

LMG

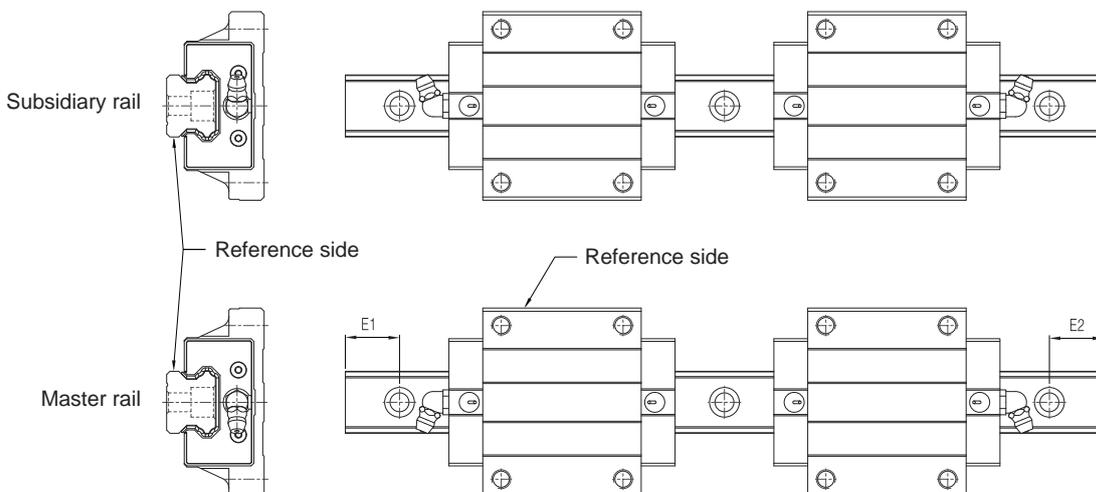


Description of Specification

(1) Non-Interchangeable Type

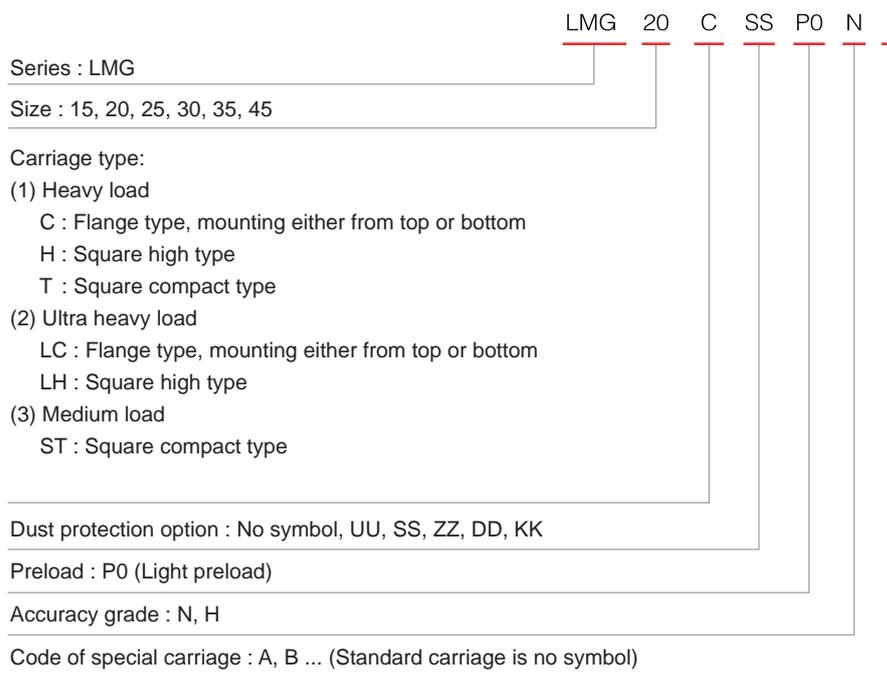
	LMG	20	C	2	SS	P1	+R	1000	-20	/20	P	II
Series : LMG												
Size : 15、 20、 25、 30、 35、 45												
Carriage type :												
(1) Heavy load												
C : Flange type, mounting either from top or bottom												
H : Square high type												
T : Square compact type												
(2) Ultra heavy load												
LC : Flange type, mounting either from top or bottom												
LH : Square high type												
(3) Medium load												
ST : Square compact type												
Number of carriages per rail : 1, 2, 3 ...												
Dust protection option : No symbol, UU, SS, ZZ, DD, KK												
Preload : P0 (Light preload), P1 (Medium preload), P2 (Heavy preload)												
Code of special carriage : A, B ... (Standard carriage is no symbol)												
Rail type : R, U* (Counter-bore type) , T (Tapped hole type)												
Rail length (mm)												
Rail hole pitch from start side (E1, see Figure below)												
Rail hole pitch to the end side (E2, see Figure below)												
Accuracy grade : N, H, P, SP, UP												
Code of special rail : A, B ... (Standard rail is no symbol)												
Number of rails per axis : No symbol, II, III, IV ...												

