

MF7/MF7D

● Flat type available

● Can be used for wall-mount

Note. When the weight per carrier exceeds 7 kg, special parameters are applicable.



Ordering method

Single carriage model

MF7						TSP			
Model MF7: Incremental MF7A: Semi-absolute ^{Note 1}	Cable carrier entry location RH: Horizontal, right LH: Horizontal, left FRH: Horizontal, right (Flat) FLH: Horizontal, left (Flat) RW: Wall mount, right LW: Wall mount, left	Optional cable carrier for users ^{Note 2} No entry: None S: S type M: M type L: L type	Origin position change No entry: L side (Standard) Z: R side No entry: R side (Standard) Z: L side	Grease type No entry: Standard GC: Clean	Stroke ^{Note 3} Horizontal: 100 to 4000 (100mm pitch) 5L: 5m 10L: 10m 3K/5K/10K (Flexible cable) ^{Note 5} Wall: 100 to 2000 (100mm pitch)	Cable length ^{Note 4} 3L: 3.5m 5L: 5m 10L: 10m 3K/5K/10K (Flexible cable) ^{Note 5}	Positioner ^{Note 6} TS-P	Driver: Power-supply voltage / Power capacity 110: 100V/200W 210: 200V/200W	LCD monitor No entry: None L: With LCD
						SR1-P Controller	10 Driver: Power capacity 10: 200W	Usable for CE No entry: Standard E: CE marking	I/O selection N: NPN P: PNP CC: CC-Link DN: DeviceNet™ EP: EtherNet/IP™ GW: No I/O board ^{Note 7}
						RDV-P Driver	2 Power-supply voltage 2: AC200V	10 Driver: Power capacity 10: 200W or less	RBR1 Regenerative unit

Note 1. When RDV-P is selected, the semi-absolute specifications cannot be selected.

Note 2. For models with a 2,100mm or longer stroke, optional L type cable carriers can only be used. Flat type cannot be selected for L type.

Note 3. Maximum stroke for flat type is 2000mm.

Note 4. The robot cable is standard cable (3L/5L/10L), but can be changed to flexible cable. See P.692 for details on robot cable.

Note 5. If a flexible cable is needed for the SR1-P, TS-P, or RDV-P, then select 3K/5K/10K.

Note 6. These controllers can be mounted on DIN rails. See P.600 for details.

Note 7. Select this selection when using the gateway function.

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.703.

Double carriage model

MF7D					
Model MF7D: Incremental MF7AD: Semi-absolute ^{Note 1}	Installing direction H: Horizontal installation FH: Horizontal installation (Flat) W: Wall mount installation	Optional cable carrier for users ^{Note 2} No entry: None S: S type M: M type L: L type	Grease type No entry: Standard GC: Clean	Stroke ^{Note 3} Horizontal: 100 to 3800 (100mm pitch) 5L: 5m 10L: 10m 3K/5K/10K (Flexible cable) ^{Note 5} Wall: 100 to 1800 (100mm pitch)	Cable length 3L: 3.5m 5L: 5m 10L: 10m 3K/5K/10K (Flexible cable) ^{Note 5}
					Controller RCX320 SR1-P (2 units) TS-P (2 units) TS-P (2 units)

Note. Specify various controller setting items.

Specifications

Model	MF7	MF7D
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)	37	
Maximum payload (kg)	10 ^{Note 1}	
Stroke (mm)	Horizontal	100 to 4000 (100mm pitch)
	Wall mount	100 to 1800 (100mm pitch)
Stroke (mm)	Horizontal	100 to 3800 (100mm pitch)
	Wall mount	100 to 1800 (100mm pitch)
Linear guide	4 rows of circular arc grooves × 1 rail	
Maximum cross-section outside dimensions (mm)	W85 × H80 (except the cable carrier section)	
Total length (mm)	Stroke+280	
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 weight exceeds 7 kg, special parameters are applicable. Please consult our sales office or sales representative.

