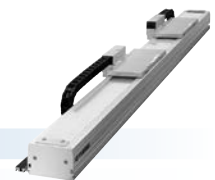


MF15/MF15D

Can be used for wall-mount



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 | 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} | |

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 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.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 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.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

| | | | |
|---|---|---|---|
| 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 | Stroke Horizontal 100 to 3800 (100mm pitch) 100 to 1800 (100mm pitch) Wall |
| Grease type No entry: Standard GC: Clean | Cable length 3L: 3.5m 5L: 5m 10L: 10m 3K/5K/10K (Flexible cable) ^{Note 4} | Controller RCX320 RCX221 SR1-P (2 units) TS-P (2 units) RDV-P (2 units) | |

Note. Specify various controller setting items.

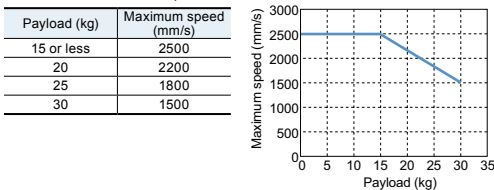
Specifications

| 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 | 4 rows of circular arc grooves x 2 rail | |
| Maximum cross-section outside dimensions (mm) | W100 x H80 (except the cable carrier section) | |
| Total length (mm) | Stroke+260 | Stroke+460 |
| Cable length (m) | Standard: 3.5 / Option: 5,10 | |

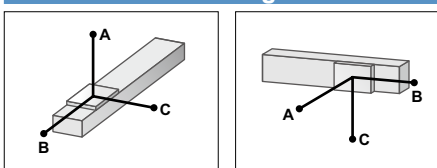
Note. A vertical model (with brake) is not available with the PHASER series. Note. The basic specifications of semi-absolute model are the same as those of the incremental model.

Note 1. Payload per carrier. When the payload exceeds 15kg, please consult our sales office or sales representative.

Note 2. Table of maximum speed



Allowable overhang



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

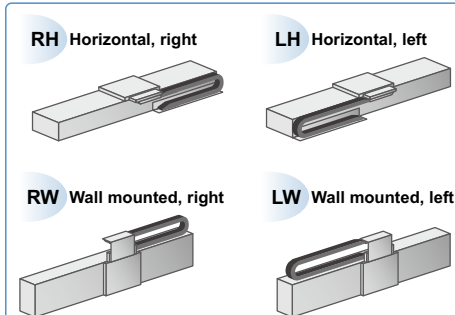
| MY | MP | MR |
|-----|-----|-----|
| 290 | 291 | 256 |

(Unit: N·m)

Controller

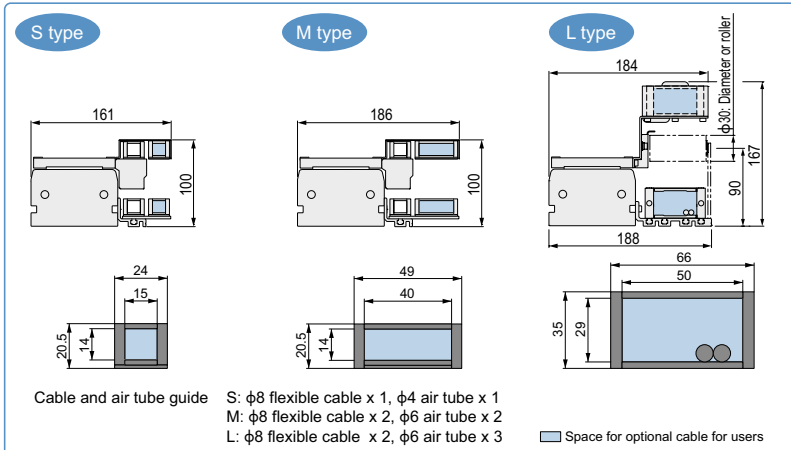
| Controller | Operating method |
|----------------------------|--|
| SR1-P10 | Programming / I/O point trace / Remote command / Operation using RS-232C communication |
| RCX320 RCX221 RCX340 | I/O point trace / Remote command |
| TS-P110 TS-P210 | Pulse train control |
| RDV-P210-RBR1 | |

