

Catalog

Linear Guideway



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| CSK Motion Technology

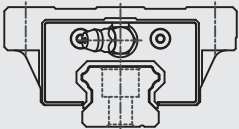

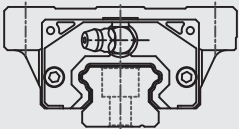
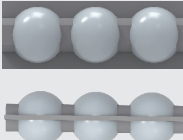
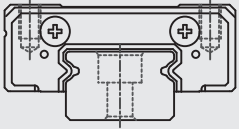

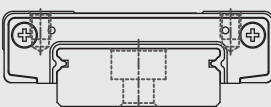

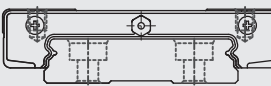
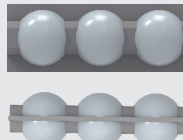
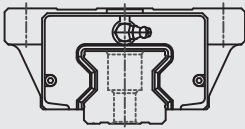
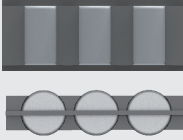


CSK Motion Technology Co., Ltd. was established in 2010. CSK is a company which is professionally manufacturing precision linear motion products. CSK possess a strong team which is expertized in aspects of R&D, manufacturing, and QA.

CSK own superior and modernized precision facilities to mass-produce the linear guideway with accuracy as higher as UP grade($\leq 3\mu$). Therefore, CSK is one of the few qualified manufacturers producing the super precision linear guideway in the world.

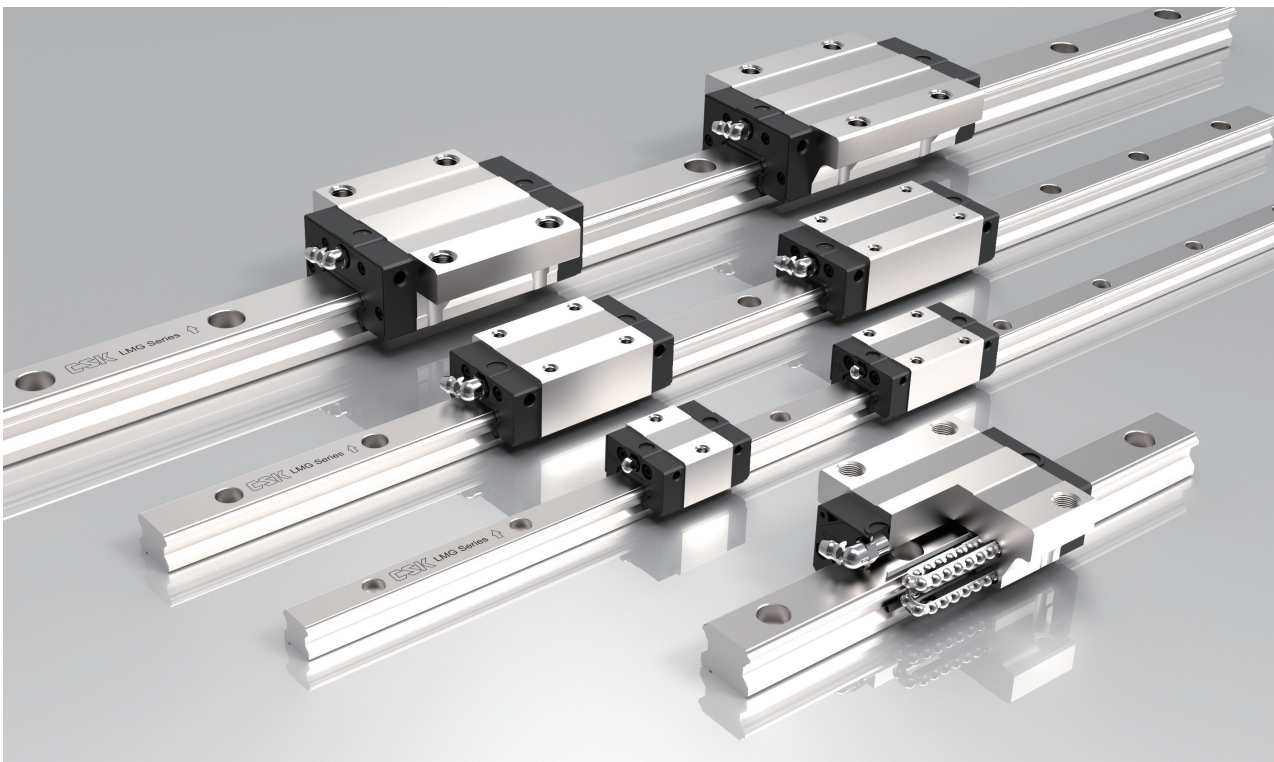
Recently, we are more active in the development of linear motor stage, module, direct drive rotary motor and other products, providing customized solutions in precision transmission system. CSK' s objective is to provide world class quality products and service with favorable price and short delivery time to customers. Base on continuous improvement and innovation of linear motion technologies, CSK' s vision is to become an eternal enterprise and by establishing the key core techniques to achieve the better welfare and environment for our global village.

Type

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LMGQ series	Ball linkage Type	Page
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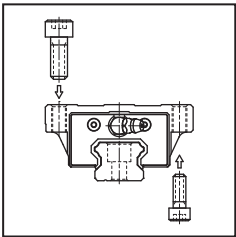
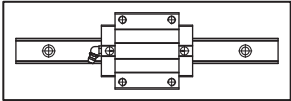
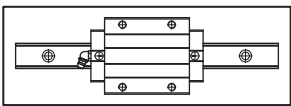
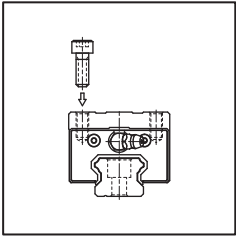
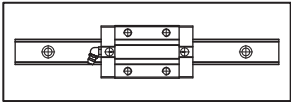
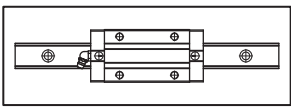
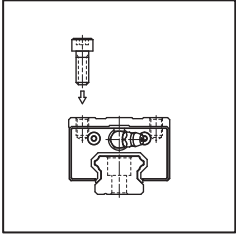
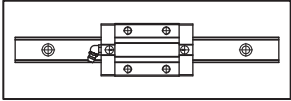
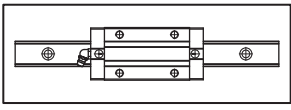
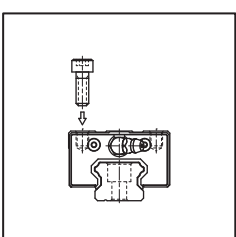
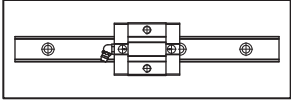
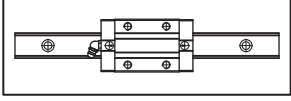
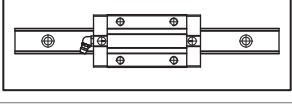
Linear Guideway

LMG series



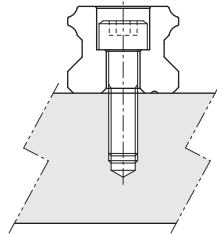
LMG

Carriage Type

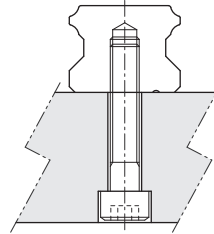
Contour	Length	Spec. Code
<p>Flange type</p> 	<p>Heavy load</p>  <p>Ultra heavy load</p> 	<p>→ C/TC</p> <p>→ LC</p>
<p>Square high type</p> 	<p>Heavy load</p>  <p>Ultra heavy load</p> 	<p>→ H</p> <p>→ LH</p>
<p>Square centre type</p> 	<p>Heavy load</p>  <p>Ultra heavy load</p> 	<p>→ V</p> <p>→ LV</p>
<p>Square low type</p> 	<p>light load</p>  <p>Heavy load</p>  <p>Ultra heavy load</p> 	<p>→ ST</p> <p>→ T</p> <p>→ LT</p>

Rail Type

Counter bore (R, U type)



Tapped hole (T type)



(1) For Butt-joint Rail

When applied length of rail longer than specified max. length, the rails can be connected to one another. For this situation, the joint marks indicate the matching position. Accuracy may deviate at joints when carriages pass the joint simultaneously. Therefore, the joints should be interlaced for avoiding such accuracy problem.

- Identification of butt-joint rail

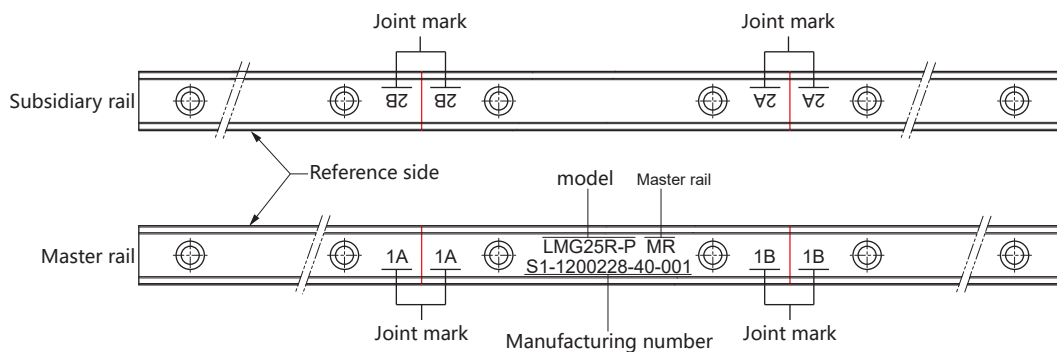


Fig. (A)

- Staggering the joint position

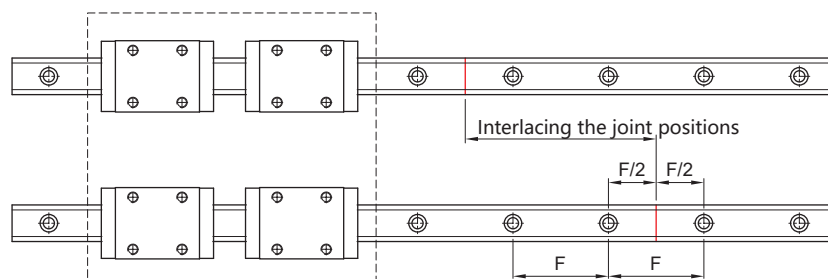


Fig. (B)

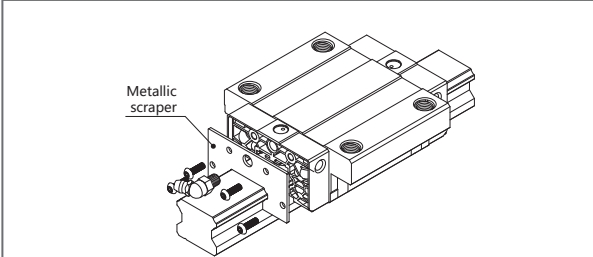
Dust Proof

(1) Code of contamination protection for carriage

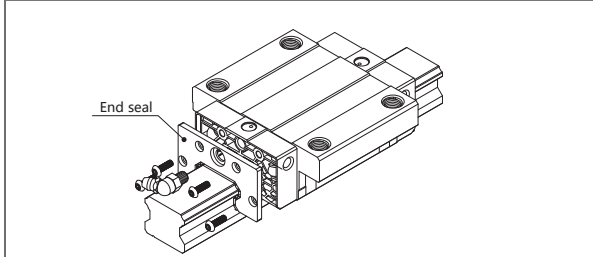
- Contamination protection

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

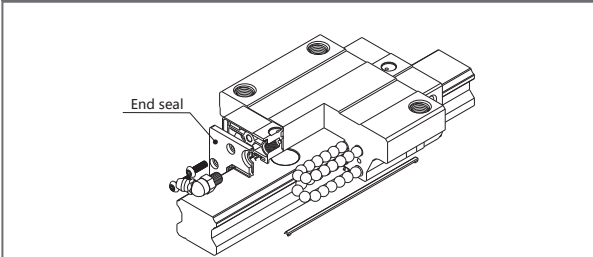
- No symbol Bidirectional metallic scraper (both ends)



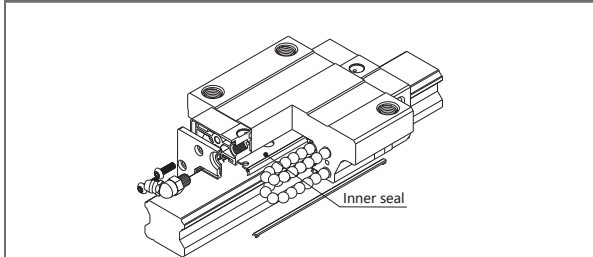
- UU Bidirectional end seal (both ends)



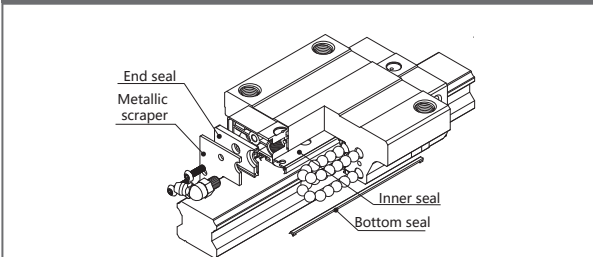
- SS Bidirectional end seal + Bottom seal



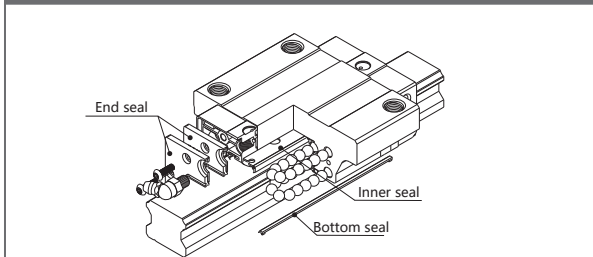
- VV Bidirectional end seal + Bottom seal + Inner seal



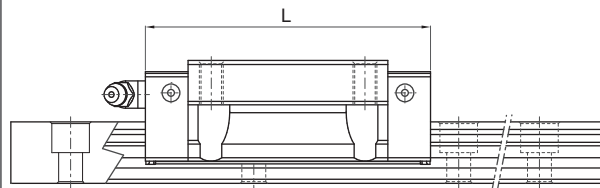
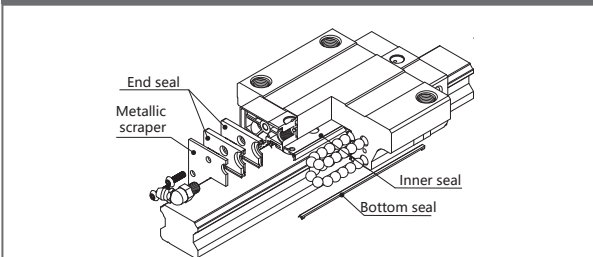
- ZZ SS + Metallic scraper



- DD Double bidirectional end seal + Bottom seal + Inner



- KK DD + Metallic scraper



- Types of dust proof accessories, 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.

