

MF15/MF15D

Can be used for wall-mount

Note. When the weight per carrier exceeds 15 kg, special parameters are applicable.



Ordering method

Single carriage model

MF15						TSP				
Model MF15: Incremental MF15A: Semi-absolute Note 1	Cable carrier entry location RH: Horizontal, right LH: Horizontal, left 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 Horizontal: No entry: L side (Standard) Z: R side Wall: No entry: R side (Standard) Z: L side	Grease type No entry: Standard GC: Clean	Stroke Horizontal: 100 to 4000 (100mm pitch) 100 to 2000 (100mm pitch) Wall: 100 to 2000 (100mm pitch)	Cable length Note 3 3L: 3.5m 5L: 5m 10L: 10m 3K/5K/10K (Flexible cable) Note 4	Positioner Note 5 TS-P	Driver: Power-supply voltage / Power capacity 110: 100V/200W 210: 200V/200W	LCD monitor No entry: None L: With LCD	I/O selection NP: NPN PN: PNP CC: CC-Link DN: DeviceNet™ EP: EtherNet/IP™ GW: No I/O board Note 6
						SR1-P	10			
						Controller	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™ PB: PROFIBUS	
						RDV-P	2	10	RBR1	
						Driver	Power-supply voltage 2: AC200V	Driver: Power capacity 10: 200W or less	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.

Note 3. 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 4. If a flexible cable is needed for the SR1-P, TS-P, or RDV-P, then select 3K/5K/10K.

Note 5. These positioners can be mounted on DIN rails. See P.690 for details.

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.

Note 3. 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 4. If a flexible cable is needed for the SR1-P, TS-P, or RDV-P, then select 3K/5K/10K.

Note 5. These controllers can be mounted on DIN rails. See P.600 for details.

Note 6. 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

MF15D						Controller	
Model MF15D: Incremental MF15AD: Semi-absolute ^{Note 1}	Installing direction H: Horizontal installation 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 Horizontal: 100 to 3800 (100mm pitch) Wall: 100 to 1800 (100mm pitch)	Cable length 3L: 3.5m 5L: 5m 10L: 10m 3K/5K/10K (Flexible cable) ^{Note 4}	Controller RCX320 SR1-P (2 units) TS-P (2 units) RDV-P (2 units)	

Note. Specify various controller setting items.

Specifications

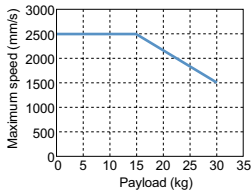
Model	MF15	MF15D
Driving method	Steel cored linear motor with falt magnet	
Repeatability (μm)	+/-5	
Scale (μm)	Magnetic type: resolution of 1	
Maximum speed^{Note 2} (mm/sec)	2500	
Rated thrust (N)	54	
Maximum payload^{Note 1} (kg)	30	
Stroke (mm)	Horizontal	100 to 4000 (100mm pitch) 100 to 3800 (100mm pitch)
	Wall mount	100 to 2000 (100mm pitch) 100 to 1800 (100mm pitch)
Linear guide	W100 × H80	
Maximum cross-section outside dimensions (mm)	(except the cable carrier section)	
Total length (mm)	Stroke+260 Stroke+460	
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.

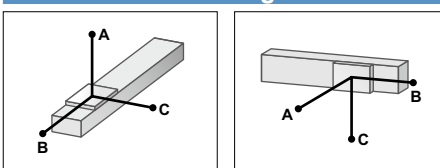
Note 1. Payload per carrier. When the weight exceeds 15 kg, special parameters are applicable. Please consult our sales office or sales representative.

