MF15/MF15D

Can be used for wall-mount

Ordering method

Single carriage model

MF15

Model	Cable carrier entry location	Optional cable carrier for users Note 2	Origin position change		Grease type	Stroke		Cable length Note 3
MF15: Incremental	RH: Horizontal, right	No entry: None	Hori-zontal	No entry: L side (Standard)	No entry: Standard	Hori-zontal	100 to 4000 (100mm pitch)	3L: 3.5m
MF15A: Semi-absolute Note 1	LH: Horizontal, left	S: S type		Z: R side	GC: Clean	Wall	100 to 2000 (100mm pitch)	5L: 5m
	RW: Wall mount, right	M: M type	Wall	No entry: R side (Standard)				10L: 10m
	LW: Wall mount, left	L: L type		Z: L side				3K/5K/10K (Flexible cable) Note 4

TSP

Positioner Note 5	Driver: Power-supply voltage / Power capacity	LCD monitor	I/O selection
TS-P	110: 100V/200W	No entry: None	NP: NPN
	210: 200V/200W	L: With LCD	PN: PNP
			CC: CC-Link
			DN: DeviceNet™
			EP: EtherNet/IP™
			GW: No I/O board Note 6

SR1-P 10

Controller	Driver: Power capacity	Usable for CE	I/O selection
	10: 200W	No entry: Standard	N: NPN
		E: CE marking	P: PNP
			CC: CC-Link
			DN: DeviceNet™
			PB: PROFIBUS

RDV-P 2 10 RBR1

Driver	Power-supply voltage	Driver: Power capacity	Regenerative unit
	2: AC200V	10: 200W or less	

Double carriage model

MF15D

Model	Installing direction	Optional cable carrier for users Note 2	Grease type	Stroke		Cable length	Controller	Usable for CE	I/O selection 1	I/O selection 2
MF15D: Incremental	H: Horizontal installation	No entry: None	No entry: Standard	Hori-zontal	100 to 3800 (100mm pitch)	3L: 3.5m	RCX221	No entry: Standard	N: NPN	No entry: None
MF15AD: Semi-absolute Note 1	W: Wall mount installation	S: S type	GC: Clean	Wall	100 to 1800 (100mm pitch)	5L: 5m	SR1-P (2 units)	E: CE marking	P: PNP	N1: OP.DIO24/16 (NPN)
		M: M type				10L: 10m	TS-P (2 units)		CC: CC-Link	P1: OP.DIO24/17 (PNP)
		L: L type				3K/5K/10K (Flexible cable) Note 4	RDV-P (2 units)		DN: DeviceNet™	
									PB: PROFIBUS	
									EN: Ethernet	EN: Ethernet

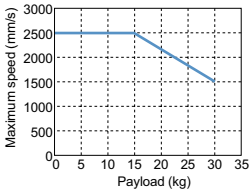
Note 1. Semi-absolute models are supported by the SR1-P, TS-P and RCX221. For the details of the semi-absolute model, please refer to P.23. RDV-P has an incremental model only.
Note 2. For models with a 2,100mm or longer stroke, optional L type cable carriers can only be used.
Note 3. The robot cable is standard cable (3L/5L/10L), but can be changed to flexible cable. See P.510 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 RCX221, 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.446 for details.
Note 6. Select this selection when using the gateway function. For details, see P.439.
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.518.

Specifications Note

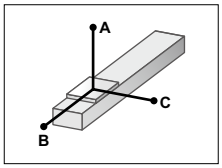
Model		MF15	MF15D
Driving method		Steel cored linear motor with falt magnet	
Repeatability (μm)		+/-5	
Scale (μm)		Magnetic type: resolution of 1	
Maximum speed Note 2 (mm/sec)		2500	
Rated thrust (N)		54	
Maximum payload Note 1 (kg)		30	
Stroke (mm)	Horizontal	100 to 4000 (100mm pitch)	100 to 3800 (100mm pitch)
	Wall mount	100 to 2000 (100mm pitch)	100 to 1800 (100mm pitch)
Linear guide		4 rows of circular arc grooves × 2 rail	
Maximum cross-section outside dimensions (mm)		W100 × H80 (except the cable carrier section)	
Total length (mm)		Stroke+260	Stroke+460
Cable length (m)		Standard: 3.5 / Option: 5,10	