Note * : U type rail is only applicable for LMG15 and LMG30, detail information please see the specification table for the corresponding model number.

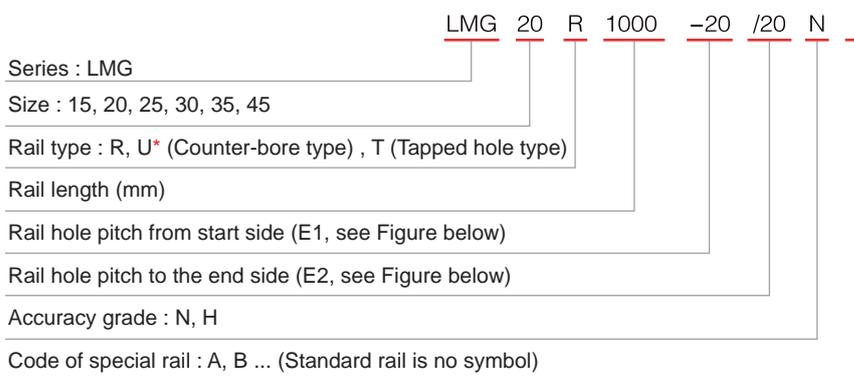


(2) Interchangeable Type

| Code of Carriage



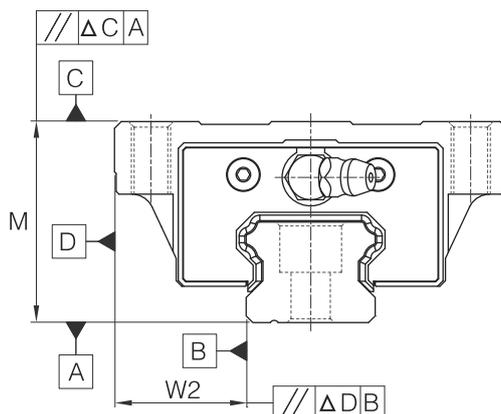
| Code of Rail



Note* : U type rail is only applicable for LMG15 and LMG30, detail information please see the specification table for the corresponding model number.

Accuracy Grade

The accuracy of LMG series is divided into five classes, Normal grade (N), High accuracy grade (H), Precision grade (P), Super precision grade (SP) and Ultra precision grade (UP), as shown below.



Unit : mm

Model No.	Item	Accuracy Grade				
		Normal N	High H	Precision P	Super Precision SP	Ultra Precision UP
LMG 15 LMG 20	Tolerance for height ΔM	± 0.1	± 0.03	0 - 0.03	0 - 0.015	0 - 0.008
	Height difference ΔM	0.02	0.01	0.006	0.004	0.003
	Tolerance for distance $W2$	± 0.1	± 0.03	0 - 0.03	0 - 0.015	0 - 0.008
	Difference in distance $W2$ ($\Delta W2$)	0.02	0.01	0.006	0.004	0.003
	Running parallelism of surface C with surface A	ΔC (see Running parallelism of carriage)				
	Running parallelism of surface D with surface B	ΔD (see Running parallelism of carriage)				
LMG 25 LMG 30 LMG 35	Tolerance for height ΔM	± 0.1	± 0.04	0 - 0.04	0 - 0.02	0 - 0.01
	Height difference ΔM	0.02	0.015	0.007	0.005	0.003
	Tolerance for distance $W2$	± 0.1	± 0.04	0 - 0.04	0 - 0.02	0 - 0.01
	Difference in distance $W2$ ($\Delta W2$)	0.03	0.015	0.007	0.005	0.003
	Running parallelism of surface C with surface A	ΔC (see Running parallelism of carriage)				
	Running parallelism of surface D with surface B	ΔD (see Running parallelism of carriage)				
LMG 45	Tolerance for height ΔM	± 0.1	± 0.05	0 - 0.05	0 - 0.03	0 - 0.02
	Height difference ΔM	0.03	0.015	0.007	0.005	0.003
	Tolerance for distance $W2$	± 0.1	± 0.05	0 - 0.05	0 - 0.03	0 - 0.02
	Difference in distance $W2$ ($\Delta W2$)	0.03	0.02	0.01	0.007	0.005
	Running parallelism of surface C with surface A	ΔC (see Running parallelism of carriage)				
	Running parallelism of surface D with surface B	ΔD (see Running parallelism of carriage)				