Note 2. Table of maximum speed

Payload (kg)	Maximum speed (mm/s)
15 or less	2500
20	2200
25	1800
30	1500



Allowable overhang



Horizontal installation (Unit: mm)				Wall installation (Unit: mm)			
	A	B	C		A	B	C
5kg	3000	3000	915	5kg	865	1880	3060
10kg	2604	1542	481	10kg	410	905	2115
15kg	2368	1051	340	15kg	255	575	1910
20kg	1820	600	260	20kg	170	410	1780
25kg	1470	450	175	25kg	120	295	1660
30kg	1250	310	145	30kg	90	215	1440

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

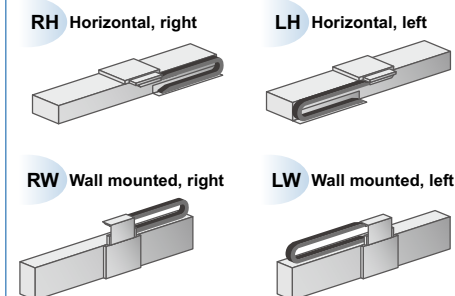
Static loading moment

(Unit: N·m)		
MY	MP	MR
290	291	256

Controller

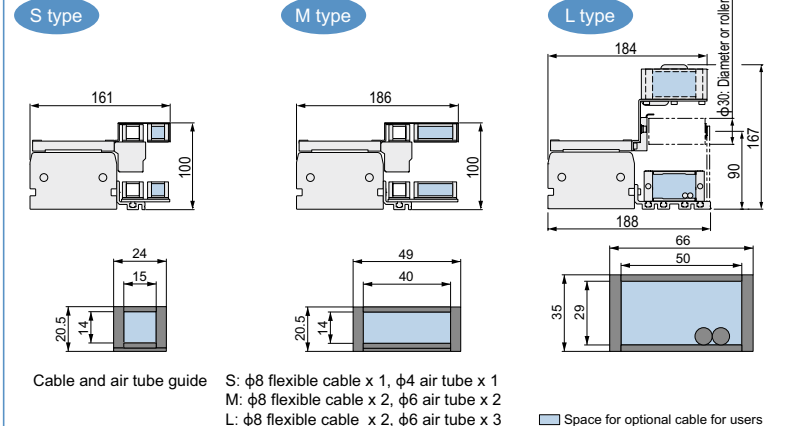
Controller	Operating method
SR1-P10	Programming / I/O point trace / Remote command / Operation using RS-232C communication
RCX320	
RCX340	
TS-P110	I/O point trace / Remote command
TS-P210	
RDV-P210-RBR1	Pulse train control

Cable carrier entry location



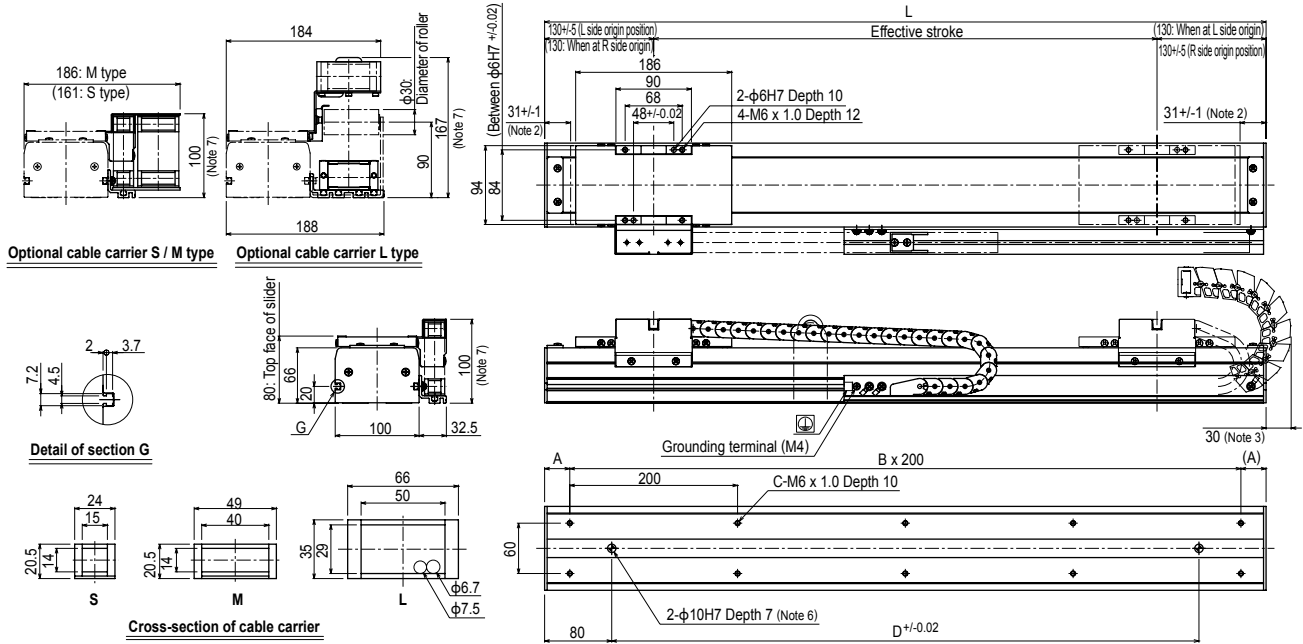
Note. Be sure to install in the direction as specified (in cable carrier take-out direction drawing and various specification drawings) individually. Installation in any other way will cause a failure. For requirement of installation in any way other than the above standard installation, please consult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

