

# MF75/MF75D



## Ordering method

### Single carriage model

**MF75**

<b>Model</b> MF75: Incremental MF75A: Semi-absolute <sup>Note 1</sup>	<b>Cable carrier entry location</b> RH: Horizontal, right LH: Horizontal, left	<b>Origin position change</b> No entry: L side (Standard) Z: R side	<b>Grease type</b> No entry: Standard GC: Clean	<b>Stroke</b> 1000 to 4000 (100mm pitch)	<b>Cable length</b> <sup>Note 2</sup> 3L: 3.5m 5L: 5m 10L: 10m 3K/5K/10K (Flexible cable) <sup>Note 3</sup>	<b>TSP</b> <b>Positioner</b> <sup>Note 4</sup> TS-P	<b>220</b> <b>Driver: Power-supply voltage / Power capacity</b> 220: 200V/400 to 600W	<b>R</b> <b>Regenerative unit</b> R: With RGU-2	<b>LCD monitor</b> No entry: None L: With LCD	<b>I/O selection</b> NP: NPN PN: PNP CC: CC-Link DN: DeviceNet™ EP: EtherNet/IP™ GW: No I/O board <sup>Note 5</sup>
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**SR1-P**

<b>Controller</b>	<b>Driver: Power capacity</b> 20: 400 to 600W	<b>Usable for CE</b> No entry: Standard E: CE marking	<b>Regenerative unit</b> R: With RGU-2	<b>I/O selection</b> N: NPN P: PNP CC: CC-Link DN: DeviceNet™ PB: PROFIBUS
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**RDV-P**

<b>Driver</b>	<b>Power-supply voltage</b> 2: AC200V	<b>25</b> <b>Driver: Power capacity</b> 25: 750W or less	<b>RBR2</b> <b>Regenerative unit</b>
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### Double carriage model

**MF75D** - **H**

<b>Model</b> MF75D: Incremental MF75AD: Semi-absolute <sup>Note 1</sup>	<b>Installing direction</b> H: Horizontal installation	<b>Grease type</b> No entry: Standard GC: Clean	<b>Stroke</b> 680 to 3680 (100mm pitch)	<b>Cable length</b> 3L: 3.5m 5L: 5m 10L: 10m 3K/5K/10K (Flexible cable) <sup>Note 3</sup>	<b>RCX221HP</b> <b>Controller</b> RCX221HP SR1-P (2 units) TS-P (2 units) RDV-P (2 units)	<b>Usable for CE</b> No entry: Standard E: CE marking	<b>R</b> <b>Regenerative unit</b>	<b>I/O selection 1</b> N: NPN P: PNP CC: CC-Link DN: DeviceNet™ PB: PROFIBUS EN: Ethernet	<b>I/O selection 2</b> No entry: None N1: OP.DIO24/16 (NPN) P1: OP.DIO24/17 (PNP) EN: Ethernet
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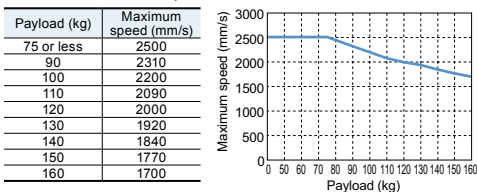
Note 1. Semi-absolute models are supported by the SR1-P, TS-P and RCX221. For the details of the semi-absolute model, please refer to P.23. RDV-P has an incremental model only.  
 Note 2. The robot cable is standard cable (3L/5L/10L), but can be changed to flexible cable. See P.510 for details on robot cable.  
 Note 3. 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 4. These controllers can be mounted on DIN rails. See P.446 for details.  
 Note 5. 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

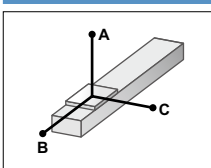
Model	MF75	MF75D
<b>Driving method</b>	Steel cored linear motor with falt magnet	
<b>Repeatability (μm)</b>	+/-5	
<b>Scale (μm)</b>	Magnetic type: resolution of 1	
<b>Maximum speed</b> <sup>Note 2</sup> (mm/sec)	2500	
<b>Rated thrust (N)</b>	260	
<b>Maximum payload</b> <sup>Note 1</sup> (kg)	160	
<b>Stroke (mm)</b>	1000 to 4000 (100mm pitch)	680 to 3680 (100mm pitch)
<b>Linear guide</b>	4 rows of circular arc grooves x 2 rail	
<b>Maximum cross-section outside dimensions (mm)</b>	W210xH100 (except the cable carrier section)	
<b>Total length (mm)</b>	Stroke+360	Stroke+680
<b>Cable length (m)</b>	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 75kg, please consult our sales office or sales representative.