Running Parallelism of Carriage

Rail length (mm)		Running parallelism values (μm)				
Above	Or less	Normal N	High H	Precision P	Super Precision SP	Ultra Precision UP
0	315	9	6	3	2	1.5
315	400	11	8	4	2	1.5
400	500	13	9	5	2	1.5
500	630	16	11	6	2.5	1.5
630	800	18	12	7	3	2
800	1000	20	14	8	4	2
1000	1250	22	16	10	5	2.5
1250	1600	25	18	11	6	3
1600	2000	28	20	13	7	3.5
2000	2500	30	22	15	8	4
2500	3000	32	24	16	9	4.5
3000	3500	33	25	17	11	5
3500	4000	34	26	18	12	6

Preload Grade

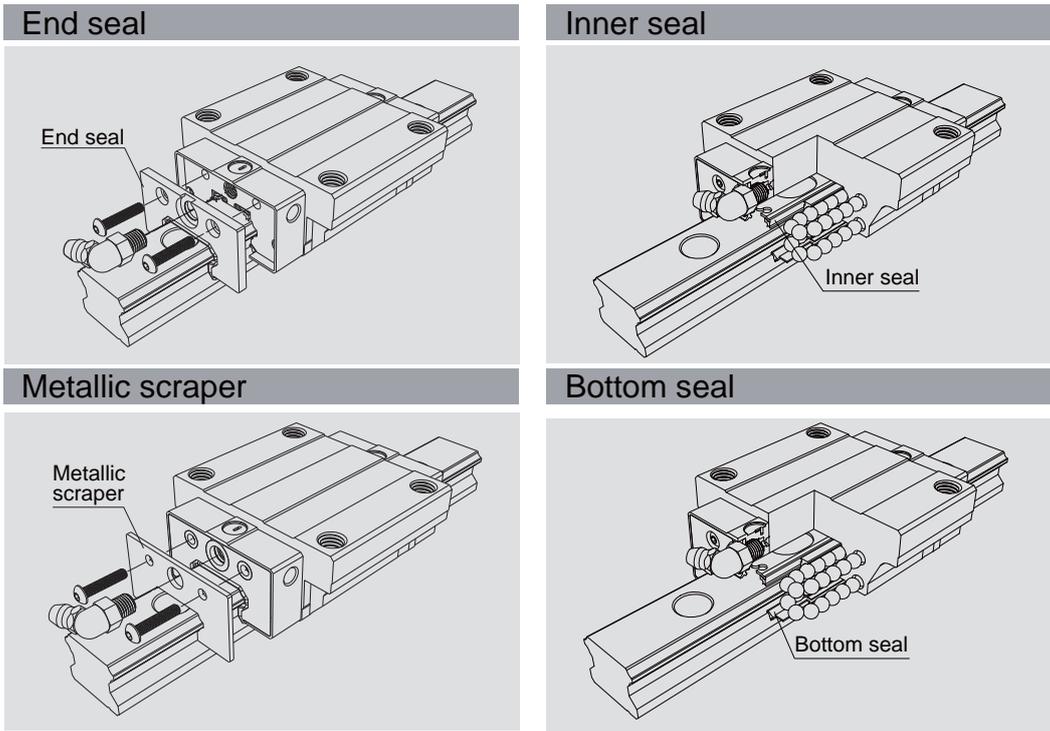
Preload Grade	Code	Preload	Operating Condition
Light preload	P0	0~0.02C	<ul style="list-style-type: none"> The loading direction is fixed, vibration and impact are light, and two axes are applied in parallel. High precision is not required, and the low frictional resistance is needed.
Medium preload	P1	0.04~0.06C	<ul style="list-style-type: none"> Overhang application with a moment load Applied in one-axis configuration The need of light preload and high precision
Heavy preload	P2	0.07~0.09C	<ul style="list-style-type: none"> Machine is subjected to vibration and impact, and high rigidity required. Application of heavy load or heavy cutting

Note : The preload is the percentage of basic dynamic load rating (C).