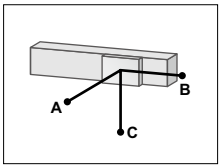
Note. A vertical model (with brake) is not available with the PHASER series.
Note. The basic specifications of semi-absolute model are the same as those of the incremental model.
Note 1. Payload per carrier. When the payload exceeds 15kg, please consult our sales office or sales representative.
Note 2. Table of maximum speed

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



Allowable overhang Note





Horizontal installation (Unit: mm)

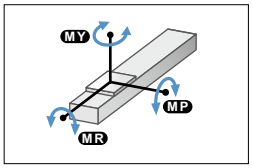
	A	B	C
5kg	3000	3000	915
10kg	2604	1542	481
15kg	2368	1051	340
20kg	1820	600	260
25kg	1470	450	175
30kg	1250	310	145

Wall installation (Unit: mm)

	A	B	C
5kg	865	1880	3060
10kg	410	905	2115
15kg	255	575	1910
20kg	170	410	1780
25kg	120	295	1660
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)

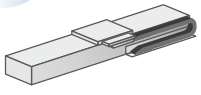
MY	MP	MR
290	291	256

Controller

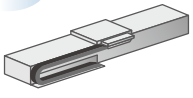
Controller	Operating method
SR1-P10	Programming / I/O point trace / Remote command / Operation using RS-232C communication
RCX221 RCX240/340	
TS-P110	I/O point trace / Remote command
TS-P210	
RDV-P210-RBR1	Pulse train control

Cable carrier entry location

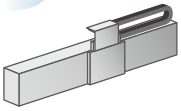
RH Horizontal, right



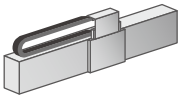
LH Horizontal, left



RW Wall mounted, right



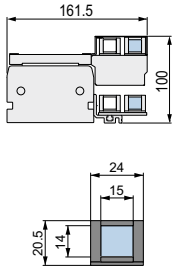
LW Wall mounted, left



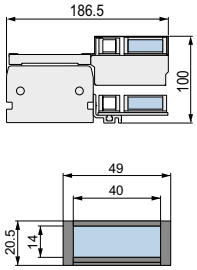
Note. Be sure to install in the direction as specified (in cable carrier take-out direction drawing and various specification drawings) individually. Installation in any other way will cause a failure. For requirement of installation in any way other than the above standard installation, please consult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

