernet
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Note 1. Semi-absolute models are supported by the SR1-P, TS-P and RCX221. For the details of the semi-absolute model, please refer to P.19. RDP has an incremental model only.  
 Note 2. For models with a 2,100mm or longer stroke, optional L type cable carriers can only be used.  
 Note 3. The robot cable is standard cable (3L/5L/10L), but can be changed to flexible cable. See P.466 for details on robot cable.  
 Note 4. If a flexible cable is needed for the SR1-P, TS-P, or RDP, then select 3K/5K/10K. On the RCX221HP, the standard cable is a flexible cable, so enter 3L/5L/10L when ordering.  
 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.474.

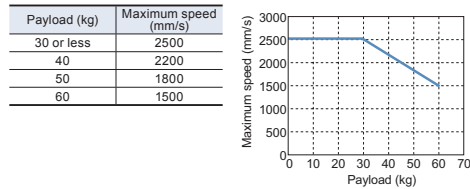
## Specifications Note

Model	MF30	MF30D
<b>Driving method</b>	Steel cored linear motor with falt magnet	
<b>Repeatability (µm)</b>	+/-5	
<b>Scale (µm)</b>	Magnetic type: resolution of 1	
<b>Maximum speed</b> <sup>Note 2</sup> (mm/sec)	2500	
<b>Rated thrust (N)</b>	125	
<b>Maximum payload</b> <sup>Note 1</sup> (kg)	60	
<b>Stroke (mm)</b>	100 to 4000 (100mm pitch)	150 to 3750 (100mm pitch)
<b>Linear guide</b>	4 rows of circular arc grooves x 2 rail	
<b>Maximum cross-section outside dimensions (mm)</b>	W150 x H80 (except the cable carrier section)	
<b>Total length (mm)</b>	Stroke+310 Stroke+560	
<b>Cable length (m)</b>	Standard: 3.5 / Option: 5.10	

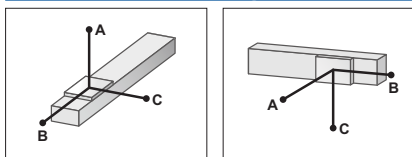
Note. A vertical model (with brake) is not available with the PHASER series.  
 Note. The basic specifications of semi-absolute model are the same as those of the incremental model.

Note 1. Payload per carrier. When the payload exceeds 30kg, please consult our sales office or sales representative.

Note 2. Table of maximum speed



## Allowable overhang Note



	Horizontal installation (Unit: mm)			Wall installation (Unit: mm)		
	A	B	C	A	B	C
<b>10kg</b>	3364	2485	1284	1290	1320	2730
<b>20kg</b>	2298	1265	694	650	610	1750
<b>30kg</b>	2060	859	507	430	360	1460
<b>40kg</b>	1570	600	310	205	230	610
<b>50kg</b>	1265	400	180	145	175	470
<b>60kg</b>	1070	350	135	105	140	380

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

MY	MP	MR
373	373	328

(Unit: N·m)

## Controller

Controller	Operating method
SR1-P20-R	Programming / I/O point trace / Remote command / Operation using RS-232C communication
RCX221HP-R	I/O point trace / Remote command
TS-P220-R <sup>Note</sup>	Pulse train control
RDP-20-RBR1	

Note. These controllers can be mounted on DIN rails. See P.404 for details.