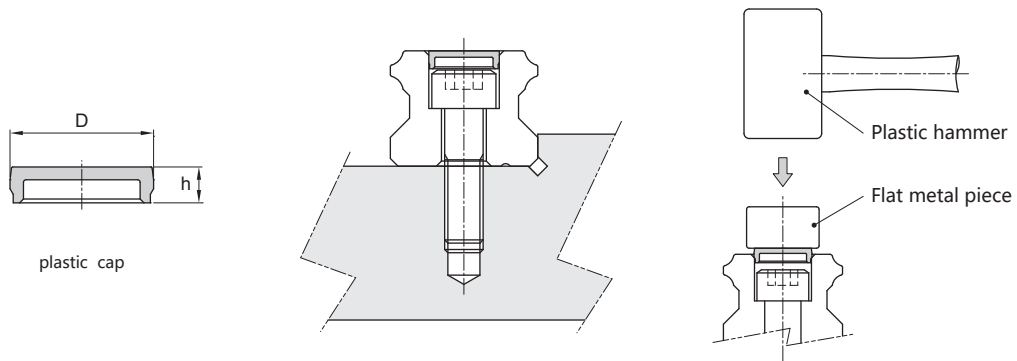
Model No.	No symbol	UU	SS	VV	ZZ	DD	KK
LMG 15	-	-	-	-	7	6	13
LMG 20	-	-	-	-	7	6	13
LMG 25	-	-	-	-	7	6	13
LMG 30	-	-	-	-	7	6	13
LMG 35	-	-	-	-	7	6	13
LMG 45	-	-	-	-	7	6	13
LMG 55	-	-	-	-	7	6	13

Dust Proof

(2) Code of contamination protection for rail

- Caps for rail mounting hole
A special designed of cap is used to cover the bolt hole to prevent the foreign matters from entering the carriage.

- Installation of plastic cap
Put the plate on the cap, then pound it into the bolt of rail with rubber hammer vertically. Continue pounding the cap until the cap is on the same plane with the top surface of rail.



- Plastic Cap

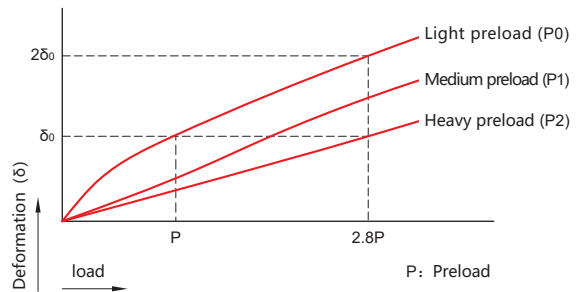
Code of Plastic Cap	Bolt Size	D (mm)	h (mm)	Rail Model
L3	M3	6.2	1.1	LMG/GQ 15U
L4	M4	7.7	1.1	LMG/GQ 15R
L5	M5	9.7	2.4	LMG/GQ 20R
L6	M6	11.2	2.8	LMG/GQ 25R, LMG 30U
L8	M8	14.2	3.3	LMG 30R, LMG 35R
L12	M12	20.2	4.5	LMG 45R
L14	M14	23.2	5.5	LMG 55R

Preload

Since the radial clearance of the linear guideway greatly affects the running accuracy, load carrying capacity and rigidity of the linear guideway, it is important to select an appropriate clearance according to the application. In general, selecting a negative clearance while taking into account possible vibrations and impact generated from reciprocating motion favorably affects the service life and the accuracy.

(1) Preload and Rigidity

Selecting appropriate preload to adapt the rigidity of machinery and equipment. The rigidity of a linear guideway could be enhanced by increasing the preload. As shown as below figure, the load could be raised up to 2.8 times the preload applied.



(2) Preload and Service life

The preload is represented by negative clearance resulting from the increase of rolling element diameter. Therefore, the preload should be considered in calculation service life.

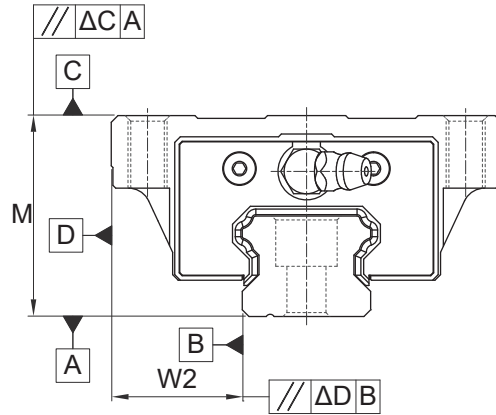
Preload Grade

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).

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).

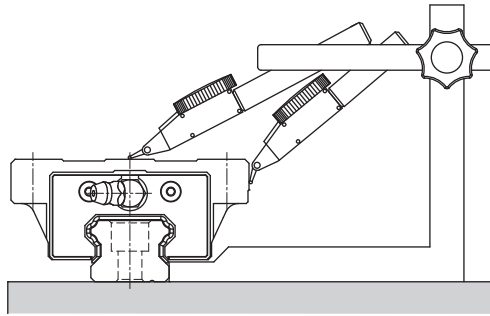


Unit (mm)

Model No.	Item	Accuracy Grade				
		Normal N	High H	Precision P	Super Precision SP	Ultra Precision UP
LMG/GQ 15 LMG/GQ 20	Tolerance for height M	±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 (ΔW2)	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/GQ25 LMG 30 LMG 35	Tolerance for height M	±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 (ΔW2)	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 LMG 55	Tolerance for height M	±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 (ΔW2)	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

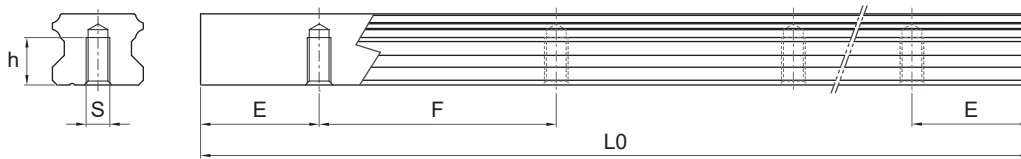
The running accuracy is the deviation of parallelism between the reference surface of carriage and reference surface of rail when carriage moving over the entire length of rail.



Measurement of running parallelism

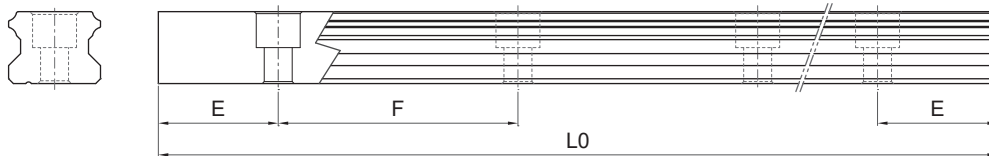
Rail length (mm)		Running Parallelism Values (μm)				
Above	Or less (incl.)	Normal N	High H	Precision P	Super Precision SP	Ultra Precision UP
0	315	9	6	3	2	1.5
315	400	11	8	4	2	1.5
400	500	13	9	5	2	1.5
500	630	16	11	6	2.5	1.5
630	800	18	12	7	3	2
800	1000	20	14	8	4	2
1000	1250	22	16	10	5	2.5
1250	1600	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

Tapped Hole Rail Dimensions



Model	S	h (mm)
LMG/GQ 15T	M5	8
LMG/GQ 20T	M6	10
LMG/GQ 25T	M6	12
LMG 30T	M8	15
LMG 35T	M8	17
LMG 45T	M12	24
LMG 55T	M14	24

Rail Maximum Length and Standard



Size	Unit (mm)						
	LMG/GQ 15	LMG/GQ 20	LMG/GQ 25	LMG 30	LMG 35	LMG 45	LMG 55
Standard Pitch (F)	60	60	60	80	80	105	120
Standard (Estd.)	20	20	20	45	45	22.5	30
Minimum (Emin.)	5	6	7	8	8	11	13
Maximum Length (L0)	4000	4000	4000	4000	4000	4000	4000

Recommended bolt locking torque for guide rail

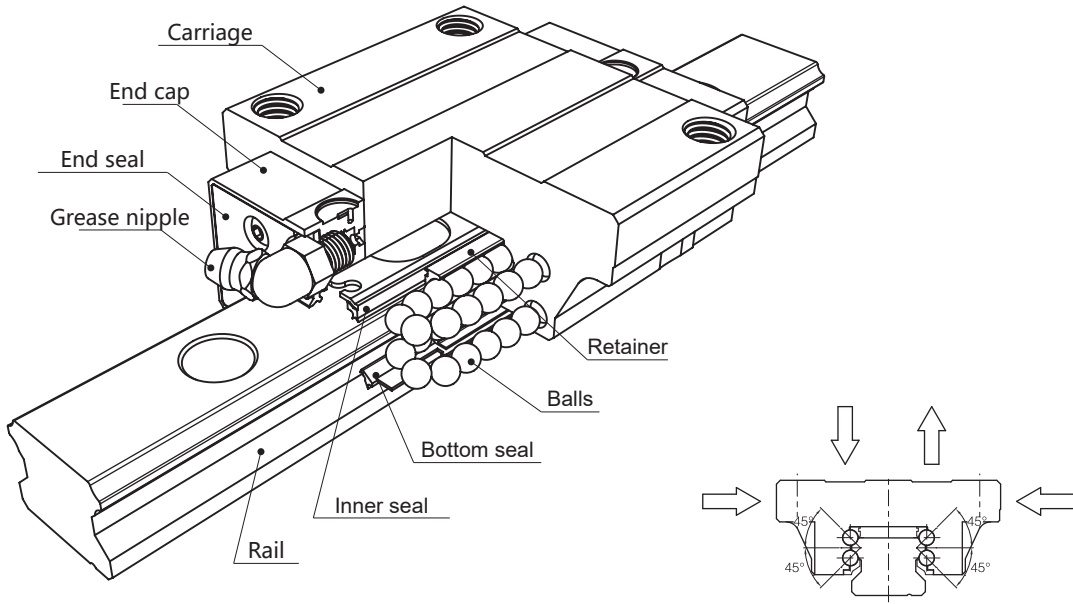
The locking force of the bolts when installing the guide rail will affect the overall assembly accuracy, so the uniformity of the locking force is very important. It is recommended to use torque.

Tighten the assembly bolts with the wrench according to the torque values in the table below. The torque value of the tightened bolts varies depending on the installation surface made of different materials.

Bolt nominal model	Locking torque value		
	Iron parts	foundry goods	Aluminum alloy parts
M3×0.5P	2	1.3	1
M4×0.7P	4	2.7	2
M5×0.8P	8.8	5.9	4.4
M6×1P	13.7	9.2	6.8
M8×1.25P	30	20	15
M10×1.5P	68	45	33
M12×1.75P	120	78	58
M14×2P	157	105	78
M16×2P	196	131	98
M20×2.5P	382	255	191

*1 N-m = 0.738 lbf-ft

LMG series



Note: For reference only.

Characteristics

The four trains of balls are designed with a contact angle of 45° which enables it not only to bear load equally in radial, reversed radial and lateral directions but also can achieve high rigidity and high loading capacity. Therefore, it is suitable for all directional installation. Furthermore the unique self alignment function of LMG series can compensate the certain error while assembling, and which results in high precision and smooth motion.

- High rigidity
- Four-way equal load
- Self alignment capability
- Complete dust sealing system
- High positioning accuracy
- Smooth movement
- Low noise and high speed application
- Interchangeability
- Carriage common rail design
- International standard

Applications

Machine Tool (CNC, Lathe ...)
Industrial Robot

Semiconductor Manufacturing Equipment
Other (Injection Molding Machine ...)

Specifications

(1) Non-Interchangeable type

LMG 20 C M 2 SS P1 SR +R 1000 -20 /20 P II

Series: LMG

Size: 15, 20, 25, 30, 35, 45, 55

Carriage type

(1) Heavy load

C: Flange type, mounting either from top or bottom

TC: Flange type, mounting either from top or bottom

H: Square high type

V: Square medium type

T: Square compact type

(2) Ultra heavy load

LC: Flange type, mounting either from top or bottom

LH: Square high type

LV: Square medium type

LT: Square compact type

(3) Medium load

ST: Square compact type

Options: No symbol, M (Metal End Plate), E (Anti corrosion)

Number of carriages per rail: 1, 2, 3 ...

Dust protection option: No symbol, UU, SS, VV, ZZ, DD, KK

Preload: P0 (Light preload), P1 (Medium preload), P2 (Heavy preload)

Options: No symbol, SR (Self-Lubricating Module)

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)

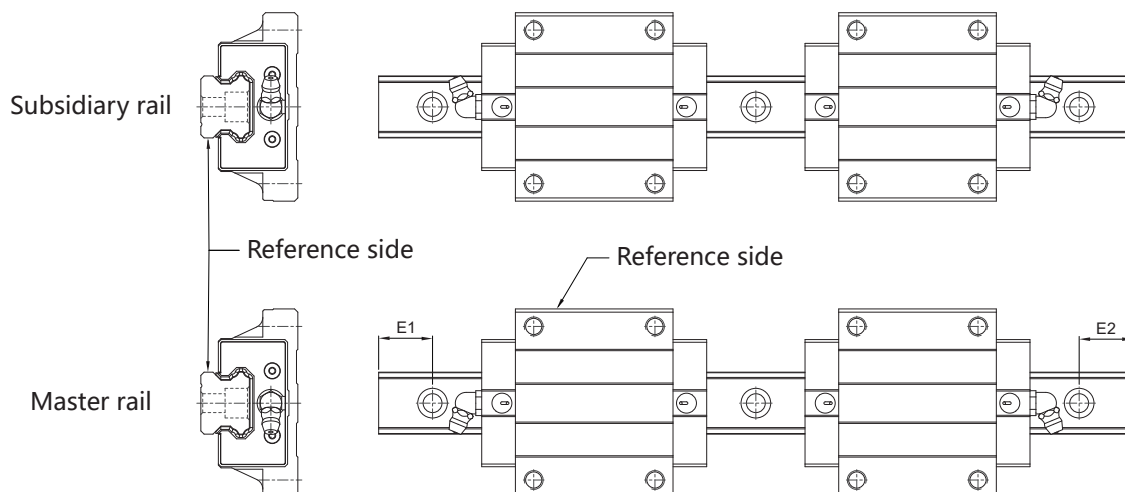
Rail hole pitch to the end side (E2, see Figure below)

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 ...

