

MF30/MF30D

Can be used for wall-mount



Ordering method

Single carriage model

MF30

Model	Cable carrier entry location	Optional cable carrier for users ^{Note 2}	Origin position change	Grease type	Stroke	Cable length
MF30: Incremental MF30A: Semi-absolute ^{Note 1}	RH: Horizontal, right LH: Horizontal, left RW: Wall mount, right LW: Wall mount, left	No entry: None S: S type M: M type L: L type	No entry: L side (Standard) Z: R side No entry: R side (Standard) Z: L side	No entry: Standard GC: Clean	100 to 4000 (100mm pitch)	3L: 3.5m 5L: 5m 10L: 10m 3K/5K/10K (Flexible cable) ^{Note 4}

TSP 220 R

Positioner	Driver: Power-supply voltage / Power capacity	Regenerative unit	LCD monitor	I/O selection
TS-P	220: 200V/400 to 600W	R: With RGT	No entry: None L: With LCD	NP: NPN PN: PNP CC: CC-Link DN: DeviceNet™ EP: EtherNet/IP™ GW: No I/O board ^{Note 5}

SR1-P 20 R

Controller	Driver: Power capacity	Usable for CE	Regenerative unit	I/O selection
	20: 400 to 600W	No entry: Standard E: CE marking	R: With RGT	N: NPN P: PNP CC: CC-Link DN: DeviceNet™ EP: EtherNet/IP™ PB: PROFIBUS

RDV-P 2 20 RBR1

Driver	Power-supply voltage	Driver: Power capacity	Regenerative unit
	2: AC200V	20: 400W or less	

- Note 1. For the details of the semi-absolute model, please refer to P.67. RDV-P has an incremental model only.
- Note 2. For models with a stroke of 2100 or longer (2050 or longer for double carriage models), only the optional L type cable carriers can be used.
- Note 3. The robot cable is standard cable (3L/5L/10L), but can be changed to flexible cable. See P.732 for details on robot cable.
- Note 4. If a flexible cable is needed for the SR1-P, TS-P, or RDV-P, then select 3K/5K/10K. On the RCX221HP, the standard cable is a flexible cable, so enter 3L/5L/10L when ordering.
- Note 5. These controllers can be mounted on DIN rails. See P.634 for details.
- Note 6. Select this selection when using the gateway function. For details, see P.96.
- 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.742.

Double carriage model

MF30D

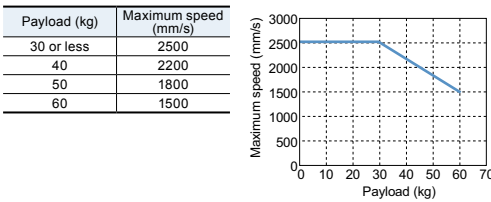
Model	Installing direction	Optional cable carrier for users ^{Note 2}	Grease type	Stroke	Cable length	Controller
MF30D: Incremental MF30AD: Semi-absolute ^{Note 1}	H: Horizontal installation W: Wall mount installation	No entry: None S: S type M: M type L: L type	No entry: Standard GC: Clean	150 to 3750 (100mm pitch)	3L: 3.5m 5L: 5m 10L: 10m 3K/5K/10K (Flexible cable) ^{Note 4}	RCX320 RCX221HP SR1-P (2 units) TS-P (2 units) RDV-P (2 units)

Note. Specify various controller setting items.

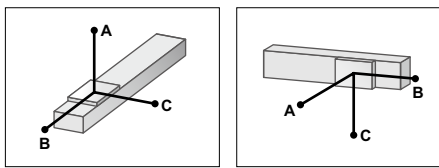
Specifications

Model	MF30	MF30D
Driving method	Steel cored linear motor with falt magnet	
Repeatability (µm)	+/-5	
Scale (µm)	Magnetic type: resolution of 1	
Maximum speed ^{Note 2} (mm/sec)	2500	
Rated thrust (N)	125	
Maximum payload ^{Note 1} (kg)	60	
Stroke (mm)	100 to 4000 (100mm pitch)	150 to 3750 (100mm pitch)
Linear guide	4 rows of circular arc grooves x 2 rail	
Maximum cross-section outside dimensions (mm)	W150 x H80 (except the cable carrier section)	
Total length (mm)	Stroke+310	Stroke+560
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. Payload per carrier. When the payload exceeds 30kg, please consult our sales office or sales representative.
- Note 2. Table of maximum speed