## Cable carrier entry location

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

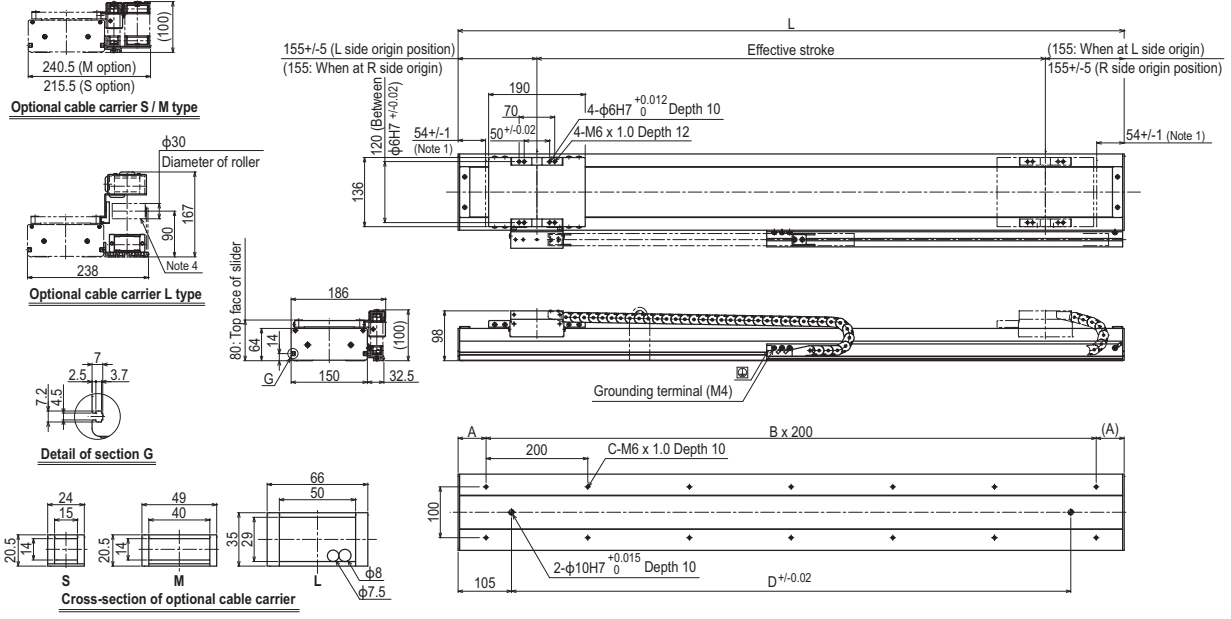
Cable and air tube guide

- S: φ8 flexible cable x 1, φ4 air tube x 1
- M: φ8 flexible cable x 2, φ6 air tube x 2
- L: φ8 flexible cable x 2, φ8 air tube x 3

Space for optional cable for users

APPLICATION  
 TRANSSERVO  
 FLIP-X  
 PHASER  
 XX-X  
 YK-XG  
 YP-X  
 CLEAN  
 CONTROLLER INFORMATION  
 MF type  
 MR type

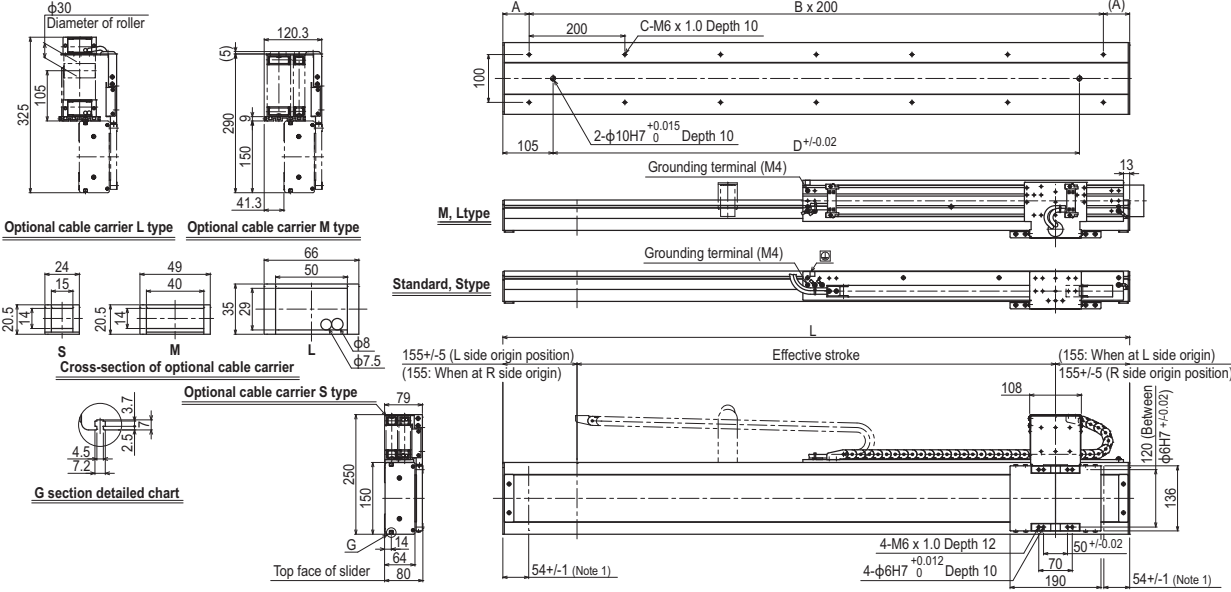
## MF30 single carriage horizontal mount model **RH**