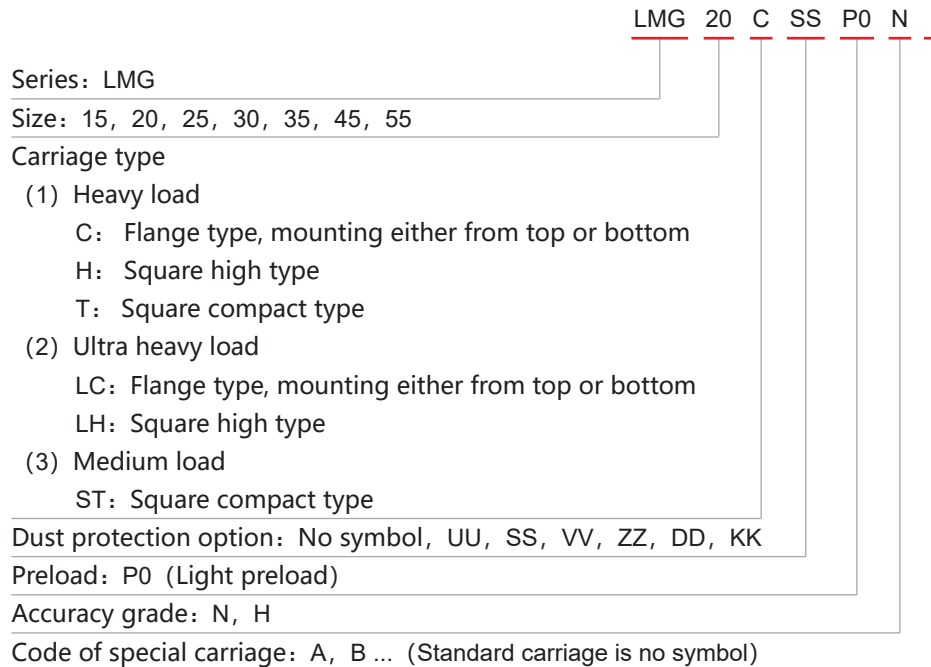
*U type rail is only applicable for LMG15 and LMG30, detail information please see the specification table for the corresponding model number.



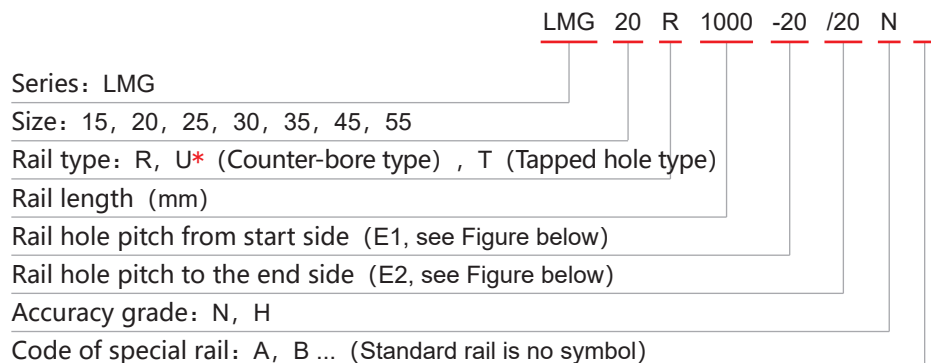
Specifications

(2) Interchangeable type

- Code of Carriage



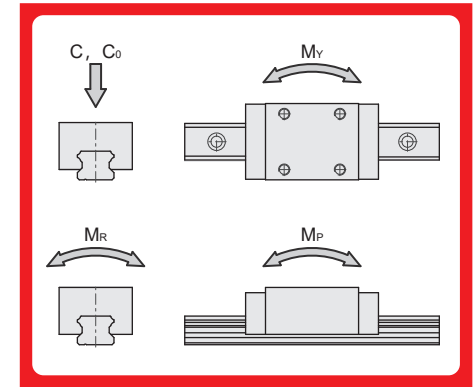
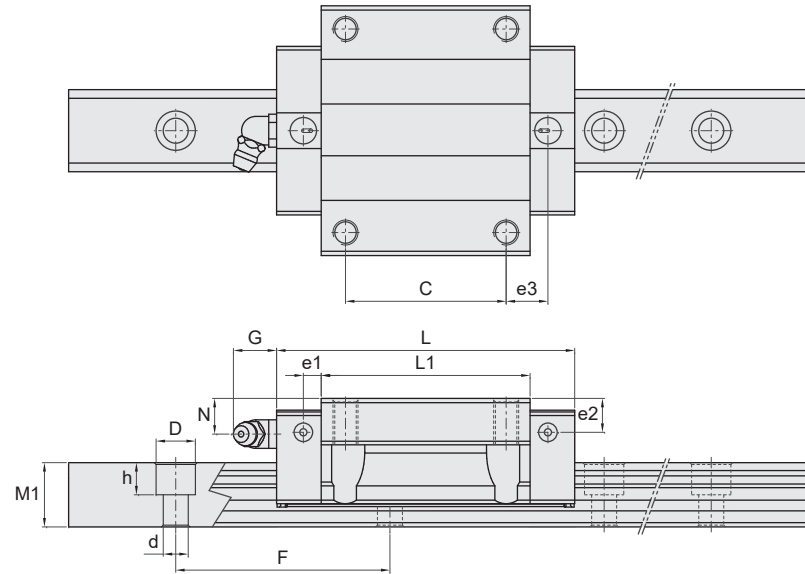
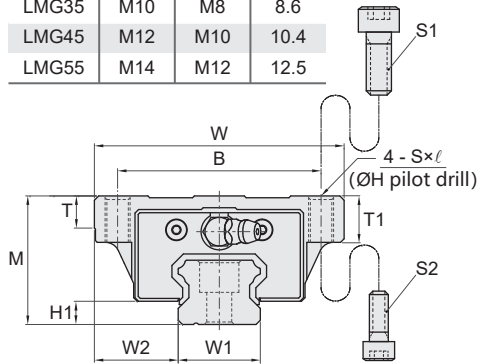
- Code of Rail



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

Dimensions of LMG...C / LC

Model No.	Bolt Size		Pilot drill
	S1	S2	H
LMG15	M5	M4	4.4
LMG20	M6	M5	5.3
LMG25	M8	M6	6.9
LMG30	M10	M8	8.6
LMG35	M10	M8	8.6
LMG45	M12	M10	10.4
LMG55	M14	M12	12.5



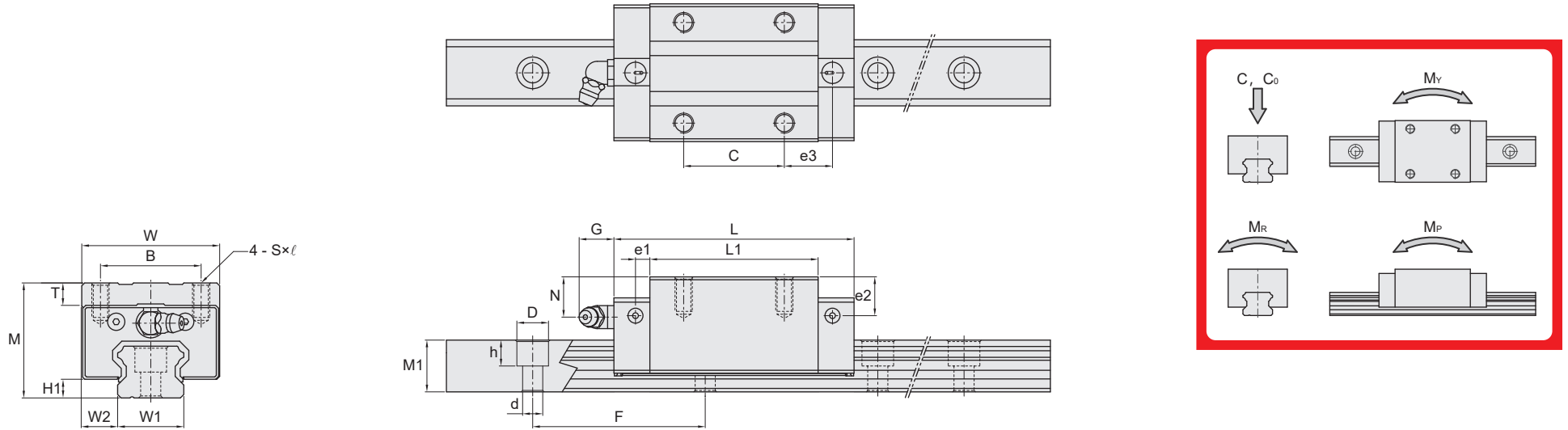
Model No.	External dimension			Carriage dimension													Rail dimension				Basic load rating		Static moment rating				Weight			
	Height M	Width W	Length L	B	C	Mounting hole S×ℓ	L1	T	T1	H1	N	e1	e2	e3	G	Grease nipple	Width		Height M1	Pitch F	Mounting bolt hole D×h×d	Dynamic C KN	Static Co KN	Mp (KN·m)		Mv (KN·m)		Mr KN·m	Carriage Kg	Rail Kg/m
																	W1	W2						Single Carriage	Double Carriages	Single Carriage	Double Carriages			
LMG15 C	24	47	58.2	38	30	M5×8	39.5	5.5	8	4.5	5	3.3	4	8.6	5	M4×0.7	15	16	13	60	7.5×5.3×4.5*	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	M6×10	52.5	7	10	4.6	8.5	4.5	7	10.8	12	M6×0.75	20	21.5	15	60	9.5×8.5×6	20	32	0.30	1.68	0.30	1.68	0.33	0.42	1.92
LMG20 LC	30	63	87.4	53	40	M6×10	64.9	7	10	4.6	8.5	4.5	7	18	12	M6×0.75	20	21.5	15	60	9.5×8.5×6	23.2	39.3	0.44	2.36	0.44	2.36	0.41	0.53	1.92
LMG25 C	36	70	83.8	57	45	M8×13	58.8	9	13	6	10	5	9.5	11.8	12	M6×0.75	23	23.5	18	60	11×9×7	27.9	42.5	0.44	2.47	0.44	2.47	0.51	0.62	2.67
LMG25 LC	36	70	102.8	57	45	M8×13	77.8	9	13	6	10	5	9.5	21.3	12	M6×0.75	23	23.5	18	60	11×9×7	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	M10×15	69.8	10	15	8	8	6	8	14	12	M6×0.75	28	31	23	80	14×12×9*	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	M10×15	92	10	15	8	8	6	8	25.1	12	M6×0.75	28	31	23	80	14×12×9*	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	M10×15	80.2	10	15	9.5	8	7.5	8	15.6	12	M6×0.75	34	33	26	80	14×12×9	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	M10×15	105.6	10	15	9.5	8	7.5	8	28.3	12	M6×0.75	34	33	26	80	14×12×9	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	M12×18	102.2	12	18	11	10	8.5	10	17.6	13.5	PT 1/8	45	37.5	32	105	20×17×14	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	M12×18	133.9	12	18	11	10	8.5	10	33.5	13.5	PT 1/8	45	37.5	32	105	20×17×14	101.7	157.3	3.54	17.76	3.54	17.76	3.62	3.68	10.25
LMG55 C	70	140	166	116	95	M14×25	126	15	25	13	12	9	10.5	33.5	13.5	PT 1/8	53	23.5	44	120	23×20×16	130	184	2.08	12.35	2.08	12.35	5.12	6.35	15.08
LMG55 LC	70	140	204	116	95	M14×25	164	15	25	13	12	9	10.5	42.5	13.5	PT 1/8	53	23.5	44	120	23×20×16	156	241	3.49	19.14	3.49	19.14	6.69	7.67	15.08

*1. 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.
 2. Rail mounting holes for M6 bolt (11×9×7) and M8 bolt (14×12×9) are available for LMG30 rail. The codes of rail type are LMG30R for M8 bolt, and LMG30U for M6 bolt.

Linear Guideway



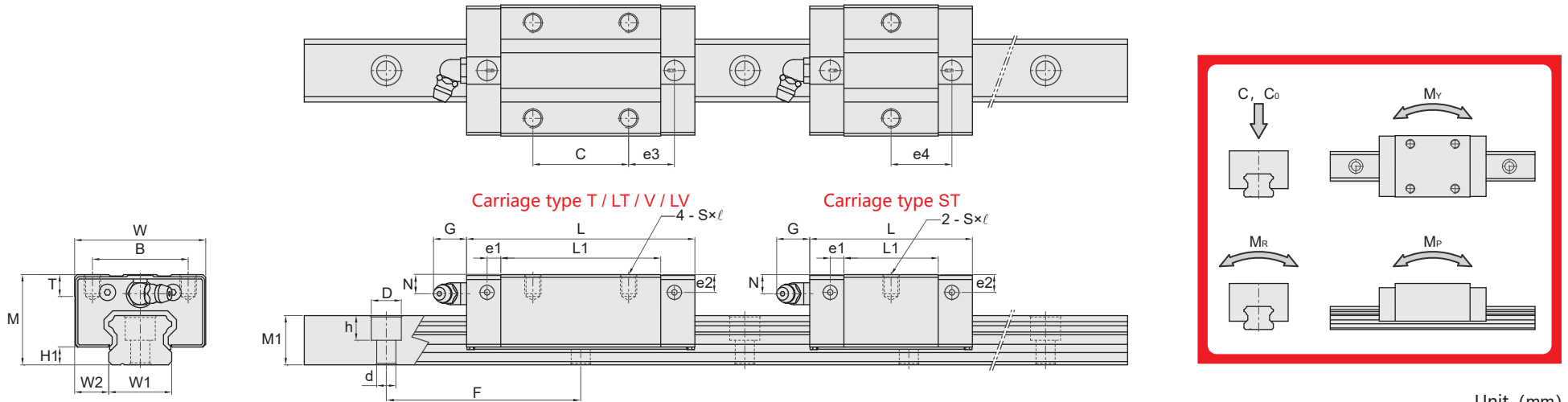
Dimensions of LMG...H / LH



Model No.	External dimension			Carriage dimension											Rail dimension				Basic load rating		Static moment rating				Weight				
	Height	Width	Length	B	C	Mounting hole Sxℓ	L1	T	H1	N	e1	e2	e3	G	Grease nipple	Width	Height	Pitch	Mounting bolt hole	Dynamic	Static	M _P (KN·m)		M _V (KN·m)		M _R	Carriage	Rail	
	M	W	L													W1	W2	M1	F	D×h×d	C	C ₀	Single Carriage	Double Carriages	Single Carriage	Double Carriages	KN·m	Kg	Kg/m
LMG15 H	28	34	58.2	26	26	M4×7	39.5	6	4.5	9	3.3	8	10.6	5	M4×0.7	15	9.5	13	60	7.5×5.3×4.5*	11.8	18.9	0.13	0.76	0.13	0.76	0.15	0.19	1.29
LMG15 LH	28	34	72.6	26	34	M4×7	53.6	6	4.5	9	3.3	8	13.7	5	M4×0.7	15	9.5	13	60	7.5×5.3×4.5*	14.4	25.2	0.23	1.29	0.23	1.29	0.2	0.27	1.29
LMG20 H	30	44	75	32	36	M5×8	52.5	6	4.6	8.5	4.5	7	12.8	12	M6×0.75	20	12	15	60	9.5×8.5×6	20	32	0.30	1.68	0.30	1.68	0.33	0.33	1.92
LMG20 LH	30	44	87.4	32	50	M5×8	64.9	6	4.6	8.5	4.5	7	13	12	M6×0.75	20	12	15	60	9.5×8.5×6	23.2	39.3	0.44	2.36	0.44	2.36	0.41	0.41	1.92
LMG25 H	40	48	83.8	35	35	M6×12	58.8	8	6	14	5	13.5	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	0.55	2.67
LMG25 LH	40	48	102.8	35	50	M6×12	77.8	8	6	14	5	13.5	18.8	12	M6×0.75	23	12.5	18	60	11×9×7	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	M8×12	69.8	8	8	11	6	11	20	12	M6×0.75	28	16	23	80	14×12×9*	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	M8×12	92	8	8	11	6	11	21.1	12	M6×0.75	28	16	23	80	14×12×9*	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	M8×14	80.2	11	9.5	15	7.5	15	21.6	12	M6×0.75	34	18	26	80	14×12×9	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	M8×14	105.6	11	9.5	15	7.5	15	23.3	12	M6×0.75	34	18	26	80	14×12×9	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	M10×20	102.2	16	11	20	8.5	20	27.6	13.5	PT 1/8	45	20.5	32	105	20×17×14	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	M10×20	133.9	16	11	20	8.5	20	33.5	13.5	PT 1/8	45	20.5	32	105	20×17×14	101.7	157.3	3.54	17.76	3.54	17.76	3.62	3.70	10.25
LMG55 H	80	100	166	75	75	M12×18	126	17	13	22	9	20.5	33.5	13.5	PT 1/8	53	23.5	44	120	23×20×16	130	184	2.08	12.35	2.08	12.35	5.12	6.18	15.08
LMG55 LH	80	100	204	75	95	M12×18	164	17	13	22	9	20.5	42.5	13.5	PT 1/8	53	23.5	44	120	23×20×16	156	241	3.49	19.14	3.49	19.14	6.69	7.45	15.08