MF15 single carriage horizontal mount model **RH**

Note 1. Position of the table slider when returned to the origin.

Note 2. Stop positions are determined by the mechanical stoppers at both ends.

Note 3. Protrusion is the distance the cable carrier extends from the edge of unit when an optional L type cable carrier is used.

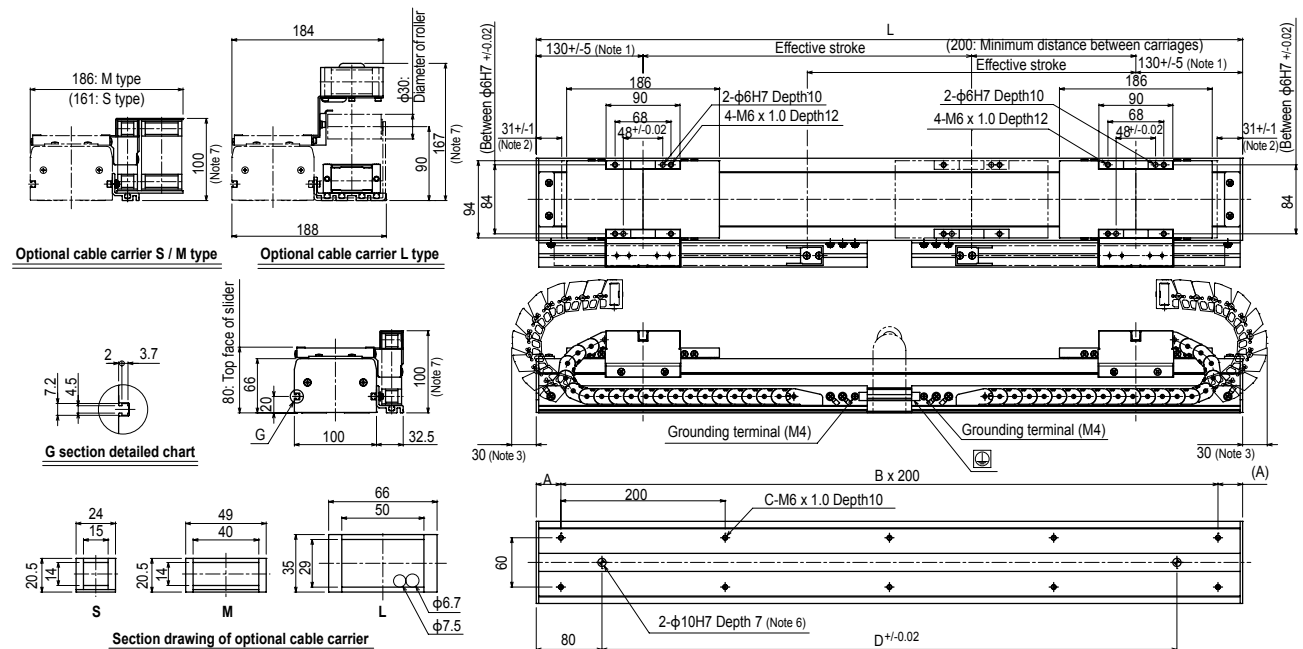
Note 4. For models with a 2,100mm or longer stroke, optional L type cable carriers can only be used.

Note 5. 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.

Note 6. When using $\phi 10$ H7 hole, do not insert the pin more than the depth stated in the drawing. Otherwise, the motor may break.