Note 2. Table of maximum speed



## Allowable overhang

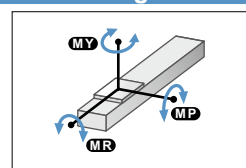


Horizontal installation (Unit: mm)

	A	B	C
<b>20kg</b>	3397	2841	1840
<b>40kg</b>	2795	1389	964
<b>60kg</b>	2200	530	450
<b>80kg</b>	1800	175	150
<b>100kg</b>	1500	130	110
<b>120kg</b>	1250	100	80
<b>140kg</b>	1100	80	65
<b>160kg</b>	950	60	50

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
830	831	730

## Controller

Controller	Operating method
SR1-P20-R (RGU-2)	Programming / I/O point trace /
RCX221HP-R (RG2)	Remote command / Operation using RS-232C communication
TS-P220-R (RGU-2)	I/O point trace / Remote command
RDV-P225-RBR2	Pulse train control

## Cable carrier entry location

**RH Horizontal, right**      **LH Horizontal, left**

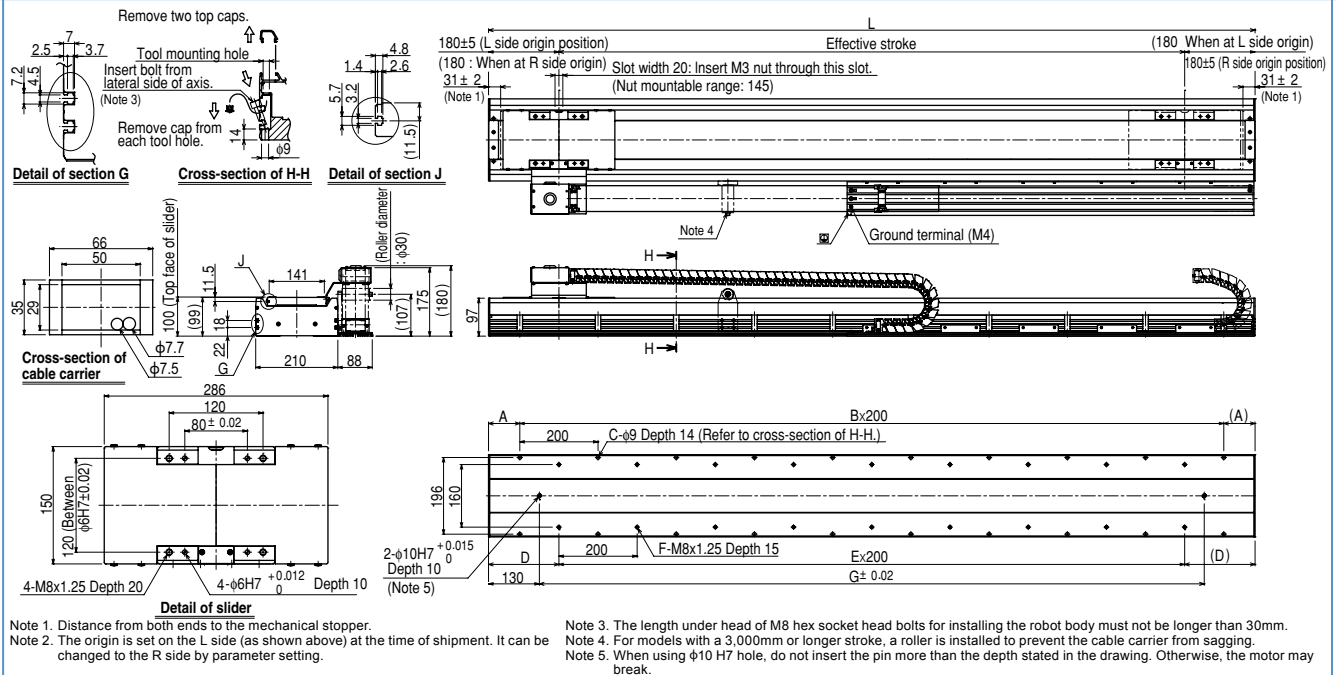
Note. Be sure to install in the direction as specified (in cable carrier take-out direction drawing and various specification drawings) individually. Installation in any other way will cause a failure. For requirement of installation in any way other than the above standard installation, please consult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