Dust Proof

(1) Contamination protection

LMG series of linear guideway offers various kinds of dust protection accessory to keep the foreign matters from entering into the carriage.



(2) Code of contamination protection

The codes for selection of dust protection accessory are shown below.

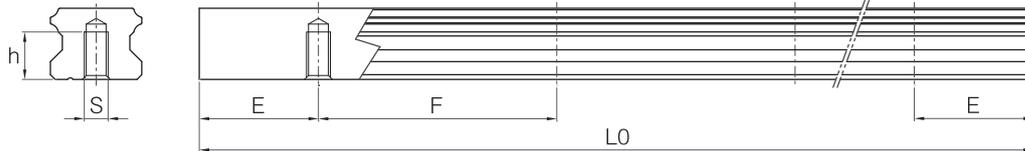
Code	Contamination Protection	Code	Contamination Protection
No symbol	Metallic scraper (both ends)	ZZ	SS + Metallic scraper
UU	Bidirectional end seal (both ends)	DD	Double bidirectional end seal + Bottom seal + Inner seal
SS	Bidirectional end seal + Bottom seal + Inner seal	KK	DD + Metallic scraper

(3) Applicability of seal to LMG series, and the increment to be added to the carriage overall length

The increment to be added to the length of carriage with different applications of dust protection accessory is shown below.

Model No.	No symbol	UU	SS	ZZ	DD	KK
LMG 15	—	—	—	3	6	9
LMG 20	—	—	—	3	6	9
LMG 25	—	—	—	3	6	9
LMG 30	—	—	—	3	6	9
LMG 35	—	—	—	3	6	9
LMG 45	—	—	—	3	6	9

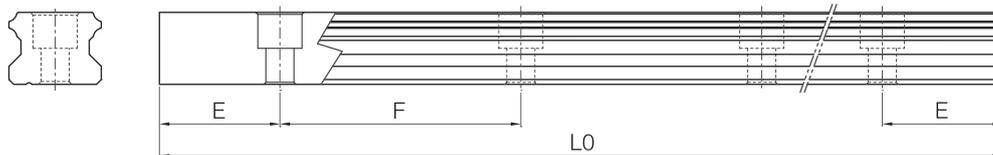
Dimensions of Tapped-hole Rails



Rail Size	S	h (mm)
LMG 15T	M5	8
LMG 20T	M6	10
LMG 25T	M6	12

Rail Size	S	h (mm)
LMG 30T	M8	15
LMG 35T	M12	17
LMG 45T	M14	24

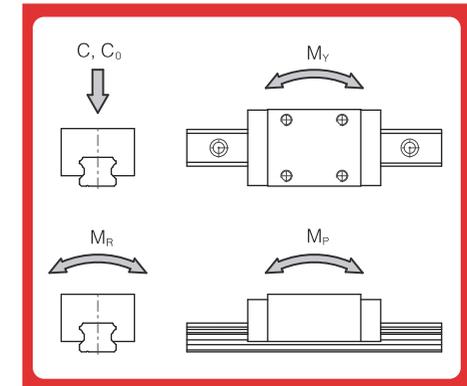
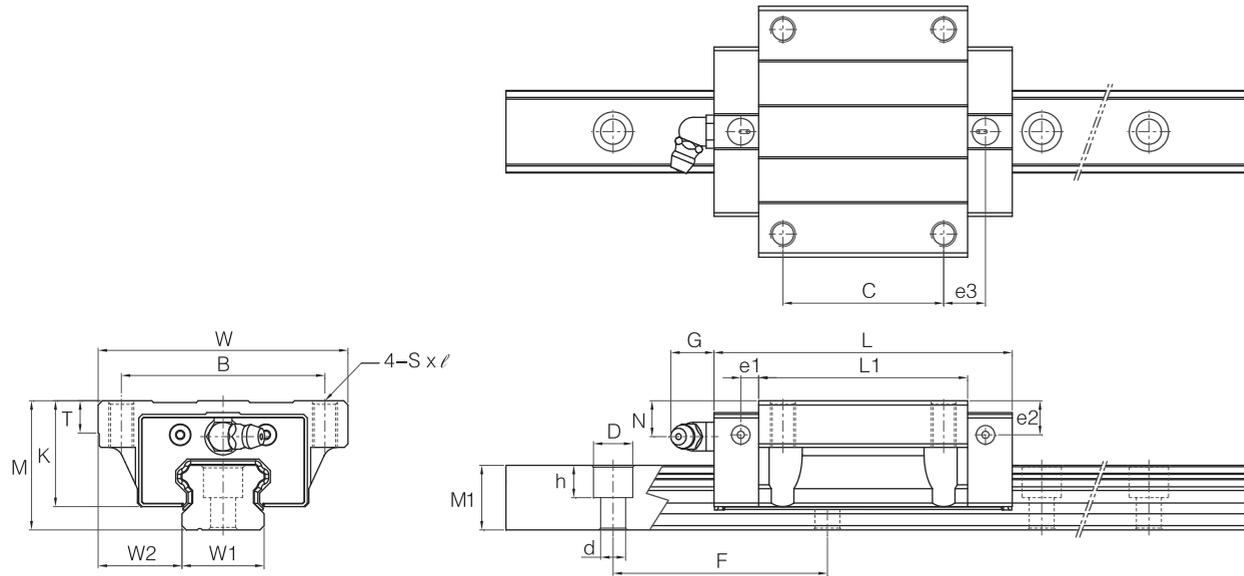
Rail Standard and Maximum Length