Note 7. 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	360	460	560	660	760	860	960	1060	1160	1260	1360	1460	1560	1660	1760	1860	1960	2060	2160	2260	2360	2460	2560	2660	2760	2860	2960	3060	3160	3260	3360	3460	3560	3660	3760	3860	3960	4060	4160	4260	
A	80	30	80	30	80	30	80	30	80	30	80	30	80	30	80	30	80	30	80	30	80	30	80	30	80	30	80	30	80	30	80	30	80	30	80	30	80	30	80	30	
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	
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	
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
Weight (kg)	6.3	7.3	8.3	9.3	10.3	11.3	12.3	13.3	14.3	15.4	16.4	17.4	18.4	19.4	20.4	21.4	22.4	23.4	24.4	25.4	26.4	27.4	28.4	29.4	30.4	31.4	32.4	33.4	34.4	35.4	36.4	37.4	38.4	39.4	40.4	41.4	42.4	43.4	44.4	45.4	

MF15D double carriage horizontal mount model **H**

Note 1. Position of the table slider when returned to the origin.

Note 2. Stop positions are determined by the mechanical stoppers at both ends.

Note 3. Protrusion is the distance the cable carrier extends from the edge of unit when an optional L type cable carrier is used.

Note 4. For models with a 2,100mm or longer stroke, optional L type cable carriers can only be used.

Note 5. 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.

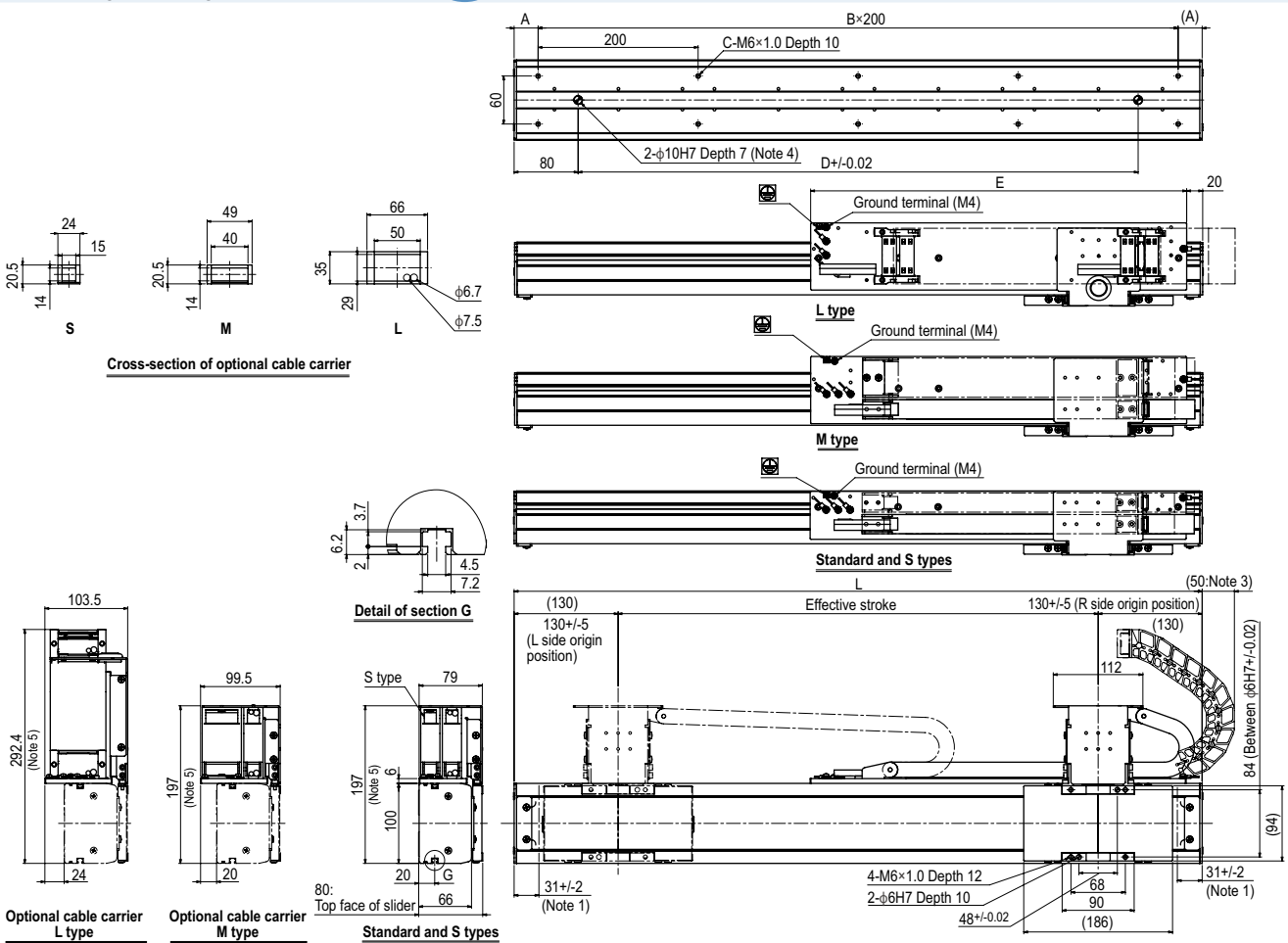
Note 6. When using $\phi 10$ H7 hole, do not insert the pin more than the depth stated in the drawing. Otherwise, the motor may break.