*1.Rail mounting hoes 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.
 2.Rail mounting hoes for M6 bolt (11×9×7) and M8 bolt (14×12×9) 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 / LT / V / LV



Unit (mm)

Model No.	External dimension			Carriage dimension												Rail dimension					Basic load rating		Static moment rating				Weight			
	Height	Width	Length	B	C	Mounting hole S×ℓ	L1	T	H1	N	e1	e2	e3	e4	G	Grease nipple	Width	Height	Pitch	Mounting bolt hole	Dynamic	Static	Mp (KN·m)		My (KN·m)		Mr KN·m	Carriage Kg	Rail Kg/m	
	M	W	L																				W1	W2	M1	F				D×h×d
LMG15 ST	24	34	40.7	26	-	M4×5	22	6	4.5	5	3.3	4	-	14.8	5	M4×0.7	15	9.5	13	60	7.5×5.3×4.5*	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	4.5	5	3.3	4	10.6	-	5	M4×0.7	15	9.5	13	60	7.5×5.3×4.5*	11.8	18.9	0.13	0.76	0.13	0.76	0.15	0.15	1.29
LMG15 LT	24	34	72.6	26	34	M4×5	53.6	6	4.5	5	3.3	4	13.7	-	5	M4×0.7	15	9.5	13	60	7.5×5.3×4.5*	14.4	25.2	0.23	1.29	0.23	1.29	0.2	0.21	1.29
LMG20 ST	28	42	47.4	32	-	M5×6	24.9	6	4.6	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	4.6	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	6	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	83.8	35	35	M6×7	58.8	8	6	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
LMG25 V	36	48	83.8	35	35	M6×9	58.8	8	6	10	5	9.5	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	0.47	2.67
LMG25 LV	36	48	102.8	35	50	M6×9	77.8	8	6	10	5	9.5	16.8	-	12	M6×0.75	23	12.5	18	60	11×9×7	34.2	56.6	0.76	3.99	0.76	3.99	0.67	0.61	2.67
LMG30 T	42	60	98	40	40	M8×10	69.8	8	8	8	6	8	20	-	12	M6×0.75	28	16	23	80	14×12×9*	38.8	57.8	0.70	3.88	0.70	3.88	0.83	0.79	4.48
LMG30 LT	42	60	120.2	40	60	M8×10	92	8	8	8	6	8	21.1	-	12	M6×0.75	28	16	23	80	14×12×9*	47.5	77.1	1.21	6.28	1.21	6.28	1.11	1.02	4.48
LMG35 T	48	70	111.2	50	50	M8×12	80.2	10	9.5	8	7.5	8	21.6	-	12	M6×0.75	34	18	26	80	14×12×9	51.7	75.5	1.04	5.72	1.04	5.72	1.31	1.14	6.24
LMG35 LT	48	70	136.6	50	72	M8×12	105.6	10	9.5	8	7.5	8	23.3	-	12	M6×0.75	34	18	26	80	14×12×9	63.2	100.7	1.81	9.29	1.81	9.29	1.75	1.47	6.24
LMG45 T	60	86	137.8	60	60	M10×17	102.2	16	11	10	8.5	10	27.6	-	13.5	PT 1/8	45	20.5	32	105	20×17×14	83.2	118.0	2.03	10.89	2.03	10.89	2.71	2.17	10.25
LMG45 LT	60	86	169.5	60	80	M10×17	133.9	16	11	10	8.5	10	33.5	-	13.5	PT 1/8	45	20.5	32	105	20×17×14	101.7	157.3	3.54	17.76	3.54	17.76	3.62	2.81	10.25
LMG55 T	70	100	166	75	75	M12×18	126	17	13	12	9	10.5	33.5	-	13.5	PT 1/8	53	23.5	44	120	23×20×16	130	184	2.08	12.35	2.08	12.35	5.12	5.20	15.08
LMG55 LT	70	100	204	75	95	M12×18	164	17	13	12	9	10.5	42.5	-	13.5	PT 1/8	53	23.5	44	120	23×20×16	156	241	3.49	19.14	3.49	19.14	6.69	6.17	15.08

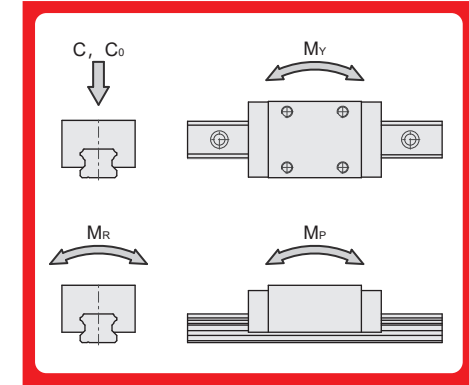
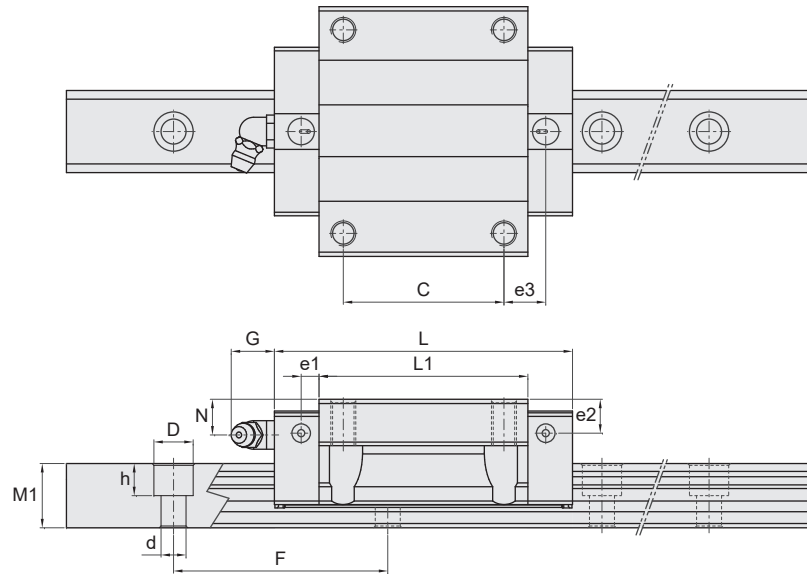
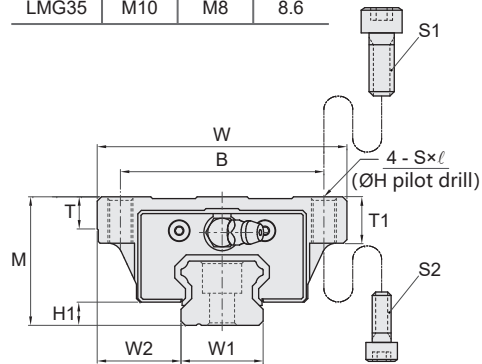
*1. Rail mounting hloes for M3 bolt (6×4.5×3.5) and M4 bolt (7.5×5.3×4.5) are available for LMG15 rail. The codes of rail type are LMG15R for M4 bolt, and LMG15U for M3 bolt.

2. Rail mounting hloes for M6 bolt (11×9×7) and M8 bolt (14×12×9) are available for LMG30 rail. The codes of rail type are LMG30R for M8 bolt, and LMG30U for M6 bolt.

Linear Guideway

Dimensions of LMG...TC

Model No.	Bolt Size		Pilot drill
	S1	S2	H
LMG15	M5	M4	4.4
LMG20	M6	M5	5.3
LMG25	M8	M6	6.9
LMG30	M10	M8	8.6
LMG35	M10	M8	8.6

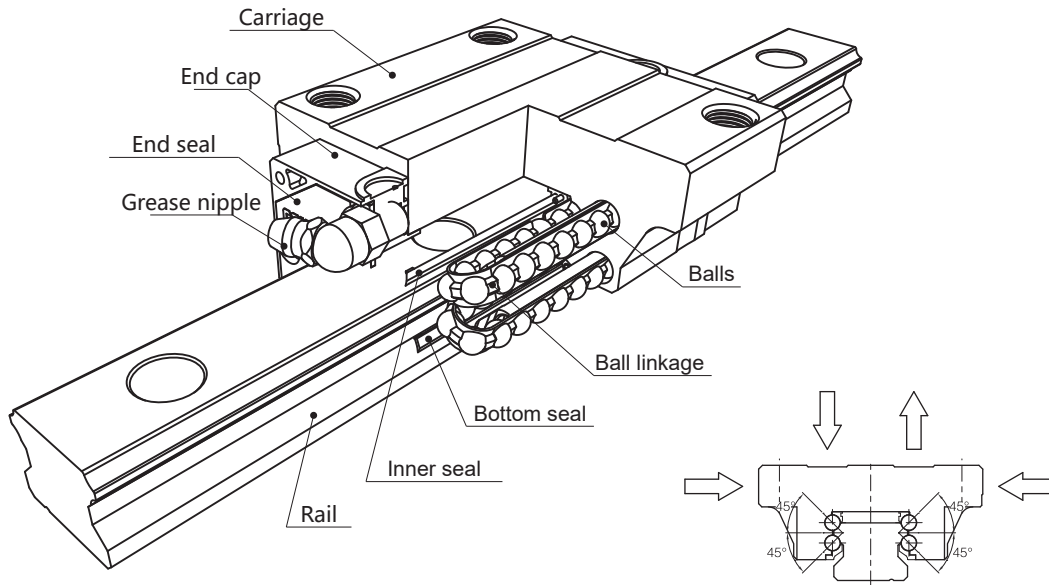


Model No.	External dimension			Carriage dimension													Rail dimension				Basic load rating		Static moment rating				Weight			
	Height	Width	Length	B	C	Mounting hole S×l	L1	T	T1	H1	N	e1	e2	e3	G	Grease nipple	Width	Height	Pitch	Mounting bolt hole	Dynamic	Static	M _P (KN·m)		M _V (KN·m)		M _R	Carriage	Rail	
	M	W	L														W1	W2	M1	F	D×h×d	C	C ₀	Single Carriage	Double Carriages	Single Carriage	Double Carriages	KN·m	Kg	Kg/m
LMG15 TC	24	52	58.2	41	26	M5×7	39.5	5	7	4.5	5	3.3	4	8.6	5	M4×0.7	15	18.5	13	60	7.5×5.3×4.5*	11.8	18.9	0.13	0.76	0.13	0.76	0.15	0.20	1.29
LMG20 TC	28	59	75	49	32	M6×9	52.5	5	9	4.6	6.5	4.5	7	10.8	12	M6×0.75	20	19.5	15	60	9.5×8.5×6	20	32	0.30	1.68	0.30	1.68	0.33	0.36	1.92
LMG25 TC	33	73	83.8	60	35	M8×10	58.8	6	10	6	7	5	9.5	11.8	12	M6×0.75	23	25	18	60	11×9×7	27.9	42.5	0.44	2.47	0.44	2.47	0.51	0.58	2.67
LMG30 TC	42	90	98	72	40	M10×15	69.8	12	15.2	8	8	6	8	14	12	M6×0.75	28	31	23	80	14×12×9*	38.8	57.8	0.70	3.88	0.70	3.88	0.83	1.10	4.48
LMG35 TC	48	100	111.2	82	50	M10×15	80.2	10	15.3	9.5	8	7.5	8	15.6	12	M6×0.75	34	33	26	80	14×12×9	51.7	75.5	1.04	5.72	1.04	5.72	1.31	1.50	6.24

*1. 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.

2. Rail mounting holes for M6 bolt (11×9×7) and M8 bolt (14×12×9) are available for LMG30 rail. The codes of rail type are LMG30R for M8 bolt, and LMG30U for M6 bolt.

LMGQ series



Note: For reference only.

Characteristics

The four trains of balls are designed with a contact angle of 45° which enables it not only to bear load equally in radial, reversed radial and lateral directions but also can achieve high rigidity and high loading capacity. Therefore, it is suitable for all directional installation. Furthermore the unique self alignment function of LMG series can compensate the certain error while assembling, and which results in high precision and smooth motion.

- High rigidity
- Four-way equal load
- Self alignment capability
- Complete dust sealing system
- High positioning accuracy
- Low dust emission
- Smooth movement
- Low noise and high speed application
- Interchangeability
- Carriage common rail design
- International standard

Applications

Machine Tool (CNC、Lathe ...)
Industrial Robot

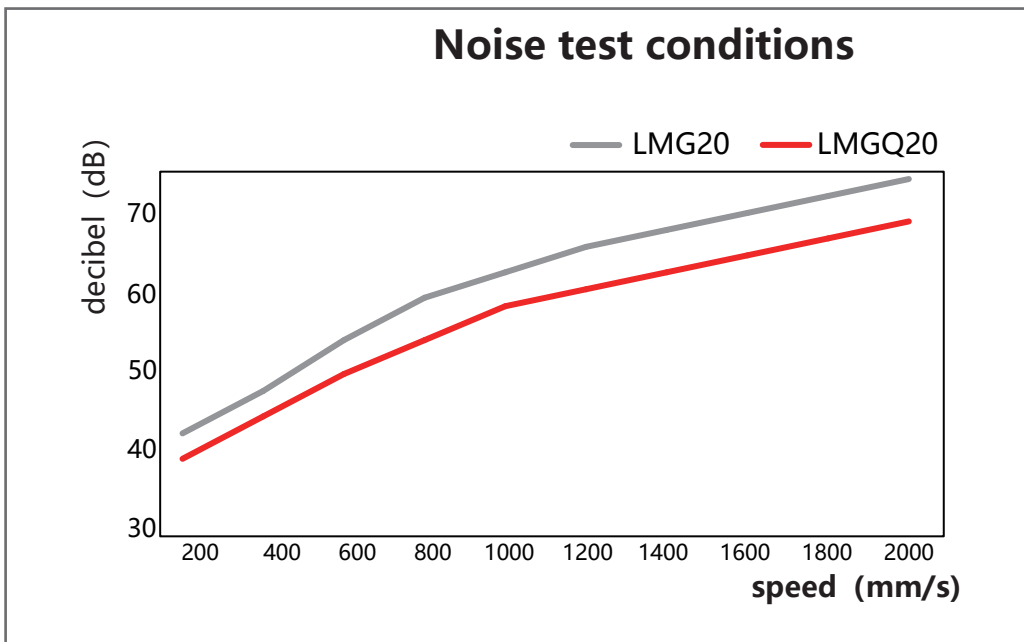
Semiconductor Manufacturing Equipment
Other (Injection Molding Machine ...)