Unit : mm

Size	LMG 15	LMG 20	LMG 25	LMG 30	LMG 35	LMG 45
Standard Pitch (F)	60	60	60	80	80	105
Standard E (E _{std.})	20	20	20	20	20	22.5
Minimum E (E _{min.})	5	6	7	8	8	11
Max. Length (L0)	4000	4000	4000	4000	4000	4000

Dimensions of LMG...C / LC



Unit : mm

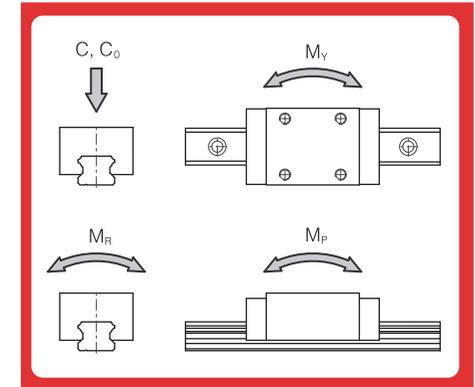
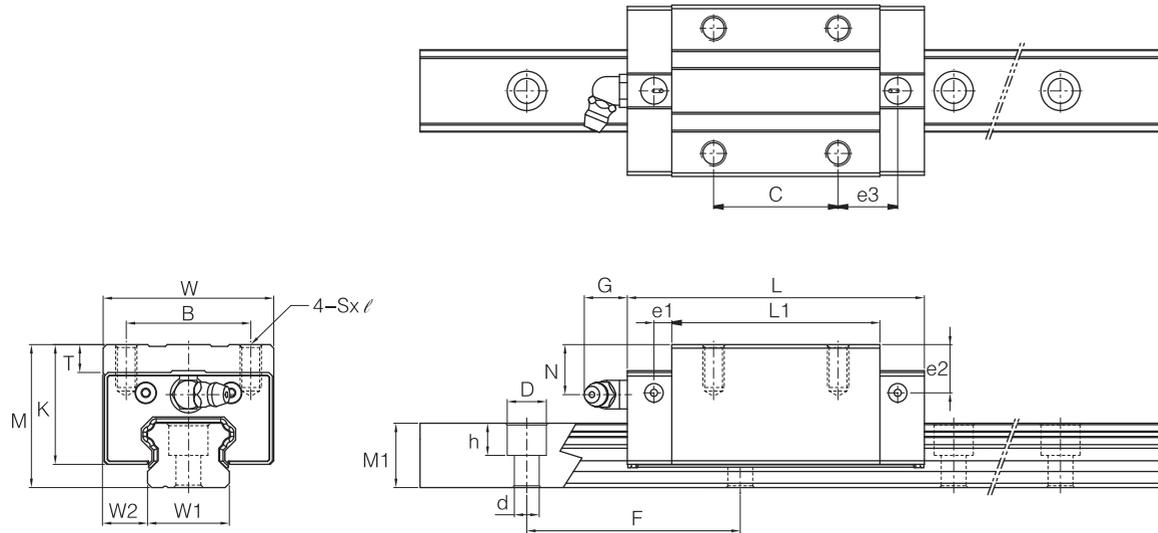
Model No.	External dimension			Carriage dimension											Rail dimension				Basic load rating		Static moment rating				Weight				
	Height	Width	Length	B	C	S x l	L1	T	K	N	e1	e2	e3	G	Grease nipple	Width	Height	Pitch	D x h x d	Dynamic C KN	Static C0 KN	Mp (KN-m)		My (KN-m)		MR KN-m	Carriage Kg	Rail Kg/m	
	M	W	L													W1	W2	M1	F			Single Carriage	Double* Carriages	Single Carriage	Double* Carriages				
LMG15 C	24	47	58.2	38	30	M5x8	39.5	5.5	19.5	5	3.3	4	8.6	7	M4x0.7	15	16	13	60	7.5x5.3x4.5*	11.8	18.9	0.13	0.76	0.13	0.76	0.15	0.19	1.29
LMG20 C	30	63	75	53	40	M6x10	52.5	7	25.4	8.5	4.5	7	10.8	12	M6x0.75	20	21.5	15	60	9.5x8.5x6	20	32	0.30	1.68	0.30	1.68	0.33	0.42	1.92
LMG20 LC	30	63	89.4	53	40	M6x10	66.9	7	25.4	8.5	4.5	7	18	12	M6x0.75	20	21.5	15	60	9.5x8.5x6	23.2	39.3	0.44	2.36	0.44	2.36	0.41	0.53	1.92
LMG25 C	36	70	83.6	57	45	M8x13	58.6	9	29.5	10	5	9.5	11.8	12	M6x0.75	23	23.5	18	60	11x9x7	27.9	42.5	0.44	2.47	0.44	2.47	0.51	0.62	2.67