Note 7. 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
L	560	660	760	860	960	1060	1160	1260	1360	1460	1560	1660	1760	1860	1960	2060	2160	2260	2360	2460	2560	2660	2760	2860	2960	3060	3160	3260	3360	3460	3560	3660	3760	3860	3960	4060	4160	4260
A	80	30	80	30	80	30	80	30	80	30	80	30	80	30	80	30	80	30	80	30	80	30	80	30	80	30	80	30	80	30	80	30	80	30	80	30	80	30
B	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
C	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
D	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)	10.3	11.5	12.6	13.7	14.8	16.0	17.1	18.2	19.3	20.5	21.6	22.7	23.8	24.9	26.0	27.1	28.2	29.3	30.4	31.5	32.6	33.7	34.8	35.9	37.0	38.1	39.2	40.3	41.4	42.5	43.6	44.7	45.8	46.9	48.0	49.1	50.2	51.3

MF15/MF15D

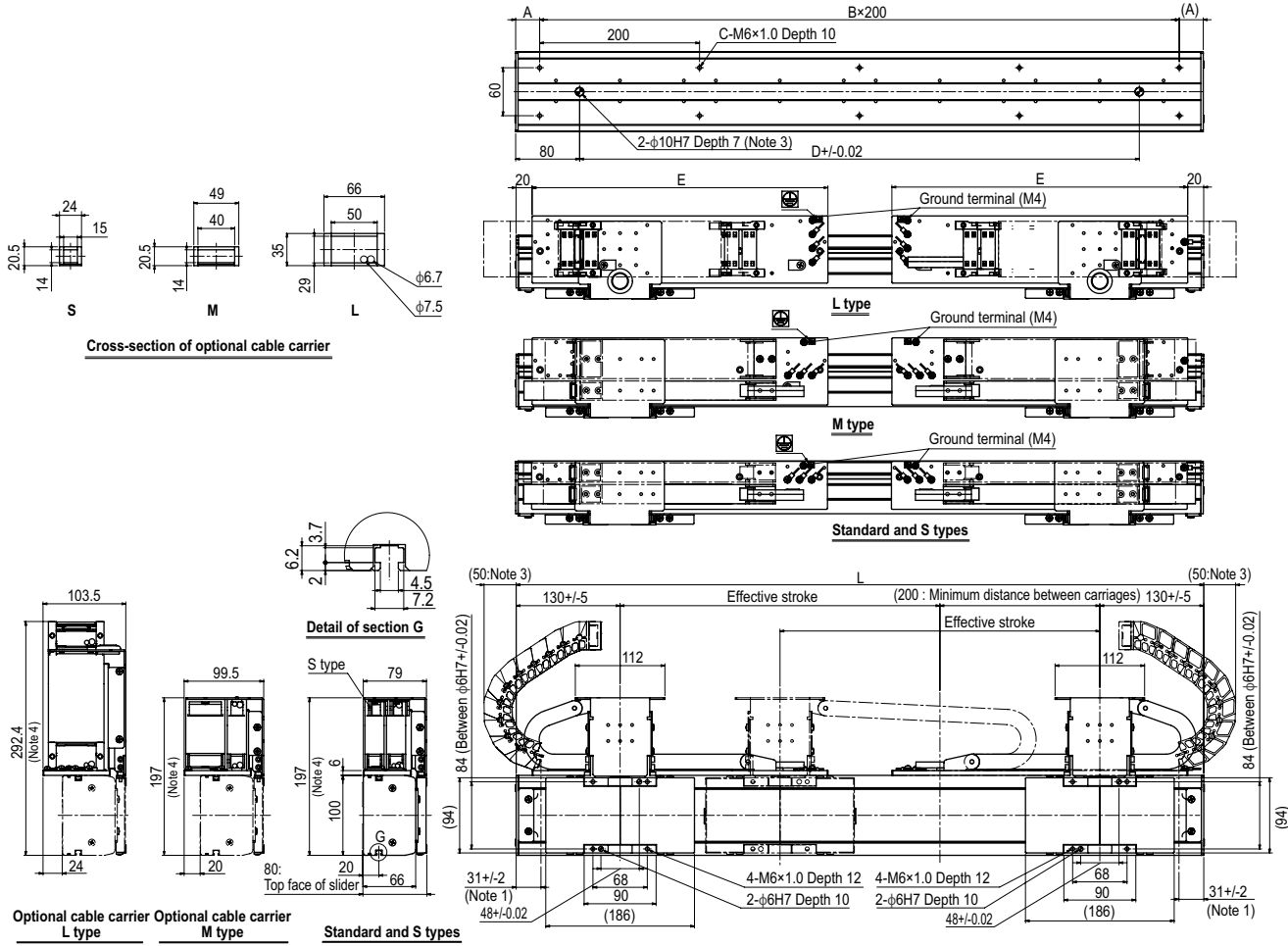
MF15 single carriage wall mount model RW



- Note 1. Stop positions are determined by the mechanical stoppers at both ends.
 Note 2. The origin is set on the R side at the time of shipment. It can be changed to the L side by parameter setting.
 Note 3. Protrusion is the distance the cable carrier extends from the edge of unit when an optional L type cable carrier is used.
 Note 4. When using φ10 H7 hole, do not insert the pin more than the depth stated in the drawing. Otherwise, the motor may break.
 Note 5. 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	360	460	560	660	760	860	960	1060	1160	1260	1360	1460	1560	1660	1760	1860	1960	2060	2160	2260