Allowable overhang



	Horizontal installation (Unit: mm)			Wall installation (Unit: mm)		
	A	B	C	A	B	C
10kg	3364	2485	1284	1290	1320	2730
20kg	2298	1265	694	650	610	1750
30kg	2060	859	507	430	360	1460
40kg	1570	600	310	205	230	610
50kg	1265	400	180	145	175	470
60kg	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
RCX320-R RCX221HP-R RCX340	I/O point trace / Remote command
TS-P220-R	Pulse train control
RDV-P220-RBR1	

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** **L type**

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, φ6 air tube x 3

Space for optional cable for users

Controller

SR1-P ▶ 652 **RCX320 ▶ 660** **RCX221 ▶ 670** **TS-P ▶ 626** **RDV-P ▶ 640**

MF30D double carriage horizontal mount model **H**

Optional cable carrier S / M type
240.5 (M option)
215.5 (S option)

Optional cable carrier L type
φ30 Diameter of roller
167 (Note 6)
90
238
Note 4

Detail of section G
7.2
4.5
2.5
3.7

Cross-section of optional cable carrier
S M L
24 15 49 40 66 50
14 20.5 14 35 29 32.5
φ6.7 φ7.5

Effective stroke L
155+/-5 (Note 1) 190 70 4-φ6H7^{+0.012}₀ Depth 10 4-φ6H7^{+0.012}₀ Depth 10 155+/-5 (Note 1) 190 70 54+/-1 (Note 2) 120 (Between φ6H7 +0.02) 136 54+/-1 (Note 2) 120 (Between φ6H7 +0.02)

Grounding terminal (M4)

Standard and S types
A B x 200 (A)
200 C-M6 x 1.0 Depth 10
100 105 2-φ10H7^{+0.015}₀ Depth 10 (Note 5) D+/-0.02

Notes:
Note 1. Position of table carriage when returned to the origin.
Note 2. Stop positions are determined by the mechanical stoppers at both ends.
Note 3. For models with a 2,050mm or longer stroke, optional L type cable carriers can only be used.
Note 4. For models with a 3,050mm or longer stroke and an optional L type cable carrier, a roller is installed to prevent the cable carrier from sagging.
Note 5. When using φ10 H7 hole, do not insert the pin more than the depth stated in the drawing. Otherwise, the motor may break.
Note 6. Depending on the stroke and the operating conditions, the cable carrier bending radius might be larger, making it higher than the dimensions shown in the diagram.

Effective stroke	150	250	350	450	550	650	750	850	950	1050	1150	1250	1350	1450	1550	1650	1750	1850	1950	2050	2150	2250	2350	2450	2550	2650	2750	2850	2950	3050	3150	3250	3350	3450	3550	3650	3750		
L	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	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	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	
C	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	
D	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	
Weight (kg)	17.6	19.3	21.0	22.8	24.5	26.2	27.9	29.6	31.3	33.0	34.7	36.3	38.0	39.7	41.4	43.1	44.8	46.5	48.2	49.9	51.6	53.3	55.0	56.7	58.4	60.1	61.8	63.5	65.2	66.9	68.6	70.3	72.0	73.7	75.4	77.1	78.8	80.5	

MF30D double carriage wall mount model **W**

Optional cable carrier L type
φ30 Diameter of roller
325 (Note 6)
105
290 (Note 6)
180
41.3

Optional cable carrier M type
66 50

Standard and S types
S type 79
250 (Note 6)
150
14
64
80
Top face of slider

Cross-section of optional cable carrier
S M L
24 15 49 40 66 50
14 20.5 14 35 29 32.5
φ6.7 φ7.5

Detail of section G
4.5
2.5
3.7
7.2

Effective stroke L
155+/-5 (Note 1) 108 70 4-φ6H7^{+0.012}₀ Depth 10 4-φ6H7^{+0.012}₀ Depth 10 155+/-5 (Note 1) 108 70 54+/-1 (Note 2) 120 (Between φ6H7 +0.02) 136 54+/-1 (Note 2) 120 (Between φ6H7 +0.02)

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L	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	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	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	
C	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	
D	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	
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		
Weight (kg)	17.6	19.3	21.0	22.8	24.5	26.2	27.9	29.6	31.3	33.0	34.7	36.3	38.0	39.7	41.4	43.1	44.8	46.5	48.2	49.9	51.6	53.3	55.0	56.7	58.4	60.1	61.8	63.5	65.2	66.9	68.6	70.3	72.0	73.7	75.4	77.1	78.8	80.5	

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