Note 2. Table of maximum speed

Payload (kg)	Maximum speed (mm/s)
7 or less	2500
8	2300
9	2200
10	2100

Allowable overhang

Horizontal installation (Unit: mm)				Wall installation (Unit: mm)			
	A	B	C		A	B	C
1kg	3000	3000	680	1kg	700	3000	3000
3kg	3000	1350	215	3kg	195	1260	3000
5kg	2900	830	125	5kg	90	630	2480
7kg	2400	580	85	7kg	50	360	1680
9kg	2200	460	60				
10kg	2100	410	55				

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

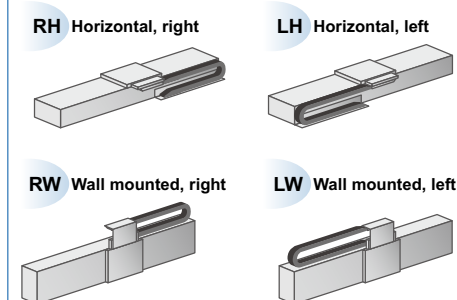
Static loading moment

Static loading moment (Unit: N·m)			
MY	MP	MR	
156	156	194	

Controller

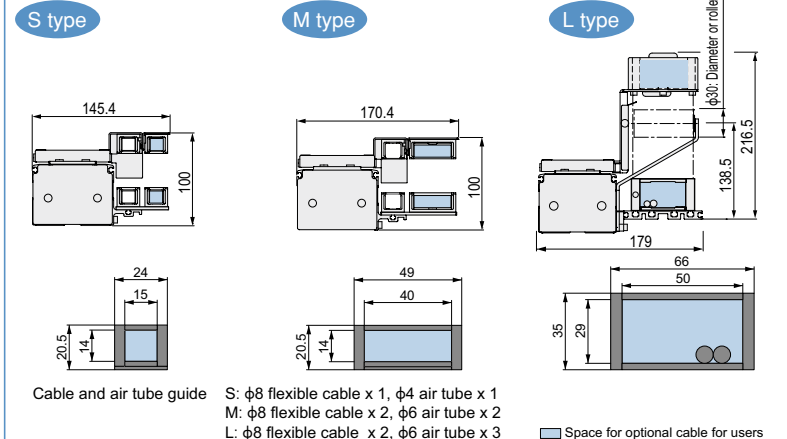
Controller	Operating method
SR1-P10	Programming / I/O point trace / Remote command / Operation using RS-232C communication
RCX320 RCX340	
TS-P110	I/O point trace / Remote command
TS-P210	
RDV-P210-RBR1	Pulse train control

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.

