MF75/MF75D

Note. When the weight per carrier exceeds 75 kg, special parameters are applicable.

Ordering method

Single carriage model

MF75 – [ ] – [ ] – [ ] – [ ] – [ ]

Model	Cable carrier entry location	Origin position change	Grease type	Stroke	Cable length Note 2
MF75: Incremental MF75A: Semi-absolute Note 1	RH: Horizontal, right LH: Horizontal, left	Horizontal: No entry: L side (Standard) Z: R side	No entry: Standard GC: Clean	1000 to 4000 (100mm pitch)	3L: 3.5m 5L: 5m 10L: 10m 3K/5K/10K (Flexible cable) Note 3

TSP – **220** – **R** – [ ] – [ ]

Positioner Note 4	Driver: Power-supply voltage / Power capacity	Regenerative unit	LCD monitor	I/O selection
TS-P	220: 200V/400 to 600W	R: With RGU-2	No entry: None L: With LCD	NP: NPN PN: PNP CC: CC-Link DN: DeviceNet™ EP: EtherNet/IP™ GW: No I/O board Note 5

SR1-P – **20** – [ ] – **R** – [ ]

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

RDV-P – **2** – **25** – **RBR2**

Driver	Power-supply voltage	Driver: Power capacity	Regenerative unit
	2: AC200V	25: 750W or less	

Note 1. When RDV-P is selected, the semi-absolute specifications cannot be selected.
Note 2. 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 3. If a flexible cable is needed for the SR1-P, TS-P, or RDV-P, then select 3K/5K/10K.
Note 4. These controllers can be mounted on DIN rails. See P.600 for details.
Note 5. 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

MF75D – **H** – [ ] – [ ] – [ ] – [ ]

Model	Installing direction	Grease type	Stroke	Cable length	Controller
MF75D: Incremental MF75AD: Semi-absolute Note 1	H: Horizontal installation	No entry: Standard GC: Clean	680 to 3680 (100mm pitch)	3L: 3.5m 5L: 5m 10L: 10m 3K/5K/10K (Flexible cable) Note 3	RCX320 SR1-P (2 units) TS-P (2 units) RDV-P (2 units)

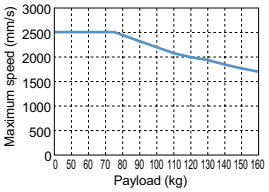
Note. Specify various controller setting items.

Specifications Note

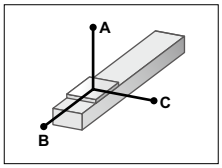
Model	MF75	MF75D
Driving method	Steel cored linear motor with falt magnet	
Repeatability (μm)	+/-5	
Scale (μm)	Magnetic type: resolution of 1	
Maximum speed Note 2 (mm/sec)	2500	
Rated thrust (N)	260	
Maximum payload Note 1 (kg)	160	
Stroke (mm)	1000 to 4000 (100mm pitch)	680 to 3680 (100mm pitch)
Linear guide	4 rows of circular arc grooves × 2 rail	
Maximum cross-section outside dimensions (mm)	W210×H100 (except the cable carrier section)	
Total length (mm)	Stroke+360	Stroke+680
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 75 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)
75 or less	2500
90	2310
100	2200
110	2090
120	2000
130	1920
140	1840
150	1770
160	1700



Allowable overhang Note

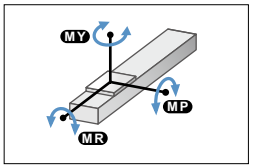


Horizontal installation (Unit: mm)

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

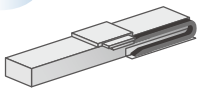
MY	MP	MR
830	831	730

Controller

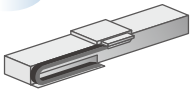
Controller	Operating method
SR1-P20-R	Programming / I/O point trace / Remote command / Operation using RS-232C communication
RCX320-R RCX340	
TS-P220-R	I/O point trace / Remote command
RDV-P225-RBR2	Pulse train control

Cable carrier entry location

RH Horizontal, right

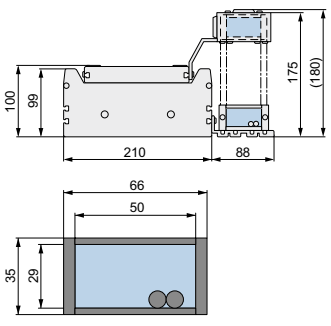


LH Horizontal, left



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.