Optional cable carrier for users

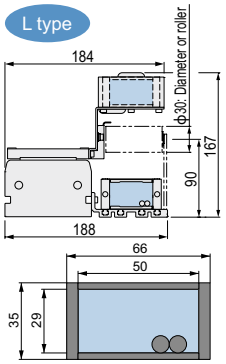
S type



M type



L type

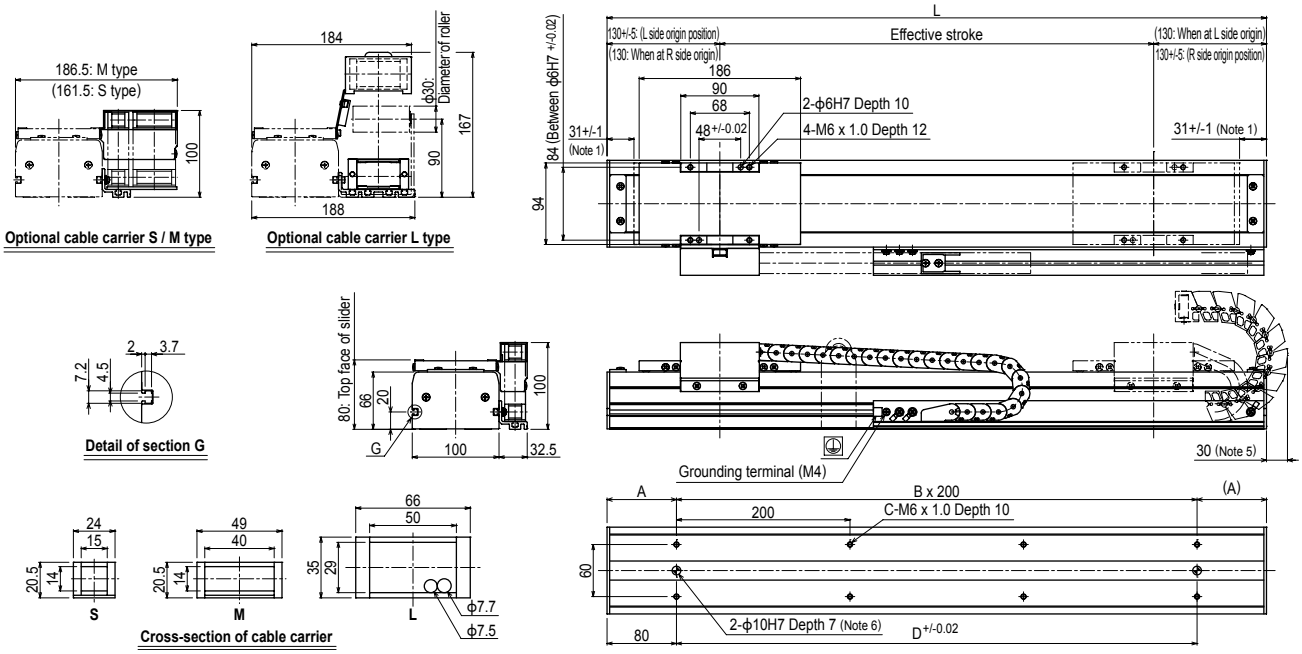


Cable and air tube guide

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, ϕ8 air tube x 3

Space for optional cable for users

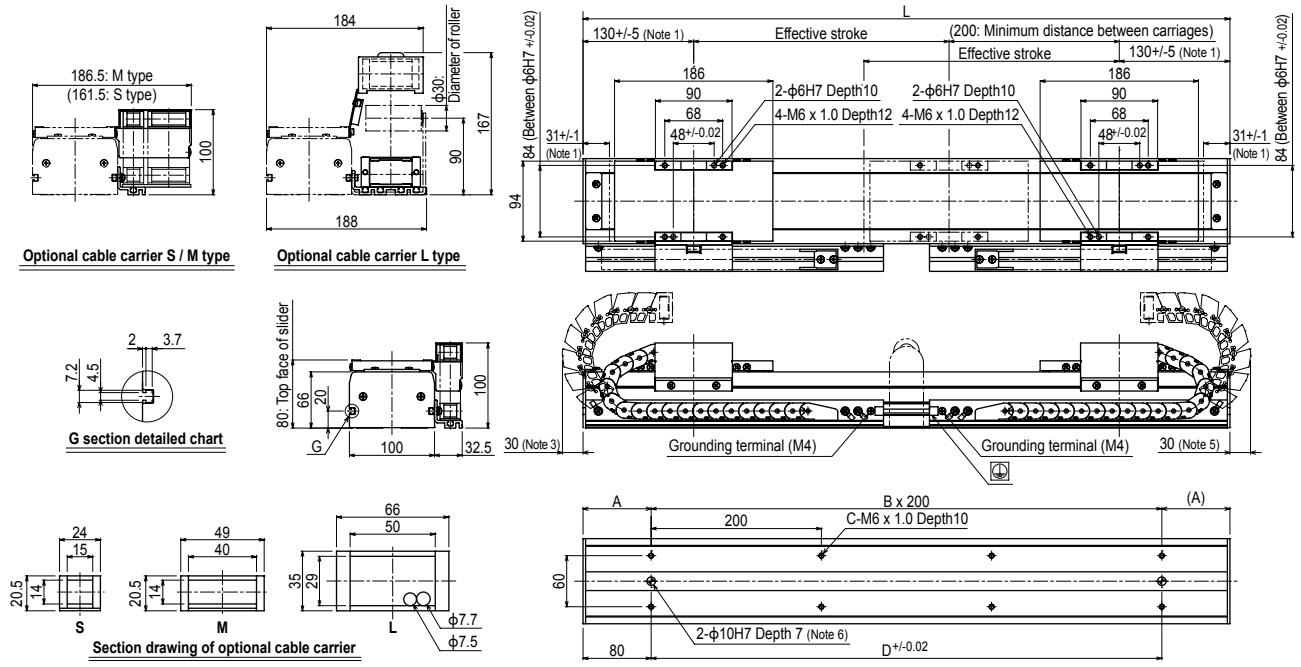
MF15 single carriage horizontal mount model RH



Note 1. Distance from both ends to the mechanical stopper.
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. For models with a 2,100mm or longer stroke, optional L type cable carriers can only be used.
Note 4. 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.
Note 5. Protrusion is the distance the cable carrier extends from the edge of unit when an optional L type cable carrier is used.
Note 6. When using ϕ10 H7 hole, do not insert the pin more than the depth stated in the drawing. Otherwise, the motor may break.