Note1. Distance from both ends to the mechanical stopper.  
 Note2. The origin is set on the L side at the time of shipment. It can be changed to the R side by parameter setting.  
 Note3. For models with a 2,100mm or longer stroke, optional L type cable carriers can only be used.  
 Note4. For models with a 3,000mm or longer stroke and an optional L type cable carrier, a roller is installed to prevent the cable carrier from sagging.

Effective stroke	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000	3100	3200	3300	3400	3500	3600	3700	3800	3900	4000				
L	410	510	610	710	810	910	1010	1110	1210	1310	1410	1510	1610	1710	1810	1910	2010	2110	2210	2310	2410	2510	2610	2710	2810	2910	3010	3110	3210	3310	3410	3510	3610	3710	3810	3910	4010	4110	4210	4310				
A	105	55	105	55	105	55	105	55	105	55	105	55	105	55	105	55	105	55	105	55	105	55	105	55	105	55	105	55	105	55	105	55	105	55	105	55	105	55	105	55	105	55	105	55
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13	13	14	14	15	15	16	16	17	17	18	18	19	19	20	20	21	21	22	22	
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30	30	32	32	34	34	36	36	38	38	40	40	42	42	44	44	46	46	
D	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000	3100	3200	3300	3400	3500	3600	3700	3800	3900	4000	4100	4200	4300		
Weight (kg)	9.0	10.7	12.3	13.9	15.6	17.2	18.8	20.4	22.1	23.7	25.3	27.0	28.6	30.3	31.9	33.5	35.1	36.7	38.4	40.0	41.6	43.3	44.9	46.5	48.2	49.8	51.4	53.0	54.7	56.3	57.9	59.6	61.2	62.8	64.5	66.1	67.7	69.3	71.0	72.6				

## MF30 single carriage wall mount model **RW**



Note1. Distance from both ends to the mechanical stopper.  
 Note2. The origin is set on the R side at the time of shipment. It can be changed to the L side by parameter setting.  
 Note3. For models with a 2,100mm or longer stroke, optional L type cable carriers can only be used.  
 Note4. For models with a 3,000mm or longer stroke and an optional L type cable carrier, a roller is installed to prevent the cable carrier from sagging.

Effective stroke	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000	3100	3200	3300	3400	3500	3600	3700	3800	3900	4000			
L	410	510	610	710	810	910	1010	1110	1210	1310	1410	1510	1610	1710	1810	1910	2010	2110	2210	2310	2410	2510	2610	2710	2810	2910	3010	3110	3210	3310	3410	3510	3610	3710	3810	3910	4010	4110	4210	4310			
A	105	55	105	55	105	55	105	55	105	55	105	55	105	55	105	55	105	55	105	55	105	55	105	55	105	55	105	55	105	55	105	55	105	55	105	55	105	55	105	55	105	55	
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11	11	12	12	13	13	14	14	15	15	16	16	17	17	18	18	19	19	20	20	21	21	22	22
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24	24	26	26	28	28	30	30	32	32	34	34	36	36	38	38	40	40	42	42	44	44	46	46
D	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000	3100	3200	3300	3400	3500	3600	3700	3800	3900	4000	4100	4200	4300	
E	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170	1220	1270	1320	1370	1420	1470	1520	1570	1620	1670	1720	1770	1820	1870	1920	1970	2020	2070	2120	2170	2220	2270	
Weight (kg)	9.0	10.7	12.3	13.9	15.6	17.2	18.8	20.4	22.1	23.7	25.3	27.0	28.6	30.3	31.9	33.5	35.1	36.7	38.4	40.0	41.6	43.3	44.9	46.5	48.2	49.8	51.4	53.0	54.7	56.3	57.9	59.6	61.2	62.8	64.5	66.1	67.7	69.3	71.0	72.6			