LMG25 LC	36	70	102.6	57	45	M8x13	77.6	9	29.5	10	5	9.5	21.3	12	M6x0.75	23	23.5	18	60	11x9x7	34.2	56.6	0.76	3.99	0.76	3.99	0.67	0.81	2.67
LMG30 C	42	90	98	72	52	M10x15	69.8	10	33.5	8	5	8	14	12	M6x0.75	28	31	23	80	14x12x9*	38.8	57.8	0.70	3.88	0.70	3.88	0.83	1.10	4.48
LMG30 LC	42	90	120.2	72	52	M10x15	92	10	33.5	8	5	8	25.1	12	M6x0.75	28	31	23	80	14x12x9*	47.5	77.1	1.21	6.28	1.21	6.28	1.11	1.43	4.48
LMG35 C	48	100	111.2	82	62	M10x15	80.2	10	38.5	8	7.5	8	15.6	12	M6x0.75	34	33	26	80	14x12x9	51.7	75.5	1.04	5.72	1.04	5.72	1.31	1.50	6.24
LMG35 LC	48	100	136.6	82	62	M10x15	105.6	10	38.5	8	7.5	8	28.3	12	M6x0.75	34	33	26	80	14x12x9	63.2	100.7	1.81	9.29	1.81	9.29	1.75	1.94	6.24
LMG45 C	60	120	137.8	100	80	M12x18	102.2	12	49	10	8.5	10	17.6	13.5	PT 1/8	45	37.5	32	105	20x17x14	83.2	118.0	2.03	10.89	2.03	10.89	2.71	2.83	10.25
LMG45 LC	60	120	169.5	100	80	M12x18	133.9	12	49	10	8.5	10	33.5	13.5	PT 1/8	45	37.5	32	105	20x17x14	101.7	157.3	3.54	17.76	3.54	17.76	3.62	3.68	10.25

Note *1. "Double carriages" in static moment rating means two carriages are closely contacting with each other.

2. Rail mounting hoes for M3 bolt (6x4.5x3.5) and M4 bolt (7.5x5.3x4.5) are available for LMG15 rail. The codes of rail type are LMG15R for M4 bolt, and LMG15U for M3 bolt.

3. Rail mounting hoes for M6 bolt (11x9x7) and M8 bolt (14x12x9) are available for LMG30 rail. The codes of rail type are LMG30R for M8 bolt, and LMG30U for M6 bolt.