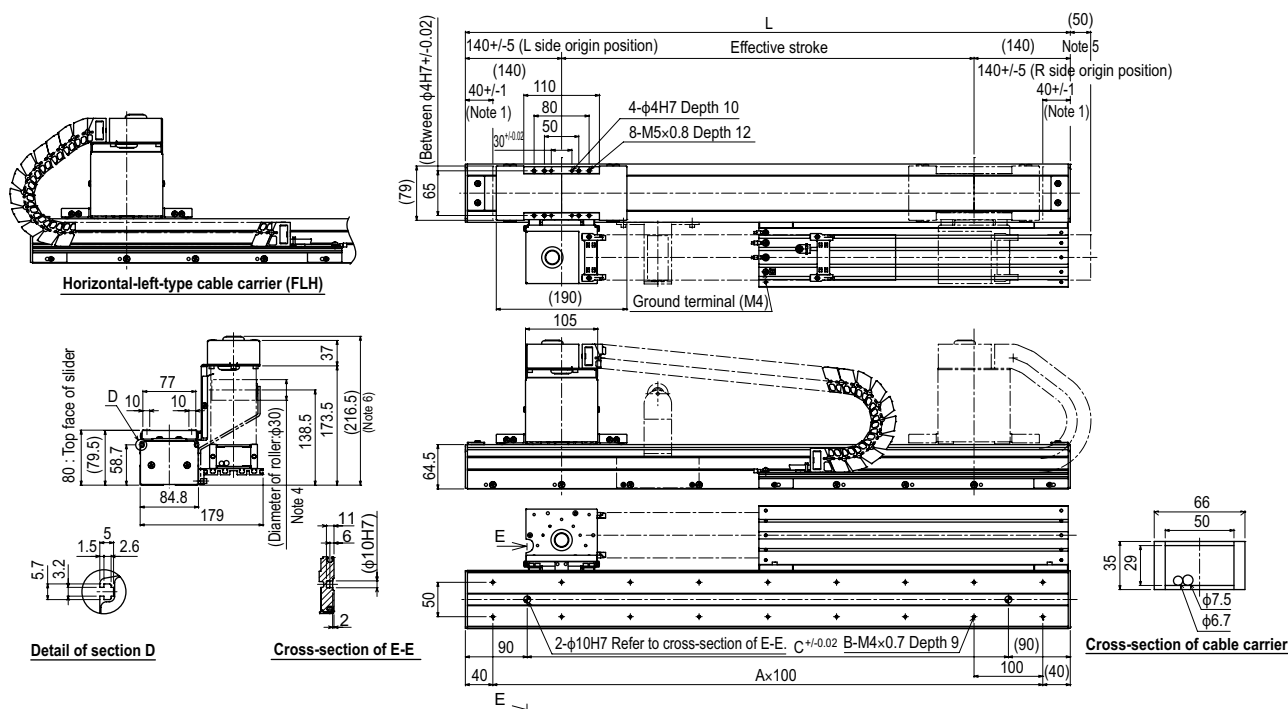
Optional cable carrier for users



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, φ6 air tube x 3

Space for optional cable for users

MF7 single carriage horizontal mount model **RH-L** Optional L-type cable carrier



Note 1. Stop positions are determined by the mechanical stoppers at both ends.

Note 2. The origin is set on the L side at the time of shipment. It can be changed to the R side by parameter setting.

Note 3. The drawings on this page show the unit with horizontal-right-type cable carrier (RH).

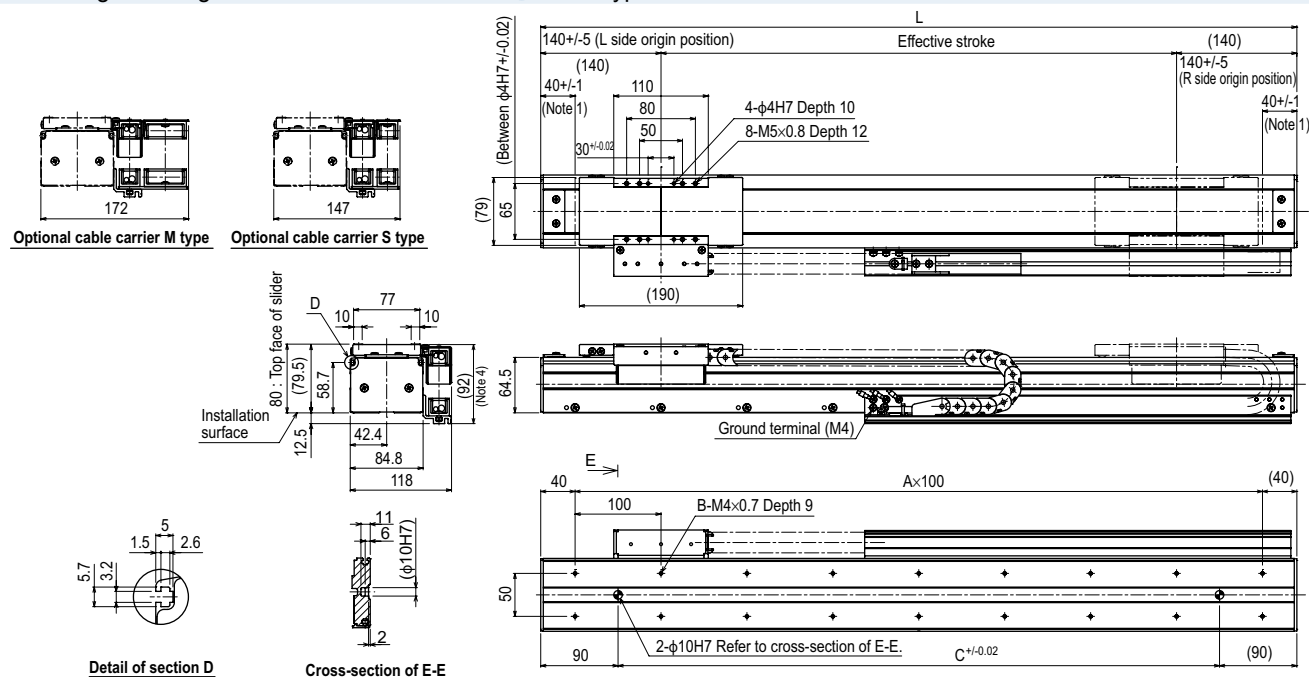
Note 4. For models with a 3,000mm or longer stroke, a roller is installed to prevent the cable carrier from sagging.