Characteristics

The LMGQ series utilizes a ball linkage to arrange the balls evenly and evenly, reducing the sharp sound of collisions between the balls (high audio sound)

Elimination, it has been experimentally measured that under different speed conditions, the overall sound of the LMGQ series is effectively reduced by 5-7 decibels.

Model No.	Test conditions
specifications	LMG/GQ20H1SSP0+R1200-30/30N
speed	200mm/s-2000mm/s
Stroke	1000mm



- Noise testing machine

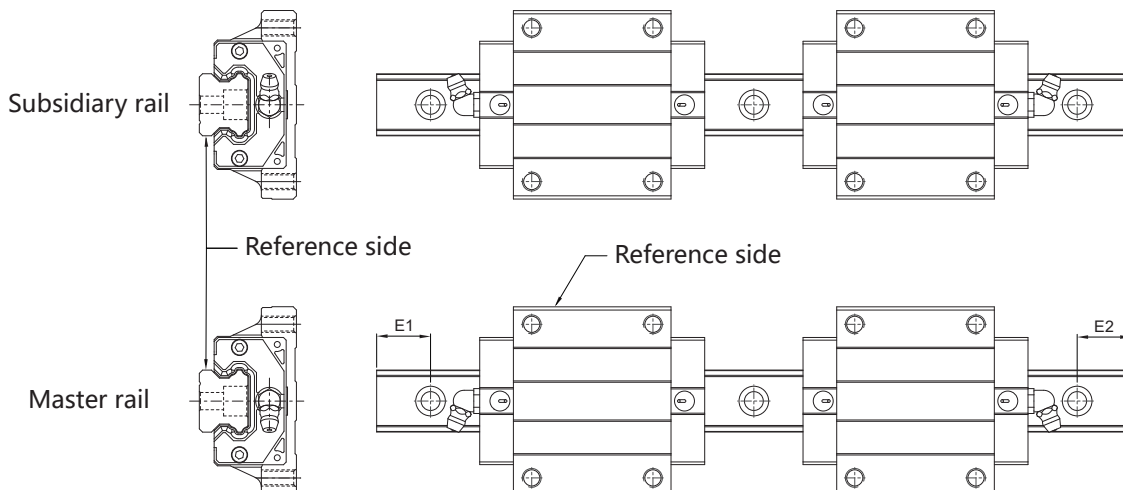


Specifications

(1) Non-Interchangeable type

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

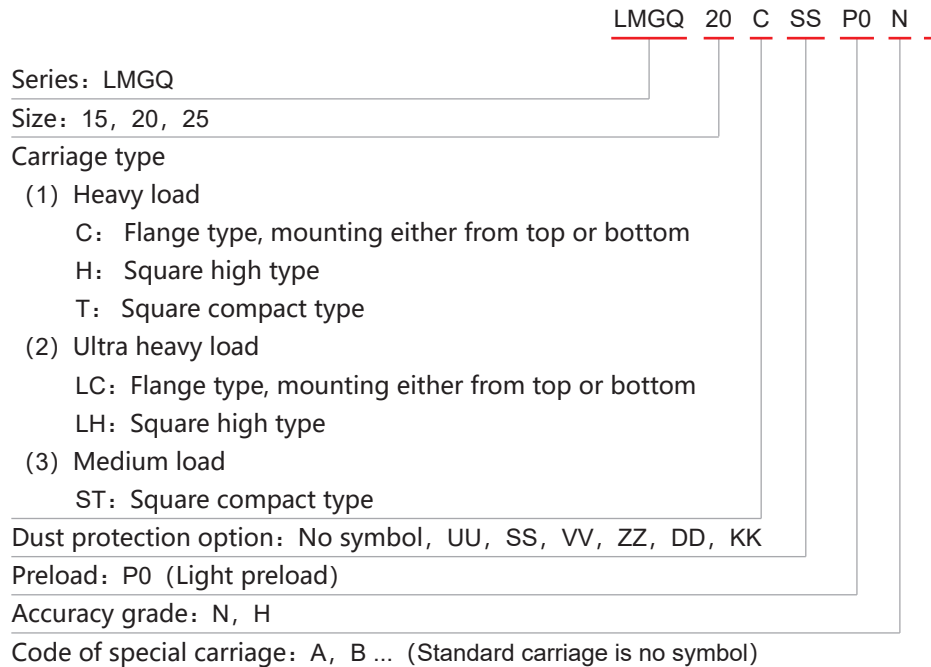
*U type rail is only applicable for LMGQ15, detail information please see the specification table for the corresponding model number.



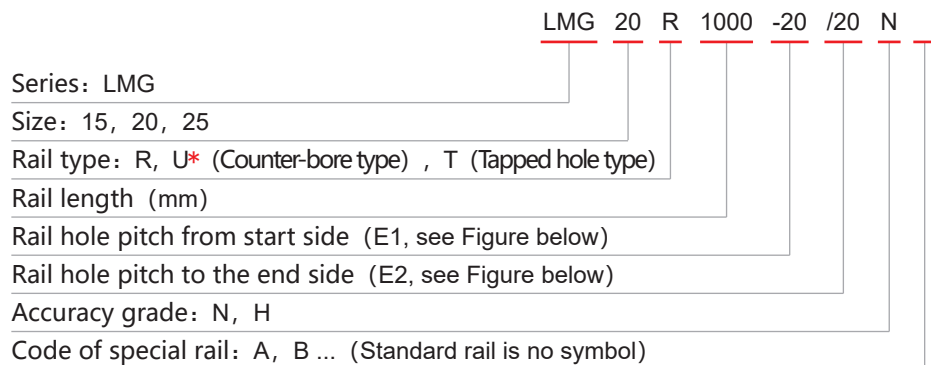
Specifications

(2) Interchangeable type

- Code of Carriage



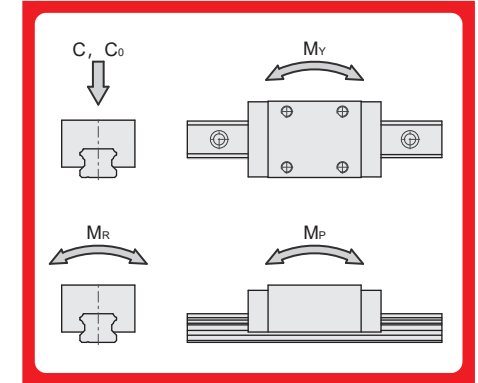
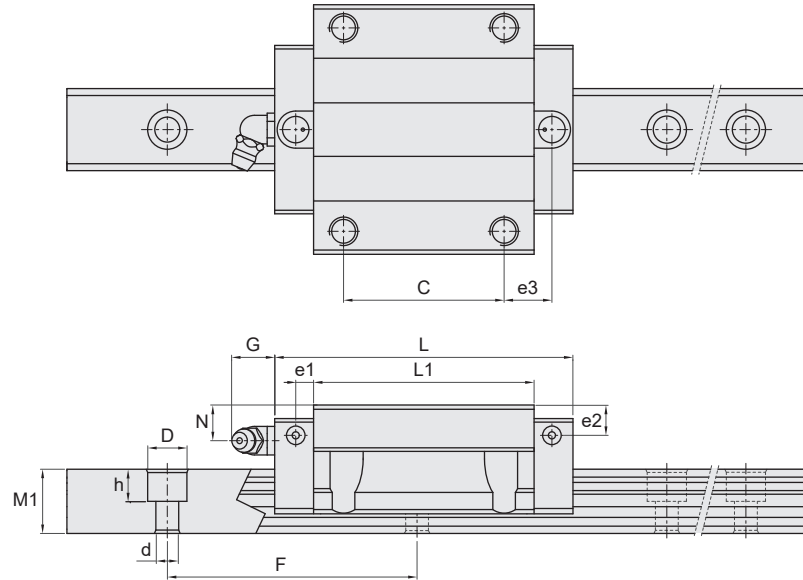
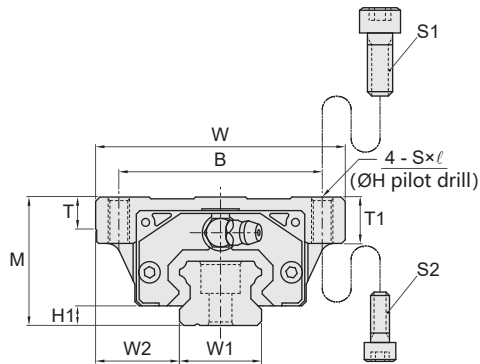
- Code of Rail



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

Dimensions of LMGQ...C / LC

Model No.	Bolt Size		Pilot drill
	S1	S2	H
LMGQ15	M5	-	-
LMGQ20	M6	M5	5.3
LMGQ25	M8	M6	6.9



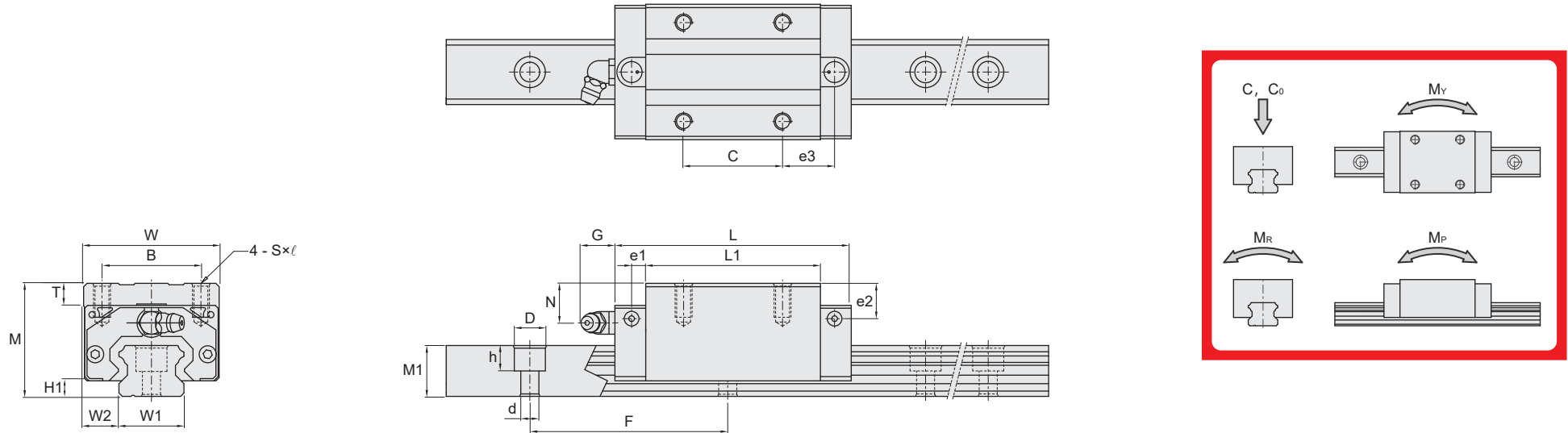
Model No.	External dimension			Carriage dimension													Rail dimension				Basic load rating		Static moment rating				Weight				
	Height	Width	Length	B	C	Mounting hole S x l	L1	T	T1	H1	N	e1	e2	e3	G	Grease nipple	Width W1	Width W2	Height M1	Pitch F	Mounting bolt hole D x h x d	Dynamic C KN	Static C0 KN	Mp (KN·m)		My (KN·m)		Mr	Carriage Kg	Rail Kg/m	
	M	W	L																						Single Carriage	Double Carriages	Single Carriage	Double Carriages	KN·m		
LMGQ15 C	24	47	61.2	38	30	M5x8	43.8	5.5	8	4	5	3.3	4	10.9	5	M4x0.7	15	16	13	60	7.5x5.3x4.5*	11.8	18.9	0.13	0.76	0.13	0.76	0.15	0.18	1.29	
LMGQ20 C	30	63	76.1	53	40	M6x10	53.7	7	10.2	4.6	8.5	4.5	7	13.4	12	M6x0.75	20	21.5	15	60	9.5x8.5x6	20	32	0.30	1.68	0.30	1.68	0.33	0.40	1.92	
LMGQ20 LC	30	63	91.1	53	40	M6x10	68.5	7	10.2	4.6	8.5	4.5	7	18.8	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	0.51	1.92	
LMGQ25 C	36	70	84.7	57	45	M8x13	62.7	9	13	5.5	10	5	9.5	13.9	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	
LMGQ25 LC	36	70	104.2	57	45	M8x13	83	9	13	5.5	10	5	9.5	23.7	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	

*1.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.
 2.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.U.
 3.LMGQ15C Not provided mounting from bottom.

Linear Guideway



Dimensions of LMGQ...H / LH

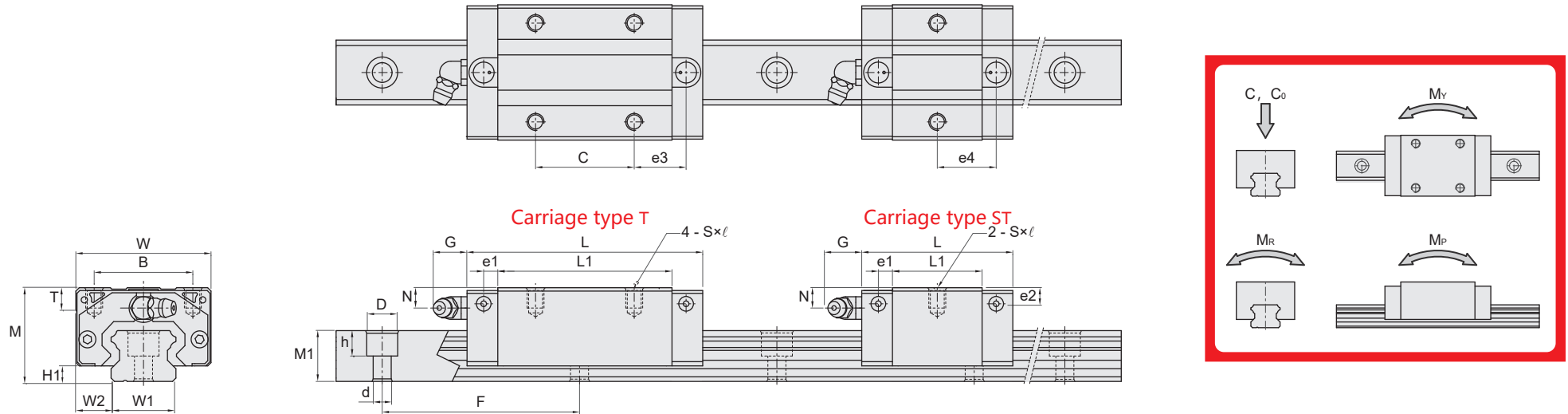


Model No.	External dimension			Carriage dimension											Rail dimension				Basic load rating		Static moment rating				Weight				
	Height	Width	Length	B	C	Mounting hole S x l	L1	T	H1	N	e1	e2	e3	G	Grease nipple	Width	Height	Pitch	Mounting bolt hole	Dynamic C KN	Static C0 KN	Mp (KN-m)		My (KN-m)		MR KN-m	Carriage Kg	Rail Kg/m	
	M	W	L																			W1	W2	M1	F				D x h x d
	M	W	L	B	C	Mounting hole S x l	L1	T	H1	N	e1	e2	e3	G	Grease nipple	W1	W2	M1	F	D x h x d	C	C0	Single Carriage	Double Carriages	Single Carriage	Double Carriages	MR	Carriage	Rail
LMGQ15 H	28	34	61.2	26	26	M4x7	43.8	6	4	9	3.3	8	12.9	5	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	0.18	1.29
LMGQ20 H	30	44	76.1	32	36	M5x8	53.7	6	4.6	8.5	4.5	7	13.4	12	M6x0.75	20	12	15	60	9.5x8.5x6	20	32	0.30	1.68	0.30	1.68	0.33	0.31	1.92
LMGQ20 LH	30	44	91.1	32	50	M5x8	68.5	6	4.6	8.5	4.5	7	13.8	12	M6x0.75	20	12	15	60	9.5x8.5x6	23.2	39.3	0.44	2.36	0.44	2.36	0.41	0.39	1.92
LMGQ25 H	40	48	84.7	35	35	M6x12	62.7	8	5.5	14	5	13.5	18.9	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
LMGQ25 LH	40	48	104.2	35	50	M6x12	83	8	5.5	14	5	13.5	21.5	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

*1.Rail mounting hloes 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.
 2.Rail mounting hloes 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.