## Cable carrier

Cable and air tube guide φ8 flexible cable x 2, φ6 air tube x 3

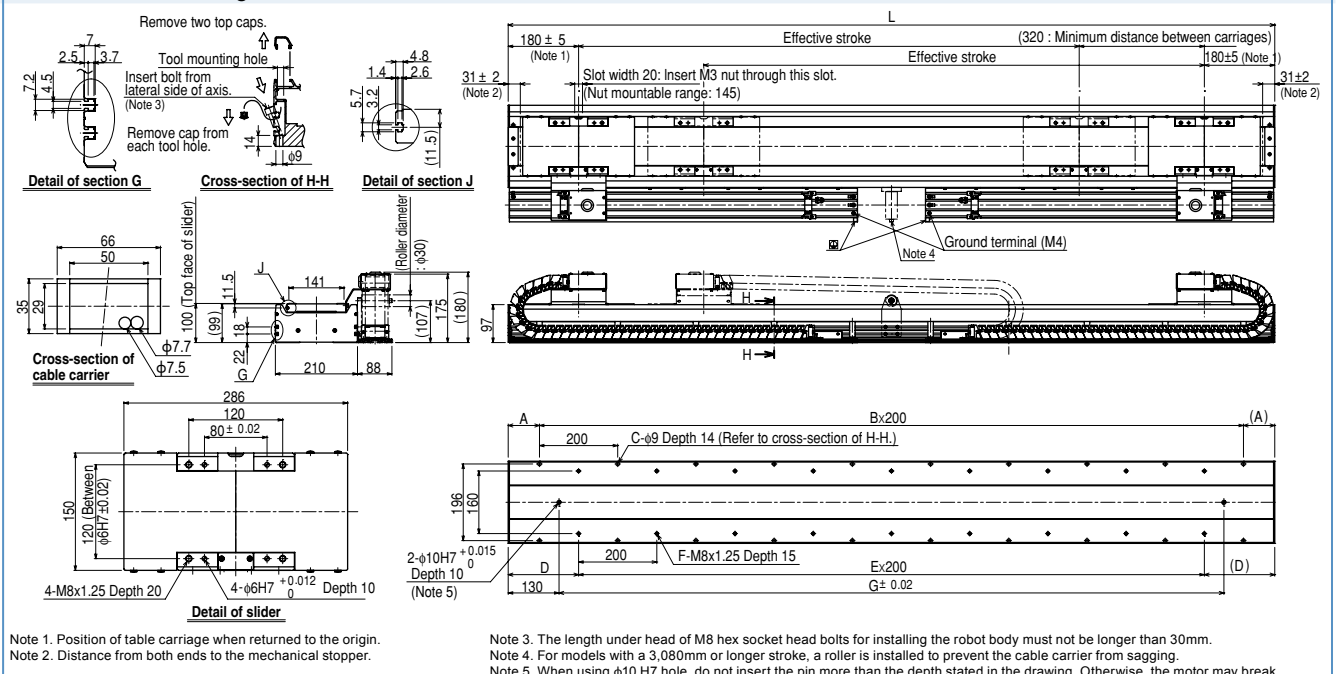
Space for optional cable for users

MF75 single carriage horizontal mount model **RH**



Effective stroke	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	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	4360
A	180	230	80	130	180	230	80	130	180	230	80	130	180	230	80	130	180	230	80	130	180	230	80	130	180	230	80	130	180	230	80
B	5	5	7	7	7	7	9	9	9	9	11	11	11	11	11	13	13	13	13	15	15	15	17	17	17	17	19	19	19	21	
C	12	12	16	16	16	16	20	20	20	20	24	24	24	24	28	28	28	28	32	32	32	32	36	36	36	36	40	40	40	44	
D	80	130	180	230	80	130	180	230	80	130	180	230	80	130	180	230	80	130	180	230	80	130	180	230	80	130	180	230	80	130	180
E	6	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	16	16	16	16	18	18	18	18	20	20	20
F	14	14	14	14	18	18	18	18	22	22	22	22	26	26	26	26	30	30	30	30	34	34	34	34	38	38	38	38	42	42	42
G	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)	46	49	51	54	56	59	61	64	66	69	71	74	76	79	81	84	86	89	91	94	96	99	101	104	106	109	111	114	116	119	121

MF75D double carriage mount model **H**



Effective stroke	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
L	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	4360
A	180	230	80	130	180	230	80	130	180	230	80	130	180	230	80	130	180	230	80	130	180	230	80	130	180	230	80	130	180	230	80
B	5	5	7	7	7	7	9	9	9	9	11	11	11	11	11	13	13	13	13	15	15	15	15	17	17	17	17	19	19	19	21
C	12	12	16	16	16	16	20	20	20	20	24	24	24	24	28	28	28	28	32	32	32	32	36	36	36	36	40	40	40	44	
D	80	130	180	230	80	130	180	230	80	130	180	230	80	130	180	230	80	130	180	230	80	130	180	230	80	130	180	230	80	130	180
E	6	6	6	6	6	8	8	8	8	10	10	10	10	12	12	12	12	14	14	14	16	16	16	16	18	18	18	18	20	20	20
F	14	14	14	14	18	18	18	18	22	22	22	22	26	26	26	26	30	30	30	30	34	34	34	34	38	38	38	38	42	42	42
G	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)	57	60	62	65	67	70	73	75	78	81	83	86	88	91	94	96	99	101	104	107	109	112	114	117	120	122	125	127	130	133	135