Dimensions of LMG...H / LH



Unit : mm

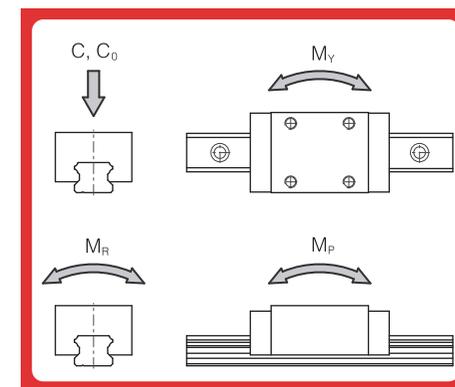
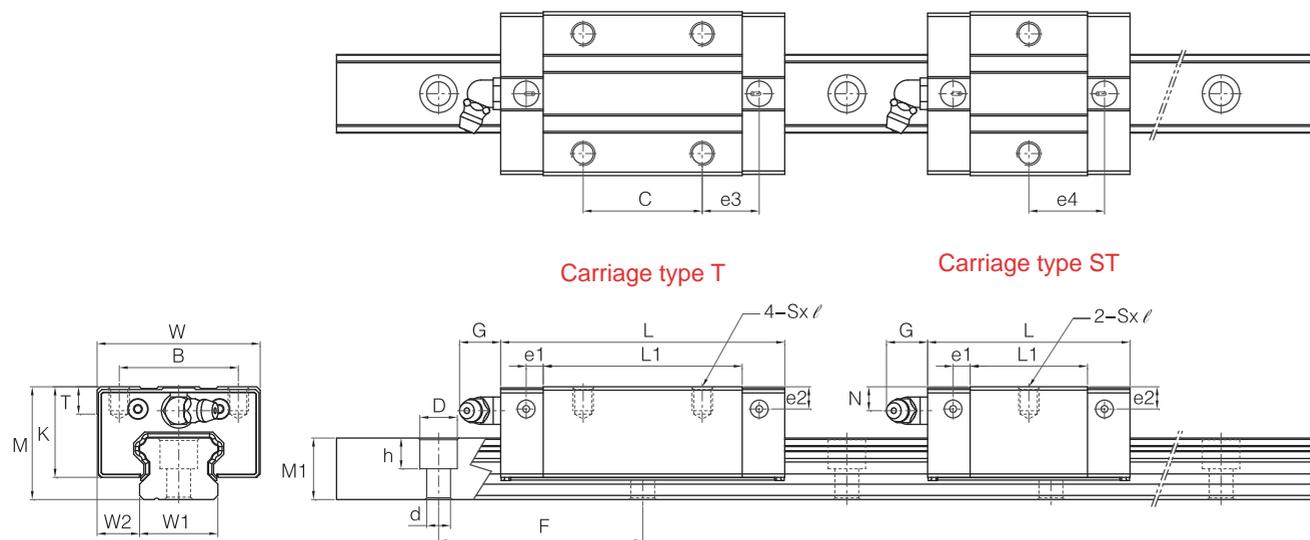
Model No.	External dimension						Carriage dimension								Rail dimension					Basic load rating		Static moment rating				Weight			
	Height M	Width W	Length L	B	C	Sx/l	L1	T	K	N	e1	e2	e3	G	Grease nipple	Width W1	W2	Height M1	Pitch F	Dxhxd	Dynamic C KN	Static C0 KN	Mp (KN-m)		My (KN-m)		Mr KN-m	Carriage Kg	Rail Kg/m
																							Single Carriage	Double*	Single Carriage	Double*			
LMG15 H	28	34	58.2	26	26	M4x7	39.5	6	23.5	9	3.3	8	10.6	7	M4x0.7	15	9.5	13	60	7.5x5.3x4.5*	11.8	18.9	0.13	0.76	0.13	0.76	0.15	0.19	1.29
LMG20 H	30	44	75	32	36	M5x8	52.5	6	25.4	8.5	4.5	7	12.8	12	M6x0.75	20	12	15	60	9.5x8.5x6	20	32	0.30	1.68	0.30	1.68	0.33	0.33	1.92
LMG20 LH	30	44	89.4	32	50	M5x8	66.9	6	25.4	8.5	4.5	7	13	12	M6x0.75	20	12	15	60	9.5x8.5x6	23.2	39.3	0.44	2.36	0.44	2.36	0.41	0.41	1.92
LMG25 H	40	48	83.6	35	35	M6x12	58.6	8	33.5	14	5	13.5	16.8	12	M6x0.75	23	12.5	18	60	11x9x7	27.9	42.5	0.44	2.47	0.44	2.47	0.51	0.55	2.67
LMG25 LH	40	48	102.6	35	50	M6x12	77.6	8	33.5	14	5	13.5	18.8	12	M6x0.75	23	12.5	18	60	11x9x7	34.2	56.6	0.76	3.99	0.76	3.99	0.67	0.72	2.67
LMG30 H	45	60	98	40	40	M8x12	69.8	8	36.5	11	5	11	20	12	M6x0.75	28	16	23	80	14x12x9*	38.8	57.8	0.70	3.88	0.70	3.88	0.83	0.87	4.48
LMG30 LH	45	60	120.2	40	60	M8x12	92	8	36.5	11	5	11	21.1	12	M6x0.75	28	16	23	80	14x12x9*	47.5	77.1	1.21	6.28	1.21	6.28	1.11	1.13	4.48
LMG35 H	55	70	111.2	50	50	M8x14	80.2	11	45.5	15	7.5	15	21.6	12	M6x0.75	34	18	26	80	14x12x9	51.7	75.5	1.04	5.72	1.04	5.72	1.31	1.44	6.24
LMG35 LH	55	70	136.6	50	72	M8x14	105.6	11	45.5	15	7.5	15	23.3	12	M6x0.75	34	18	26	80	14x12x9	63.2	100.7	1.81	9.29	1.81	9.29	1.75	1.88	6.24
LMG45 H	70	86	137.8	60	60	M10x20	102.2	16	59	20	8.5	20	27.6	13.5	PT 1/8	45	20.5	32	105	20x17x14	83.2	118.0	2.03	10.89	2.03	10.89	2.71	2.85	10.25
LMG45 LH	70	86	169.5	60	80	M10x20	133.9	16	59	20	8.5	20	33.5	13.5	PT 1/8	45	20.5	32	105	20x17x14	101.7	157.3	3.54	17.76	3.54	17.76	3.62	3.70	10.25