Linear Guideway

Dimensions of LMGQ...H / LH



Unit (mm)

Model No.	External dimension			Carriage dimension													Rail dimension				Basic load rating		Static moment rating				Weight			
	Height	Width	Length	B	C	Mounting hole S×ℓ	L1	T	H1	N	e1	e2	e3	e4	G	Grease nipple	Width	Pitch	Mounting bolt hole D×h×d	Dynamic C KN	Static C ₀ KN	M _P (KN·m)		M _Y (KN·m)		M _R KN·m	Carriage Kg	Rail Kg/m		
	M	W	L																			Single Carriage	Double Carriages	Single Carriage	Double Carriages					
LMGQ15 T	24	34	61.2	26	26	M4×5	43.8	6	4	5	3.3	4	12.9	-	5	M4×0.7	15	9.5	13	60	7.5×5.3×4.5*	11.8	18.9	0.13	0.76	0.13	0.76	0.15	0.14	1.29
LMGQ20 ST	28	42	50.9	32	-	M5×6	28.3	6	4.6	6.5	4.5	5	-	18.7	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	0.13	1.92
LMGQ20 T	28	42	76.1	32	32	M5×6	53.7	6	4.6	6.5	4.5	5	15.4	-	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	0.26	1.92
LMGQ25 T	33	48	84.7	35	35	M6×7	62.7	6	5.5	7	5	6.5	18.9	-	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

*1. 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.

Lubrication

A well lubrication is important for maintaining the function of the linear guideway. If the lubrication is not sufficient, the frictional resistance at rolling area will increase and the service life will be shortened as a result of wear of rolling parts.

Two primary lubricants are both grease and oil used for the linear motion system, and the lubrication methods are categorized into manual and forced oiling. The selection of lubricant and its method should be based on the consideration of operating speed and environment requirement.

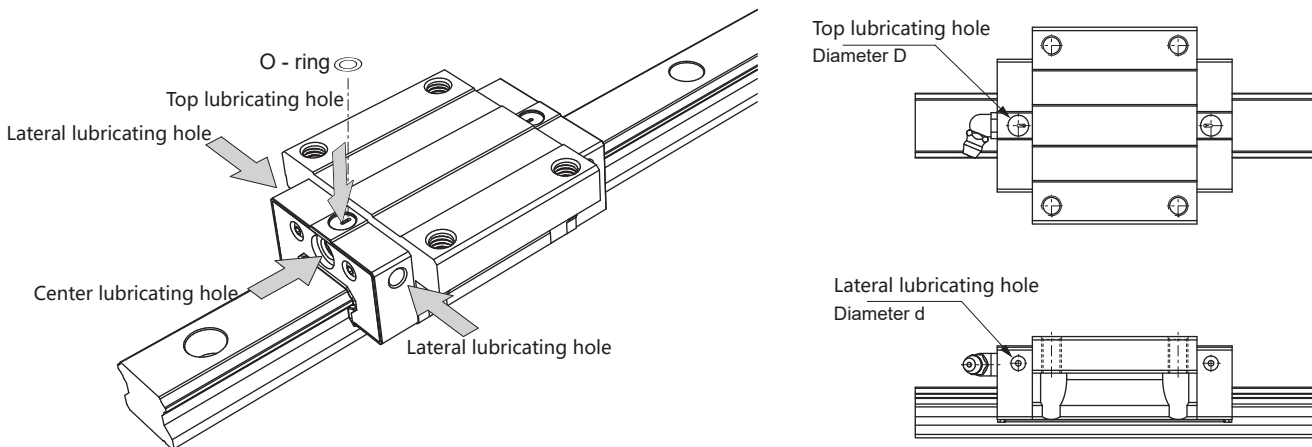
Grease lubrication

The grease feeding interval will be varied with different operating conditions and environments. Under normal operating condition, the grease should be replenished every 100km of travel. The standard pre-filled grease is lithium-based grease No.2. Moving the carriage back and forth with minimum stroke length of three carriages after the carriages been greased. To assure the grease is evenly distributed inside of carriage, the mentioned process should be repeated twice at least.

Lubrication position

The CSK linear guide rail series provides lubrication and oil injection positions for the central and transverse and upper reserved holes of the two end faces of the slider and the end cover, as shown in the following figure and table.

To prevent foreign objects from invading, the reserved holes on the horizontal and upper sides of the end cover are not penetrated. If there is a lubrication requirement for this horizontal and upper side, please specify it when ordering.



Unit (mm)

Model No.	Top lubricating hole	Lateral Lubricating (Requires post processing of threads)			Top Lubricating		
	Grease Nipple	Diameter d	Grease Nipple	Drill Size	Diameter D	O - ring	Drill Size
LMG/GQ 15	M4×0.7P	3.3	M4×0.7P	1.5	5.8	P2	1
LMG/GQ 20	M6×0.75P	5.2	M6×0.75P	2	7.4	P4	
LMG/GQ 25					10.2	P7	
LMG 30							
LMG 35	PT1/8	5.2	M6×0.75P	2	10.2	P7	1.5
LMG 45							
LMG 55							

Note:

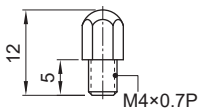
When the operating stroke length less than the sum of length of two carriages, the lubrication fitting should be applied on both ends of carriage for adequacy. Moreover, if the stroke length less than a half of the length of a carriage, the carriage should be moved back and forth up to the length of two carriages while lubricating.

Lubrication

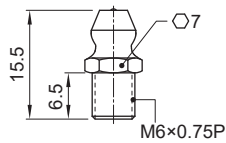
Grease nipple and oil piping joint

(1) Grease nipple

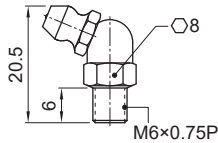
GS - M4



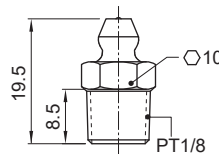
GS - M6



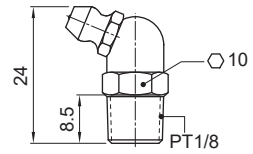
GC - M6



GS - 7



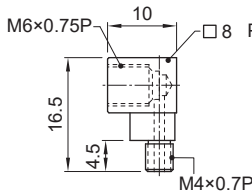
GC - 7



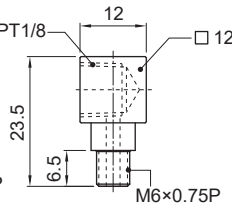
(2) Oil piping joint

• OC Type

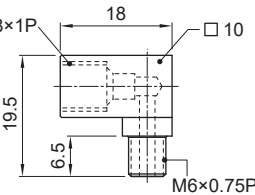
OC - 46



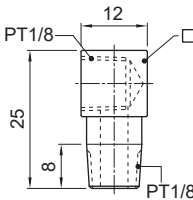
OC - 67



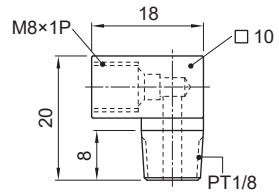
OC - 68



OC - 77

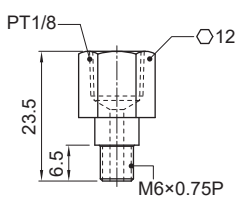


OC - 78

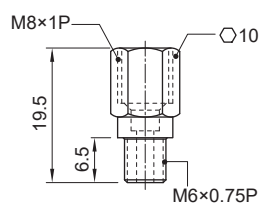


• OS Type

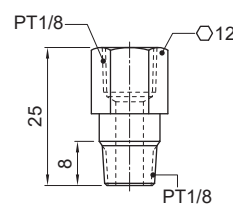
OS - 67



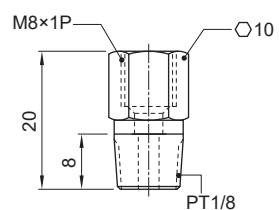
OS - 68



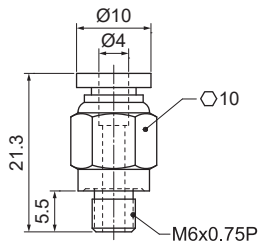
OS - 77



OS - 78



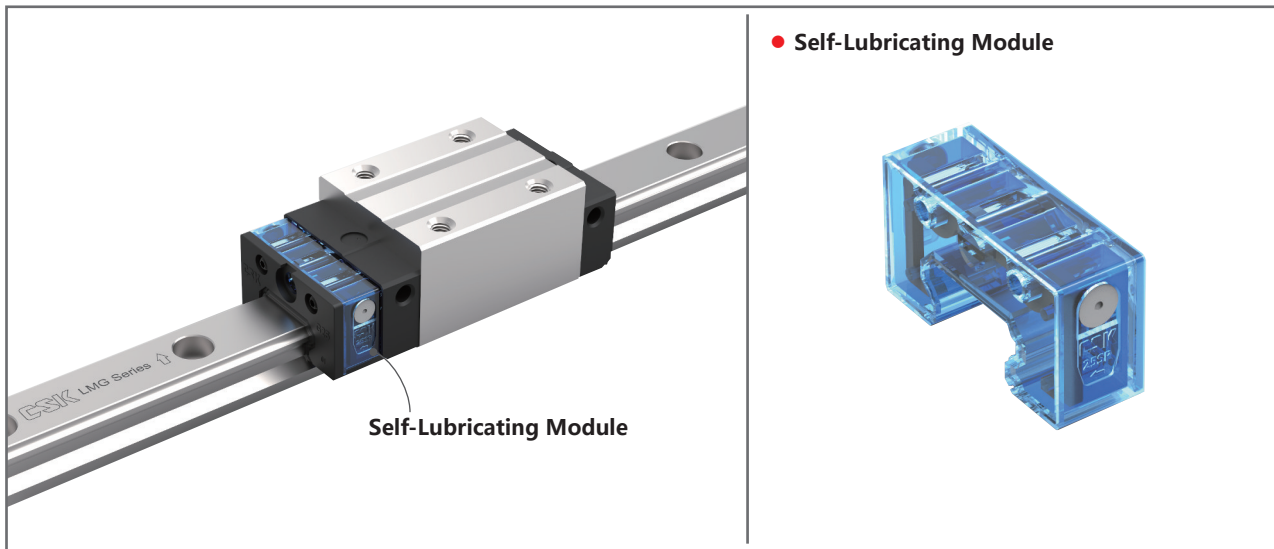
OS - 64 (Fast joint)



Model No.	Grease Nipple		Oil Piping Joint
	Standard	Option	Option
LMG/GQ 15	GS - M4	-	OC - 46
LMG/GQ 20	GC - M6	GS - M6	OC - 67, OC - 68, OS - 67, OS - 68, OS - 64
LMG/GQ 25			
LMG 30			
LMG 35	GC - 7	GS - 7	OC - 77, OC - 78, OS - 77, OS - 78
LMG 45			
LMG 55			

Linear Guideway - Options

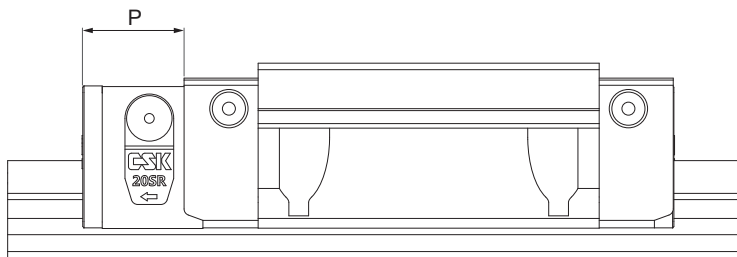
Self-Lubricating Module - SR series



Characteristics

- Can be used with grease
- Wide use of ambient temperature range
- Extend the maintenance cycle and reduce the maintenance cost
- Low consumption and environmentally friendly
- Oil supplement design, low cost
- Improve the service life of guide rail

Dimension parameters



Using a self lubricating module, the slider is extended in size

Model No.	P
LMG 15	12.6
LMG 20	15.6
LMG 25	15.6
LMG 30	15.6
LMGQ 15	15.6
LMGQ 20	18.6
LMGQ 25	18.6

Applications

Automation equipment
Electronic machinery

Industrial machinery
Other

Specifications

(1) Non-Interchangeable type

LMG/GQ20C2SSP1SR+R1000-20/20PII

Self-Lubricating Module: SR

(2) Interchangeable type

LMG/GQ20CSP0SRN

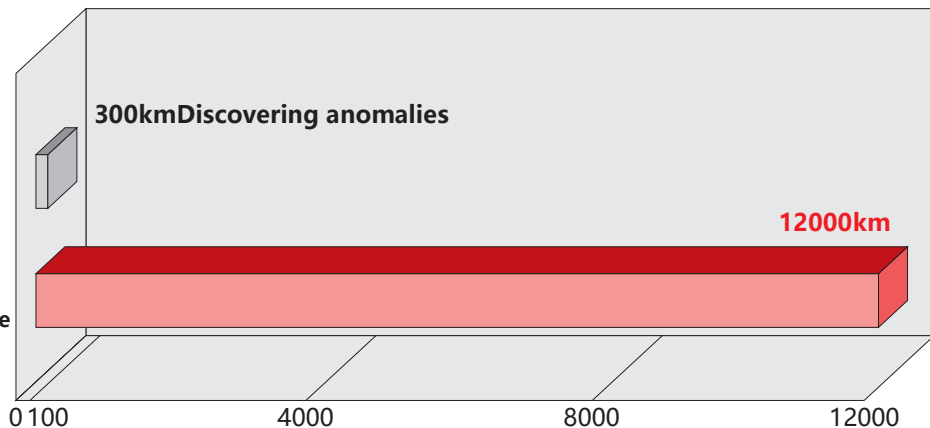
Self-Lubricating Module: SR

Self-Lubricating Module performance testing

Model No.	Test conditions
specifications	LMG30H2SSP0SR+R1200-40/40NII
speed	60m/min
trip	1000mm
load	300kgf

LMG30HSS
Initial addition of
lubricating grease

LMG30HSSP0SR
Initial addition of
lubricating grease
+SR Self-Lubricating Module



Continuous normal movement mileage of the guide rail (km)

Model No.	Reference mileage for lubricating oil supply (km)
LMG/GQ 15 SR	4000
LMG/GQ 20 SR	6000
LMG/GQ 25 SR	9000
LMG 30 SR	12000

note:

- When installing the self lubricating module, there is no additional oil nozzle attached. Please contact CSK if necessary.
- The factory self lubricating module uses special lubricating oil. If the oil level of the self lubricating module is insufficient, please consult CSK.
- Due to factors such as the usage environment and working conditions of the self-lubricating module, the mileage for supplementing lubricating oil needs to be adjusted according to actual conditions.