A	80	30	80	30	80	30	80	30	80	30	80	30	80	30	80	30	80	30	80	30
B	1	2	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11
C	4	6	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24
D	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100
E	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070	1120	1170
Weight (kg)	6.3	7.3	8.3	9.3	10.3	11.3	12.3	13.3	14.3	15.4	16.4	17.4	18.4	19.4	20.4	21.4	22.4	23.4	24.4	25.4

MF15D double carriage wall mount model **W**



Note 1. Stop positions are determined by the mechanical stoppers at both ends.
Note 2. Protrusion is the distance the cable carrier extends from the edge of unit when an optional L type cable carrier is used.
Note 3. When using φ10 H7 hole, do not insert the pin more than the depth stated in the drawing. Otherwise, the motor may break.
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
L	560	660	760	860	960	1060	1160	1260	1360	1460	1560	1660	1760	1860	1960	2060	2160	2260
A	80	30	80	30	80	30	80	30	80	30	80	30	80	30	80	30	80	30
B	2	3	3	4	4	5	5	6	6	7	7	8	8	9	9	10	10	11
C	6	8	8	10	10	12	12	14	14	16	16	18	18	20	20	22	22	24
D	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100
E	220	270	320	370	420	470	520	570	620	670	720	770	820	870	920	970	1020	1070
Weight (kg)	10.3	11.5	12.6	13.7	14.8	16.0	17.1	18.2	19.3	20.5	21.6	22.7	23.8	25.0	26.1	27.2	28.3	29.5