Cable carrier entry location

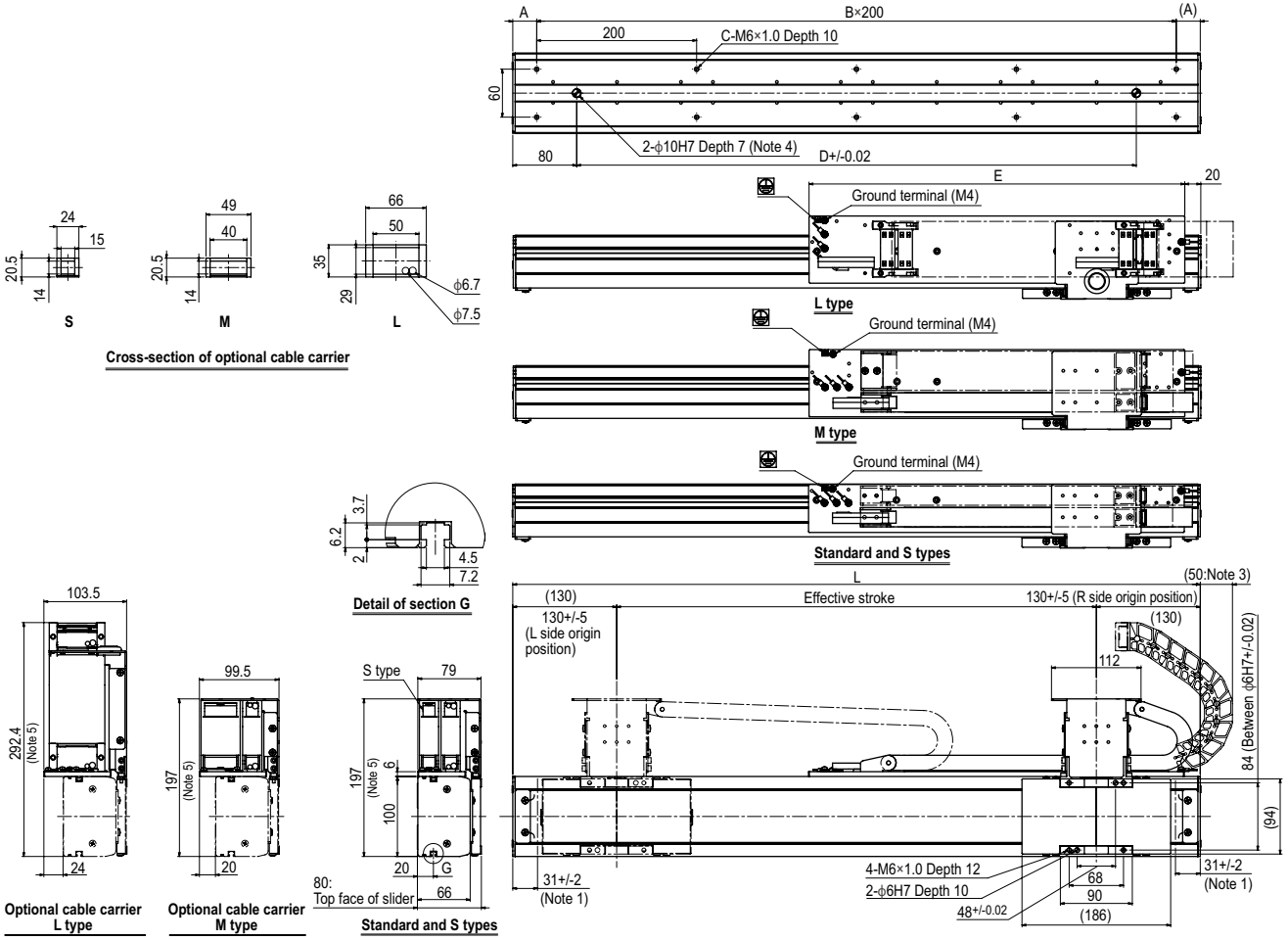


Note. Be sure to install in the direction as specified (in cable carrier take-out direction drawing and various specification drawings) individually. Installation in any other way will cause a failure. For requirement of installation in any way other than the above standard installation, please consult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