Note 5. Protrusion is the distance the cable carrier extends from the edge of the unit.

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	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	380	480	580	680	780	880	980	1080	1180	1280	1380	1480	1580	1680	1780	1880	1980	2080	2180	2280	2380	2480	2580	2680	2780	2880	2980	3080	3180	3280	3380	3480	3580	3680	3780	3880	3980	4080	4180	4280
A	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
B	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86
C	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
Weight (kg)	5.8	6.5	7.3	8.0	8.7	9.4	10.1	10.9	11.6	12.3	13.0	13.7	14.5	15.2	15.9	16.6	17.3	18.1	18.8	19.5	20.2	20.9	21.7	22.4	23.1	23.8	24.5	25.3	26.0	26.7	27.4	28.1	28.9	29.6	30.3	31.0	31.7	32.5	33.2	33.9

MF7 single carriage horizontal mount model **FRH** Flat type



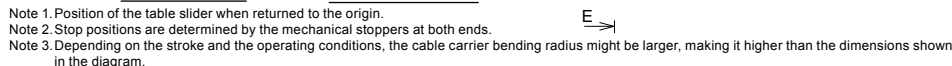
Note 1. Stop positions are determined by the mechanical stoppers at both ends.

Note 2. The origin is set on the L side at the time of shipment. It can be changed to the R side by parameter setting.

Note 3. The drawings on this page show the unit with horizontal-right-type cable carrier (RH).

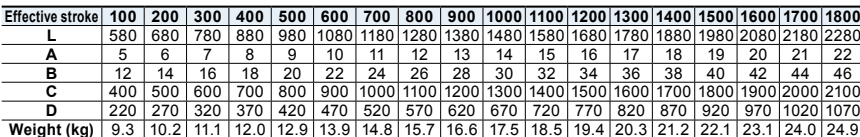
Note 4. Depending on the stroke and the operating conditions, the cable carrier bending radius might be larger, making it higher than the dimensions shown in the diagram.

Effective stroke	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
L	380	480	580	680	780	880	980	1080	1180	1280	1380	1480	1580	1680	1780	1880	1980	2080	2180	2280
A	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
B	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46
C	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100
Weight (kg)	5.8	6.5	7.3	8	8.7	9.4	10.1	10.9	11.6	12.3	13	13.7	14.5	15.2	15.9	16.6	17.3	18.1	18.8	19.5



Effective stroke	100	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000
A	580	680	780	880	980	1080	1180	1280	1380	1480	1580	1680	1780	1880	1980	2080	2180	2280	2380	2480
B	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
C	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50
D	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Weight (kg)	9.3	10.2	11.1	12.0	12.9	13.9	14.8	15.7	16.6	17.5	18.5	19.4	20.3	21.2	22.1	23.1	24.0	24.9	25.8	26.7

W



- Note 1. Stop positions are determined by the mechanical stoppers at both ends.
- Note 2. Cable carrier's protrusion amount from the mechanical end.
- Note 3. 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.