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
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	35.8	36.8	37.8	38.8	39.8	40.8	41.8	42.8	43.8	44.8	45.8

MF15D double carriage horizontal mount model H

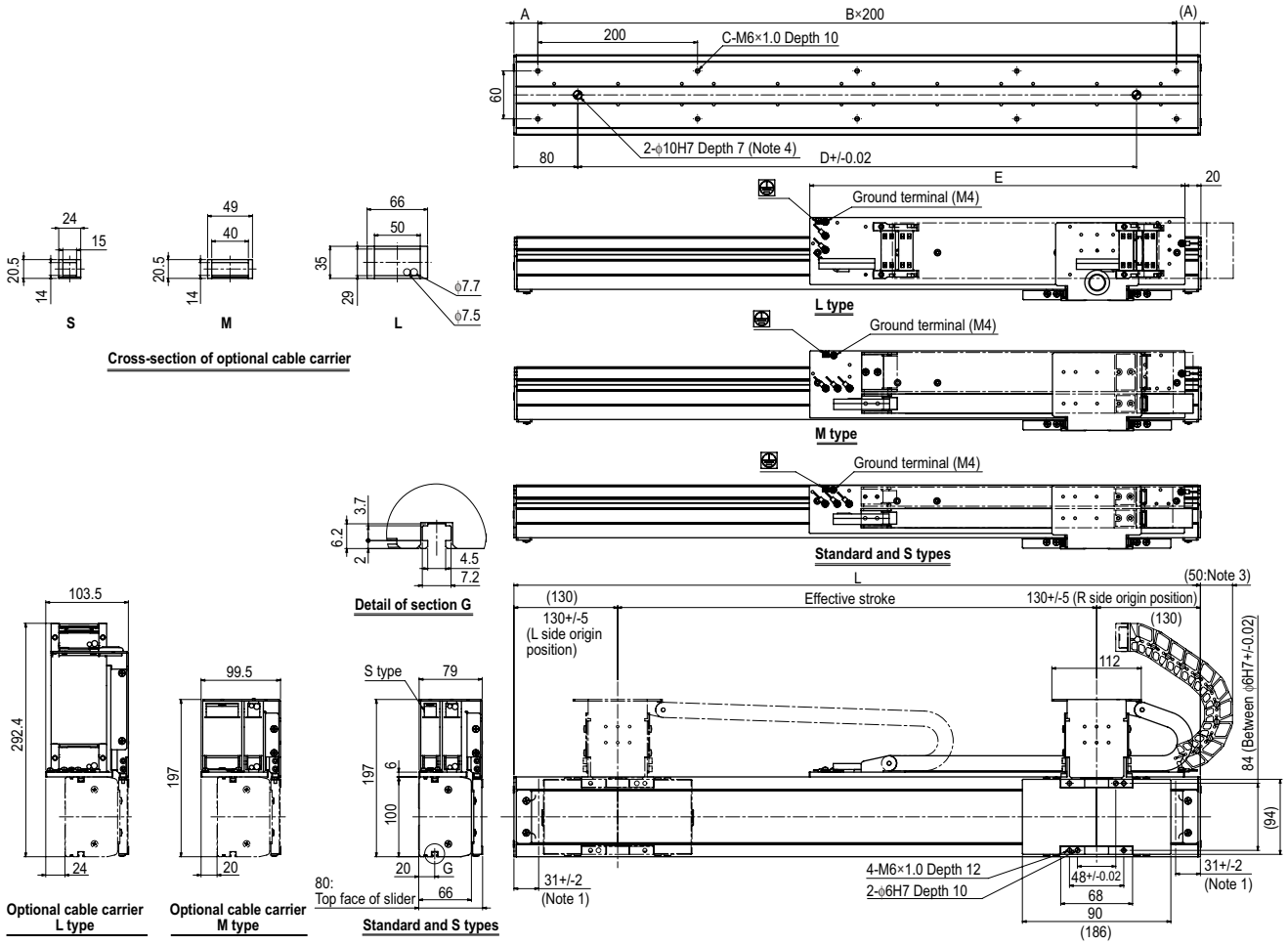


Note 1. Position of table carriage when returned to the origin.
Note 2. Distance from both ends to the mechanical stopper.
Note 3. For models with a 2,100mm or longer stroke, optional L type cable carriers can only be used.
Note 4. For models with a 3,050mm or longer stroke and an optional L type cable carrier, a roller is installed to prevent the cable carrier from sagging.
Note 5. Protrusion is the distance the cable carrier extends from the edge of unit when an optional L type cable carrier is used.
Note 6. When using ϕ10 H7 hole, do not insert the pin more than the depth stated in the drawing. Otherwise, the motor may break.