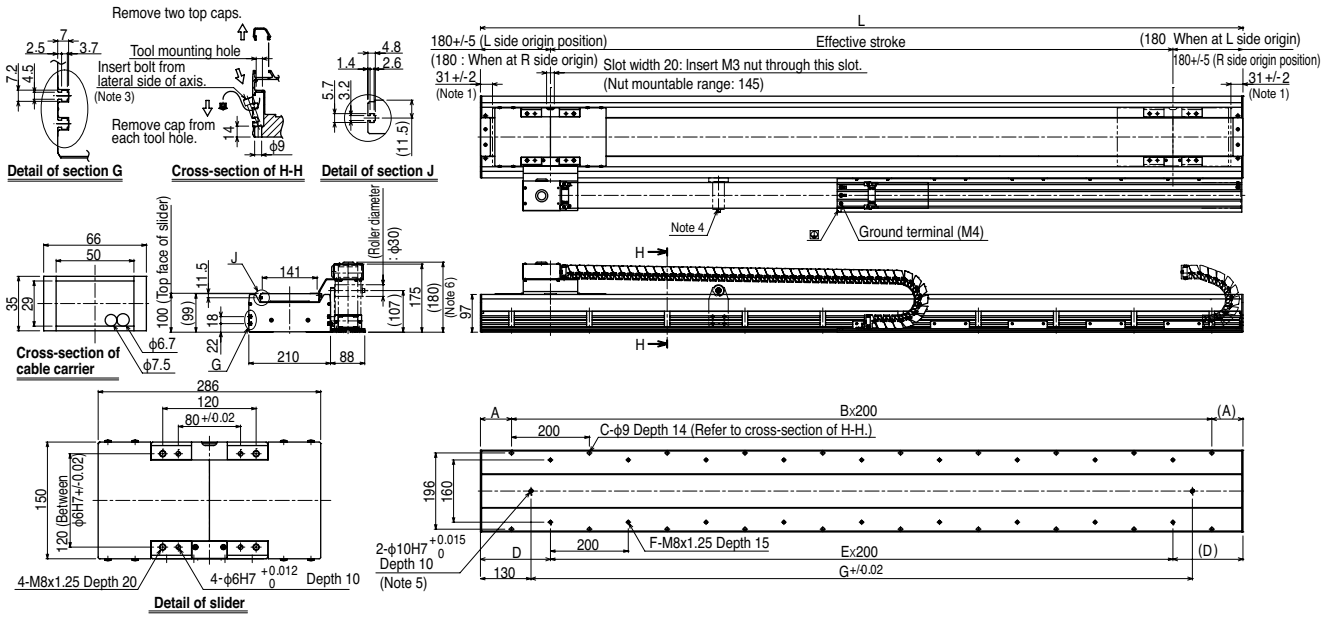
Cable carrier



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

Space for optional cable for users

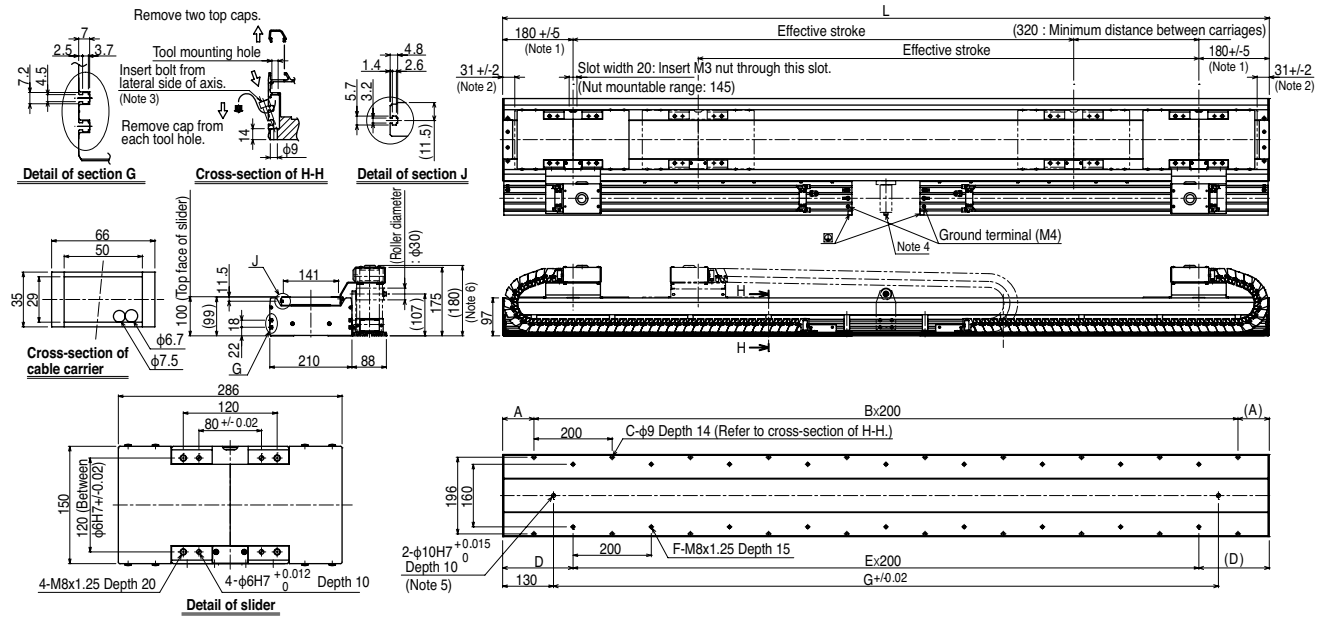
MF75 single carriage horizontal mount model RH



Note 1. Stop positions are determined by the mechanical stoppers at both ends.
Note 2. The origin is set on the L side (as shown above) at the time of shipment. It can be changed to the R side by parameter setting.
Note 3. The length under head of M8 hex socket head bolts for installing the robot body must not be longer than 30mm.
Note 4. For models with a 3,000mm or longer stroke, a roller is installed to prevent the cable carrier from sagging.
Note 5. When using ϕ10 H7 hole, do not insert the pin more than the depth stated in the drawing. Otherwise, the motor may break.
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	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	13	13	13	13	15	15	15	15	17	17	17	17	19	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	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	8	8	8	8	10	10	10	10	12	12	12	12	14	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



Note 1. Position of table carriage when returned to the origin.
Note 2. Stop positions are determined by the mechanical stoppers at both ends.
Note 3. The length under head of M8 hex socket head bolts for installing the robot body must not be longer than 30mm.
Note 4. For models with a 3,080mm or longer stroke, a roller is installed to prevent the cable carrier from sagging.
Note 5. When using ϕ10 H7 hole, do not insert the pin more than the depth stated in the drawing. Otherwise, the motor may break.
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	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	13	13	13	13	15	15	15	15	17	17	17	17	19	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	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	8	8	8	8	10	10	10	10	12	12	12	12	14	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