Optional cable carrier for users



MF15 single carriage wall mount model RW

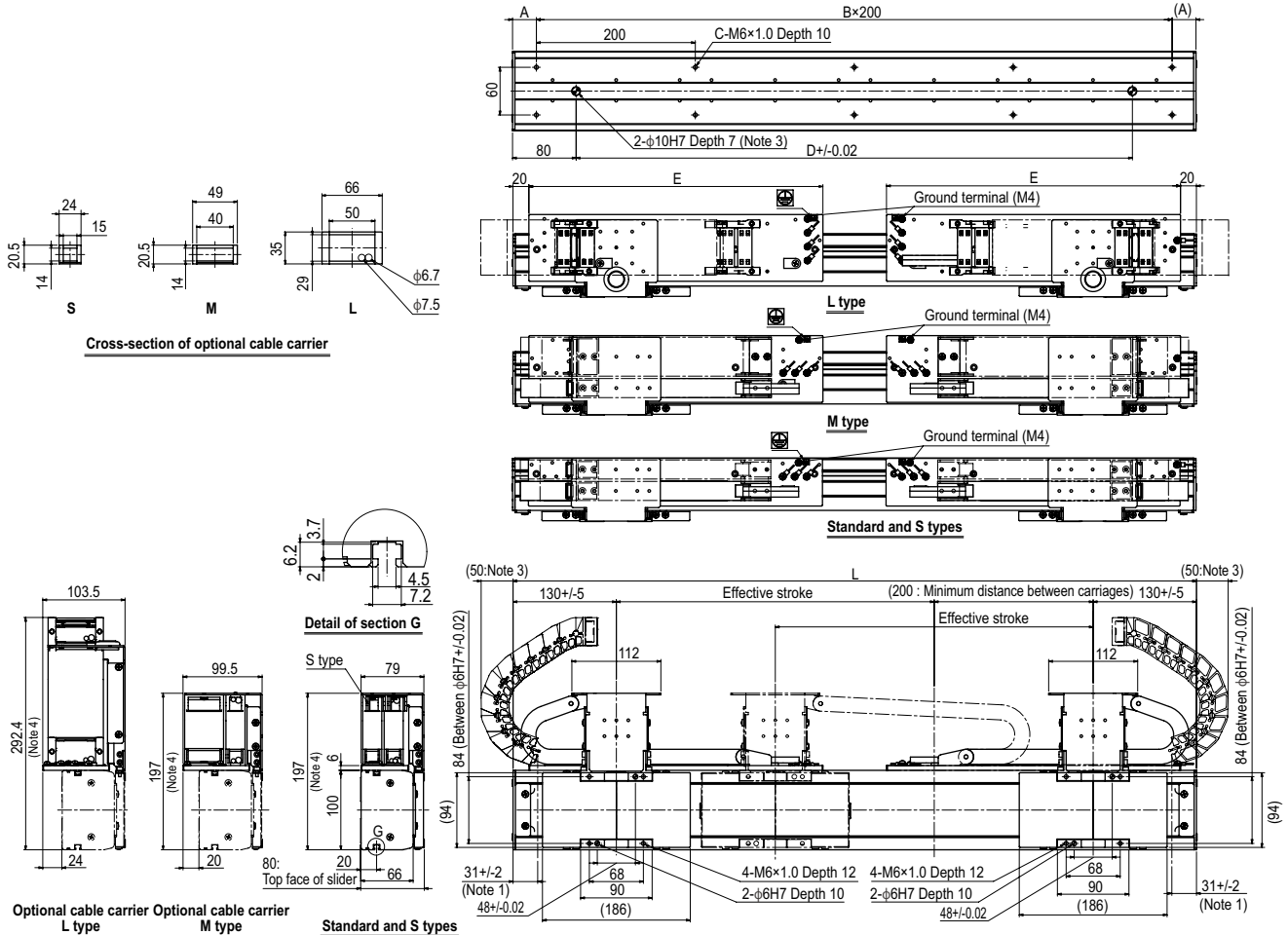


Note 1. Stop positions are determined by the mechanical stoppers at both ends.
 Note 2. The origin is set on the R side at the time of shipment. It can be changed to the L side by parameter setting.
 Note 3. Protrusion is the distance the cable carrier extends from the edge of unit when an optional L 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 |

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CLEAN

CONTROLLER

INFORMATION