Linear Guideway - Options

Grease for high speed - GREASE GS2



Properties

- NLGI-grade: 2
- Dropping point: >180°C
- Worked penetration(Pw 60): 265~295 (1/10mm)
- Temperature range: -40°C~140°C
- Net.80g

Description

GS2 is an adhesive, lithium soap based lubricating grease designed for long-term application. Suitable for high speed operation.

Advantages

- Suitable for life-time lubrication
- Water resistant
- Work stable
- Protects from corrosion, even in the presence of salt water
- Suitable for high thermal loads
- Good adhesiveness
- Suitable for low temperatures
- Mechanically high loadable

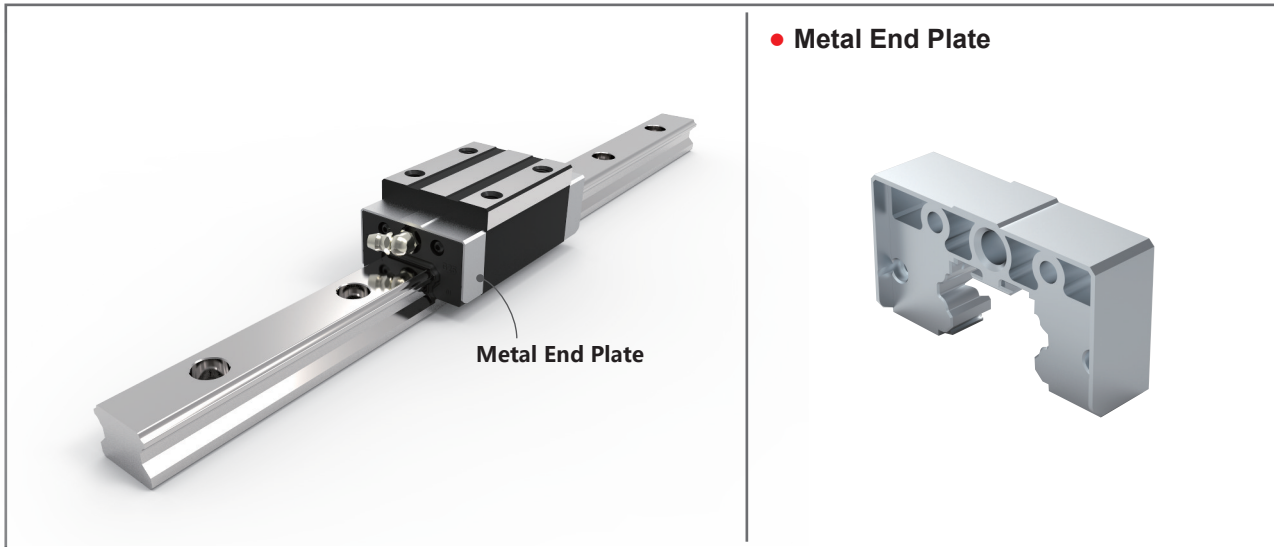
Grease gun LG80

LG80 : Grease gun for GS2.

Model No.	
Dimension	
Specifications	<ol style="list-style-type: none"> 1. Discharge pressure: 300kg/cm² 2. Weight (excluding the grease) : 0.5kg 3. Grease: 80g in a bellows tube

Linear Guideway - Options

Metal End Plate - M series



Specifications

Series: LMG	LMG	20	C	M	2	SS	P1	+R	1000	-20	/20	P	II
Size: 15, 20, 25, 30, 35													
Metal end plate: M													

Characteristics

- Enhanced the strength of the end plate
- Higher acceleration and deceleration capacity
- Superior impact resistance performance
- Suitable for use in high temperature environment
- Significantly reducing the destructive intrusion of foreign matters arising
- Does not change the total length of the standard block

Applications

Heat treatment equipment

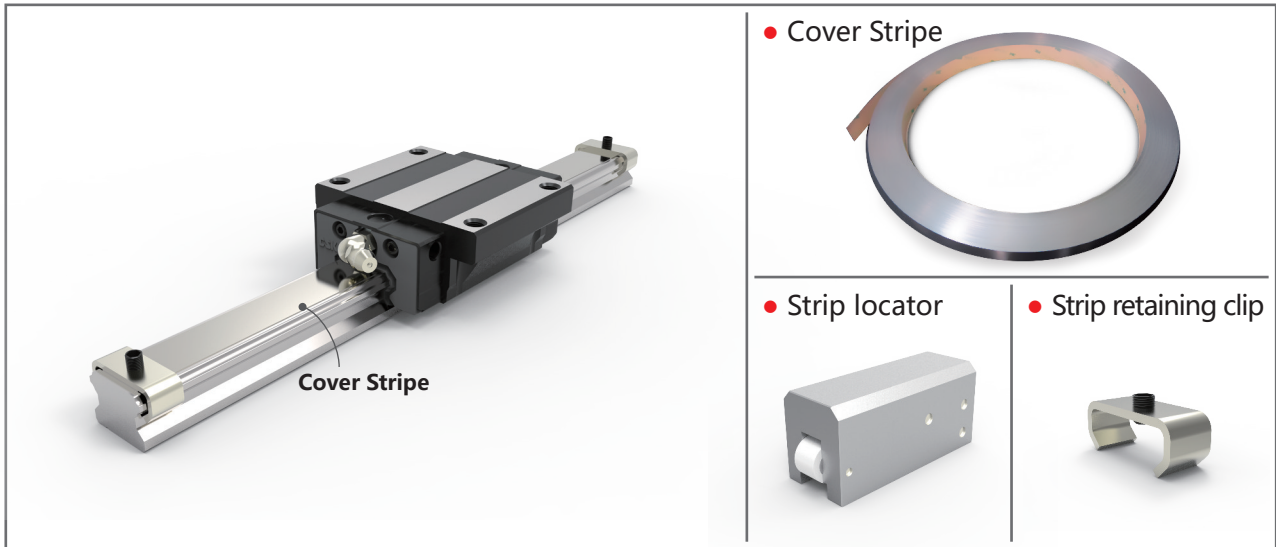
Equipment with low dust emission requirements

Automation equipment in high temperature environment

Other

Linear Guideway - Options

Metal Cover Stripe of Rail - CS series



Advantages

- Simple installation and disassembly
- Prevent the intrusion of foreign matters
- No need to do special processing or individually customized rail

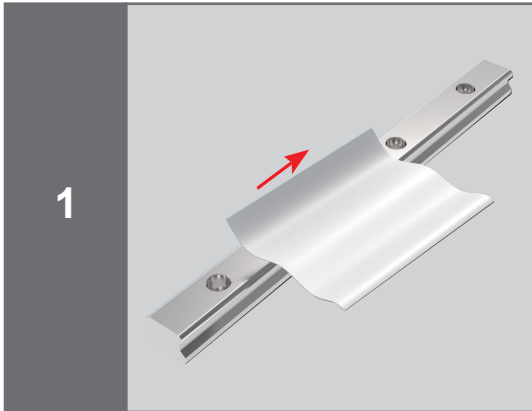
Specifications

	LMG/GQ	20	CS	50
Series:	LMG/GQ			
Size:	20, 25			
Components				
CS	: Cover Stripe			
CSL	: Strip locator			
CSRC	: Strip retaining clip			
The quantity ordered				
Cover Stripe:	m			
Strip locator/Strip retaining clip:	pcs			

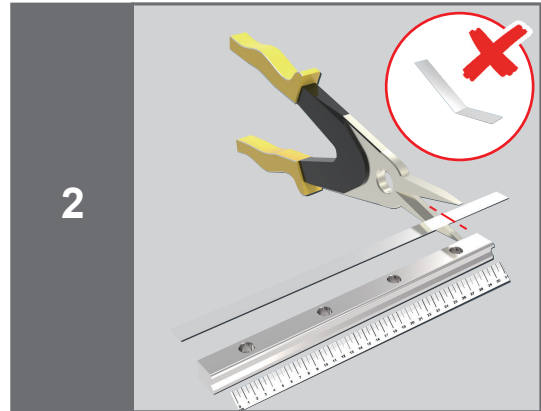
Precautions for use:

- The cover stripe cannot be bent.
- Clean rail surface before installation.
- When installing, please wear gloves to prevent scratches.
- Cut off position, please chamfer processing.
- When cutting, make the cover stripe 1~3mm shorter than the guide rail.

Installation

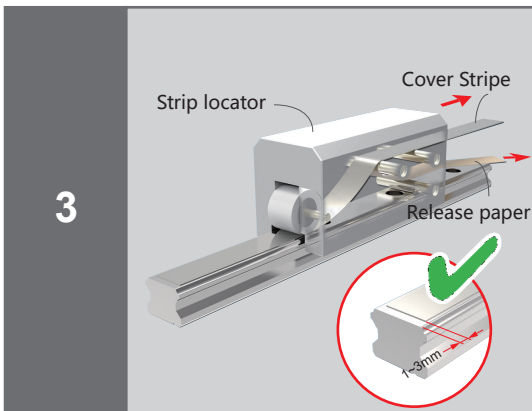


1 Clean rail surface before installation.



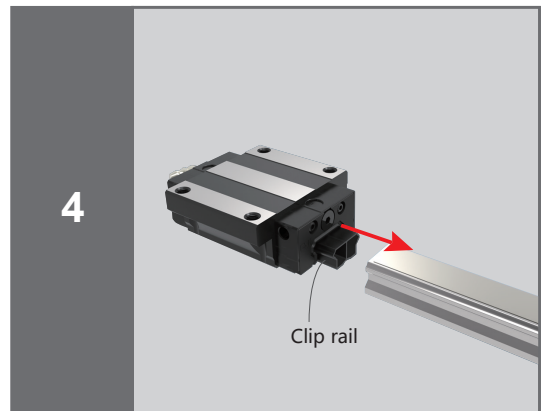
2 When cutting, make the cover stripe 1~3mm shorter than the guide rail.

⚠ The cover stripe cannot be bent.

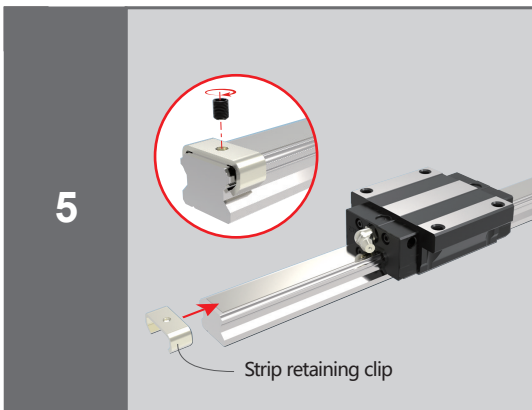


3 Use the strip locator to install the cover stripe.

⚠ The cover stripe cannot be bent.



4 Use clip rail mounting.



5 Insert strip retaining clip into the guide rail and bolt it tight.



6 Complete

Linear Guideway - Surface Treatment



Advantages

- Improved corrosion resistance
- Accuracy is not affected
- Change the appearance

Applications

- Chemical industry
- Automation
- Experimental environment
- Humid environment

Specifications

LMG/GQ 20 C 2 SS P1 B+R 1000 -20 /20 P B II

Carriage surface treatment: B

Rail surface treatment: B


The inside of the hole is not guaranteed to be completely treated.

Test conditions

Item	Description
Spray liquid	5% NaCl solution
PH值	6.9
Temperature	35°
Humidity	85%RH
Placement angle	20°
Smoke collection volume	1.5ml (80cm ² /H)

*Industrial grade low-temperature black chromium surface treatment, commonly known as cold electroplating.