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	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	21	22
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	44	46
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	4200	4300
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	30.6	31.7	32.8	34.0	35.1	36.2	37.4	38.5	39.6	41.0	42.2	43.3	44.4	45.5	46.7	47.8	48.9	50.0	51.2	52.3	53.4	54.5

MF15/MF15D

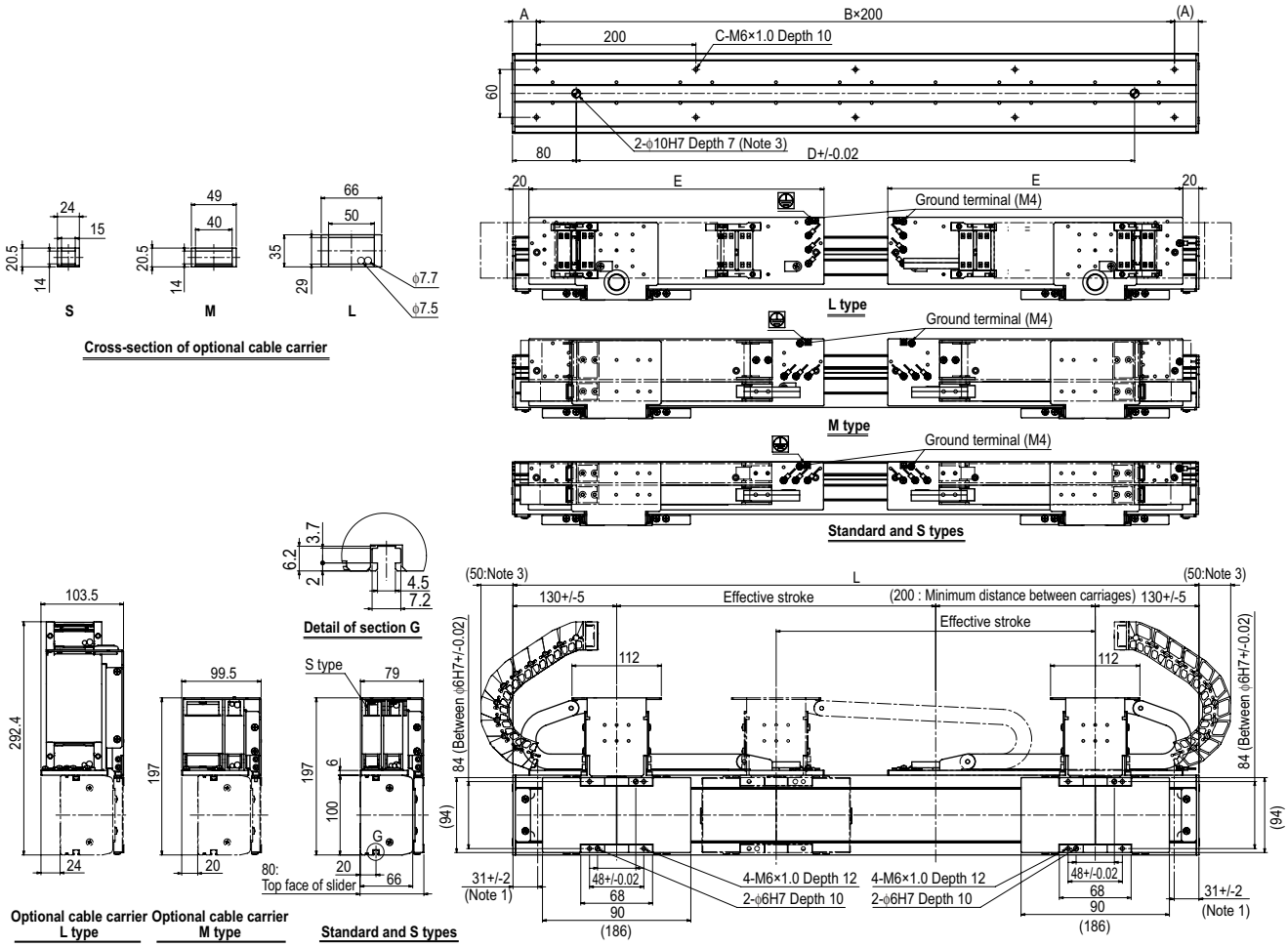
MF15 single carriage wall mount model RW



Note 1. Distance from both ends to the mechanical stopper.
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.

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. Distance from both ends to the mechanical stopper.
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.

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