Note* 1. "Double carriages" in static moment rating means two carriages are closely contacting with each other.

2. Rail mounting holes for M3 bolt (6x4.5x3.5) and M4 bolt (7.5x5.3x4.5) are available for LMG15 rail. The codes of rail type are LMG15R for M4 bolt, and LMG15U for M3 bolt.

3. Rail mounting holes for M6 bolt (11x9x7) and M8 bolt (14x12x9) are available for LMG30 rail. The codes of rail type are LMG30R for M8 bolt, and LMG30U for M6 bolt.

Dimensions of LMG...ST / T



Unit : mm

Model No.	External dimension			Carriage dimension													Rail dimension				Basic load rating		Static moment rating				Weight			
	Height	Width	Length	B	C	S×l	L1	T	K	N	e1	e2	e3	e4	G	Grease nipple	Width W1	W2	Height M1	Pitch F	D×h×d	Dynamic C KN	Static C0 KN	Mp (KN-m)		My (KN-m)		MR KN-m	Carriage Kg	Rail Kg/m
	M	W	L																					Single Carriage	Double* Carriages	Single Carriage	Double* Carriages			
LMG15 ST	24	34	40.7	26	-	M4×5	22	6	19.5	5	3.3	4	-	14.8	7	M4×0.7	15	9.5	13	60	7.5×5.3×4.5 ¹⁾	7.3	9.4	0.03	0.27	0.03	0.27	0.07	0.09	1.29
LMG15 T	24	34	58.2	26	26	M4×5	39.5	6	19.5	5	3.3	4	10.6	-	7	M4×0.7	15	9.5	13	60	7.5×5.3×4.5 ¹⁾	11.8	18.9	0.13	0.76	0.13	0.76	0.15	0.15	1.29
LMG20 ST	28	42	47.4	32	-	M5×6	24.9	6	23.4	6.5	4.5	5	-	17	12	M6×0.75	20	11	15	60	9.5×8.5×6	11.7	14.8	0.07	0.52	0.07	0.52	0.15	0.15	1.92
LMG20 T	28	42	75	32	32	M5×6	52.5	6	23.4	6.5	4.5	5	14.8	-	12	M6×0.75	20	11	15	60	9.5×8.5×6	20	32	0.30	1.68	0.30	1.68	0.33	0.28	1.92
LMG25 ST	33	48	59.5	35	-	M6×7	34.5	8	26.5	7	5	6.5	-	22.3	12	M6×0.75	23	12.5	18	60	11×9×7	19.2	24.8	0.16	1.07	0.16	1.07	0.30	0.26	2.67
LMG25 T	33	48	83.6	35	35	M6×7	58.6	8	26.5	7	5	6.5	16.8	-	12	M6×0.75	23	12.5	18	60	11×9×7	27.9	42.5	0.44	2.47	0.44	2.47	0.51	0.41	2.67

Note* 1. "Double carriages" in static moment rating means two carriages are closely contacting with each other.

2. Rail mounting holes for M3 bolt (6×4.5×3.5) and M4 bolt (7.5×5.3×4.5) are available for LMG15 rail. The codes of rail type are LMG15R for M4 bolt, and LMG15U for M3 bolt.