Chrome plating



CSK-LMG-R
Surface treatment

Salt-water spray
resistance 24h


→




CSK-LMG-R
Surface treatment

Salt-water spray
resistance 72h

→




Industrial-use black chrome



CSK-LMG-R
Surface treatment

Salt-water spray
resistance 24h


→




CSK-LMG-R
Surface treatment

Salt-water spray
resistance 72h

→




Manganese phosphate



CSK-LMG-R
Surface treatment

Salt-water spray
resistance 24h


→



CSK-LMG-R
Surface treatment

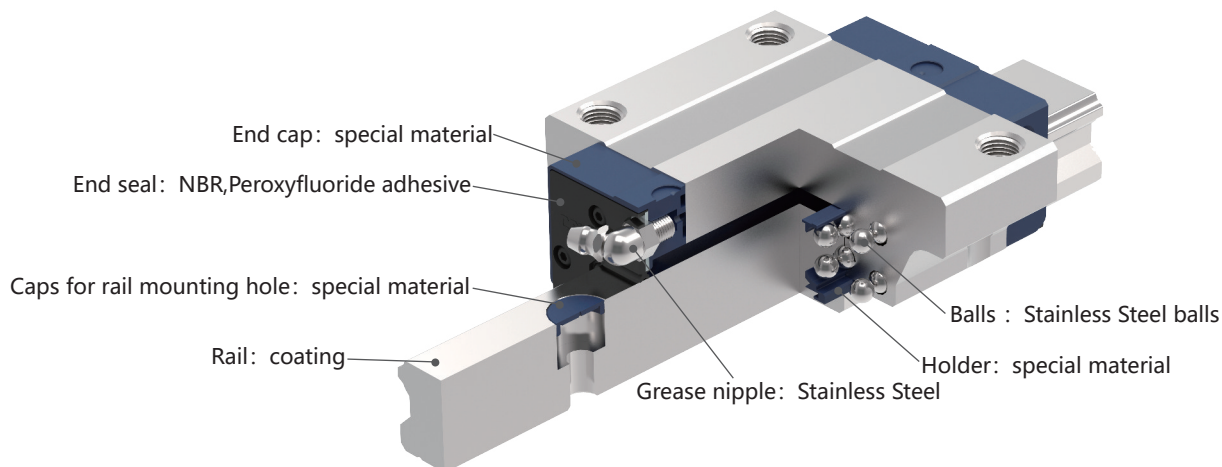
Salt-water spray
resistance 72h

→



Linear Guideway - Options

Anti corrosion - E series



Specifications

LMG 20 C E 2 SS P1 +R 1000 -20 /20 P II

Size: 15, 20, 25, 30

anti corrosion: **E**

Characteristics

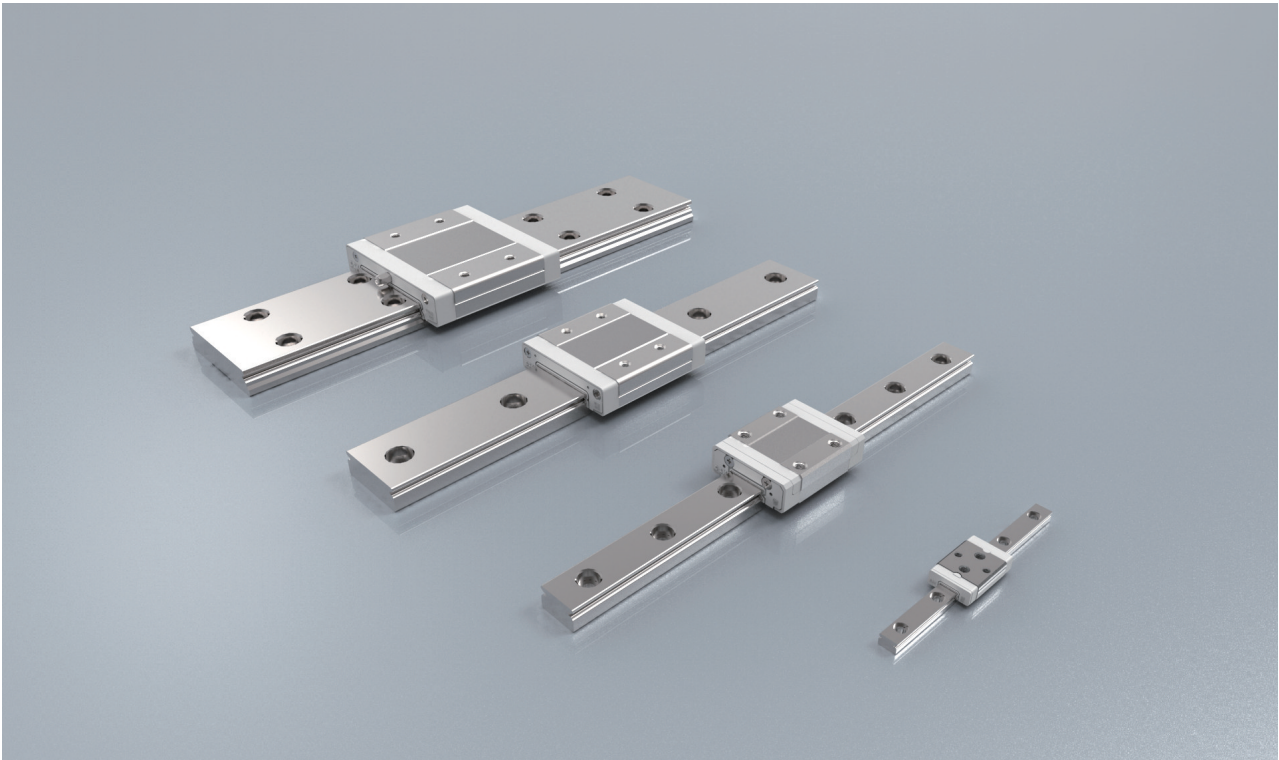
- 针对锂电行业，本产品不含有铜、锌、镍元素
- 塑料配件采用特殊材质，能够抵抗电池电解液的腐蚀性
- 润滑油嘴采用不锈钢材质，杜绝在电池制造过程中产生危害元素
- 钢球替换为不锈钢钢球，提升其电池电解液的耐腐蚀性

滑块配件anti corrosion对比测试

项目	标准配件	防腐蚀配件
测试前记录照片		
经过电池电解液浸泡24小时后记录照片		

Miniature Linear Guideway

LMN/NW series



Characteristics

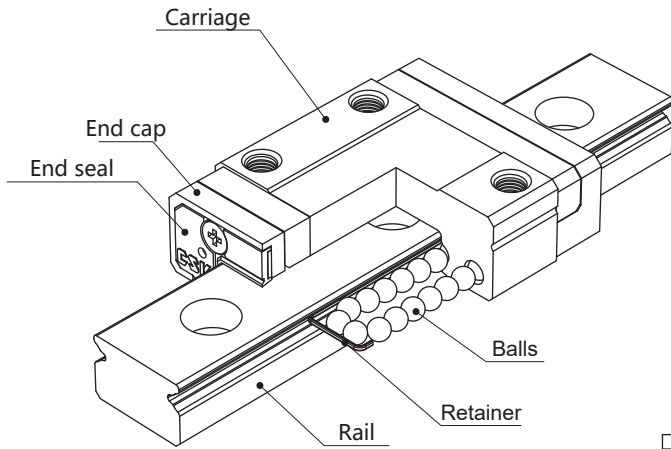
LMN/LMNW The linear guide rail adopts two rows of steel balls and a Gothic four point contact design, which can bear loads in all directions, making it highly efficient. Characteristics such as rigidity and high precision. Micro linear guide rails are suitable for spaces or parts that require small volume and light weight, especially for small self Dynamic equipment; The micro wide linear guide rail adopts a widened design and is suitable for equipment that carries loads from all directions and is used on a single axis. Designed steel ball protection. The holder can be interchangeable with precision.

- High rigidity, High positioning repeatability
- Low friction, smooth walking
- High positioning repeatability and good reproducibility
- Small size, Light weight
- Interchangeability
- International standard

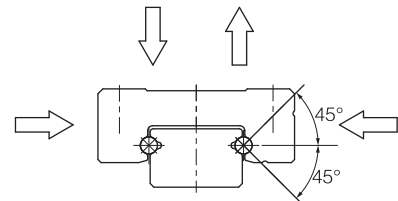
Applications

Semiconductor manufacturing devices, Industrial robots, Medical equipment, Precision testing instruments, Office automation equipment, Other small linear motion devices.

LMN

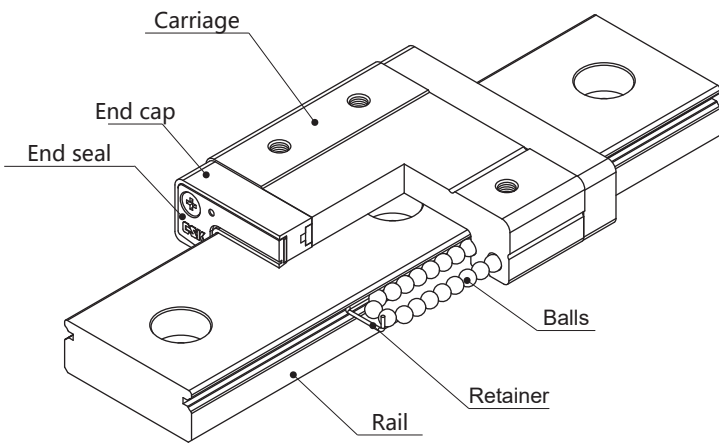


LMN5/7/9/12/15-T/LT

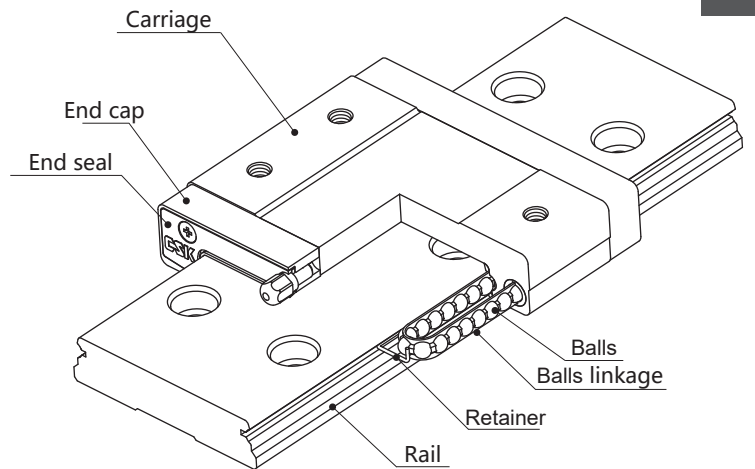


Note: For reference only.

LMNW



LMNW7/9/12-T/LT



LMNW15-T/LT

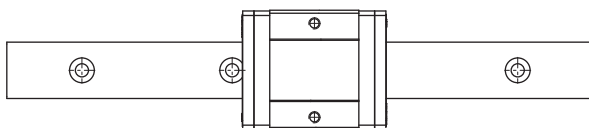
LMN/LMNW

Specifications

(1) Non-Interchangeable type

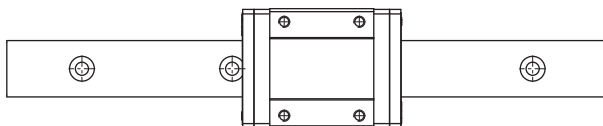
	<u>LMN</u>	<u>5</u>	<u>T</u>	<u>2</u>	<u>UU</u>	<u>P0</u>	<u>+R</u>	<u>100</u>	<u>-5</u>	<u>/5</u>	<u>N</u>	<u>M</u>	<u>II</u>
Series: LMN/LMNW													
Size: 5, 7, 9, 12, 15													
Carriage type													
T: Heavy load													
LT: Ultra heavy load													
ST: Square compact type													
Number of carriages per rail: 1, 2, 3 ...													
Dust protection option: UU													
Preload: PC (Clearance) , P0 (Light preload) , P1 (Medium preload)													
Code of special carriage: A, B ... (Standard rail is no symbol)													
Rail type: R													
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													
Material quality: no symbol , M (stainless steel)													
Code of special rail: A, B ... (Standard rail is no symbol)													
Number of rails per axis: No symbol, II, III, IV ...													

Square compact type



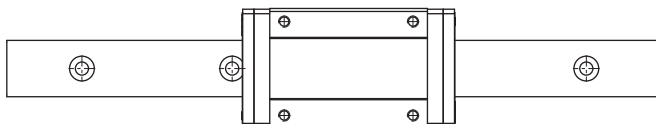
→ LMN/LMNW ... **ST**

Heavy load



→ LMN/LMNW ... **T**

Ultra heavy load

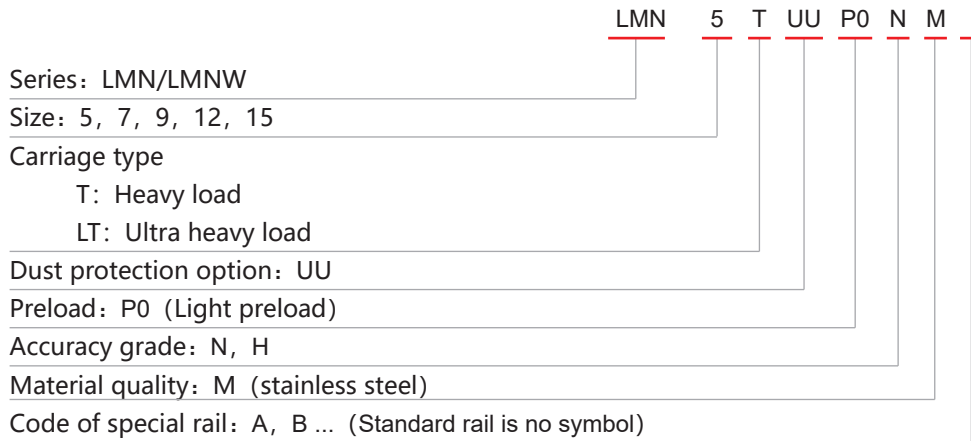


→ LMN/LMNW ... **LT**

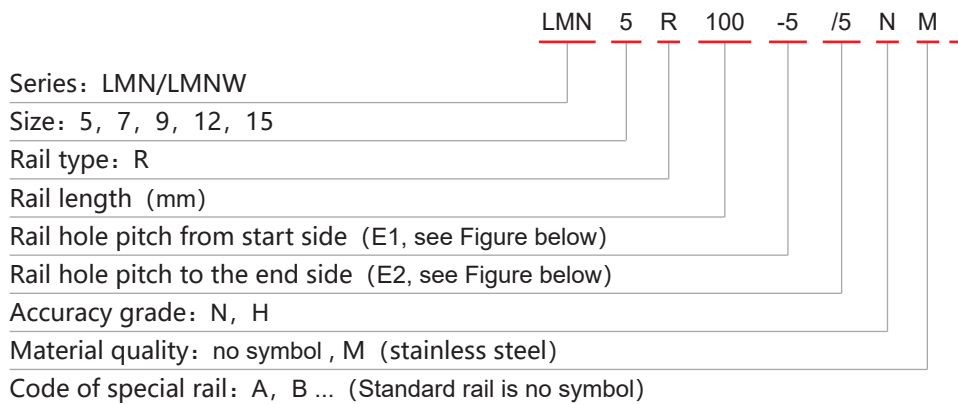
Specifications

(2) Interchangeable type

- Code of Carriage



- Code of Rail

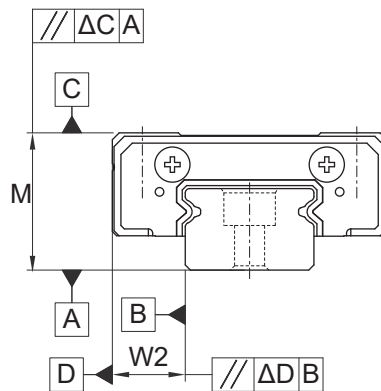


Preload Grade

Preload grade	Code	Preload (μm)	Operating Condition
Clearance	PC	+3 ~ +8 (Preload 0)	<ul style="list-style-type: none"> Starting frictional resistance is required. Installation errors to be absorbed.
Light preload	P0	+0 ~ +2 (Preload 0)	<ul style="list-style-type: none"> Minute vibration is applied. Accurate motion is required. Micromoment is applied.
Medium preload	P1	Preload 0.02C	<ul style="list-style-type: none"> Light vibration is applied. High precision motion is required. Moment is applied.

Accuracy Grade

The accuracy of LMN/LMNW series is divided into three classes, Normal grade (N), High accuracy grade (H), Precision grade (P).

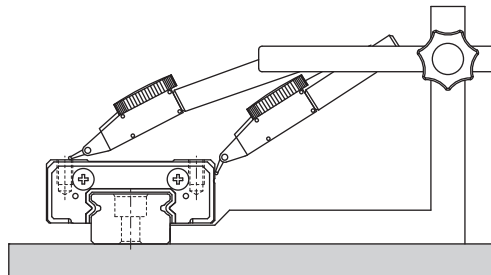


Unit (mm)

Model No.	Item	Accuracy Grade		
		Normal N	High H	Precision P
LMN 5	Tolerance for height M	± 0.04	± 0.02	± 0.01
	Height difference ΔM	0.03	0.015	0.007
LMN/NW 7	Tolerance for distance W2	± 0.04	± 0.025	± 0.015
LMN/NW 9				
LMN/NW 12	Difference in distance W2 ($\Delta W2$)	0.03	0.02	0.01
LMN/NW 15	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

The running accuracy is the deviation of parallelism between the reference surface of carriage and reference surface of rail when carriage moving over the entire length of rail.

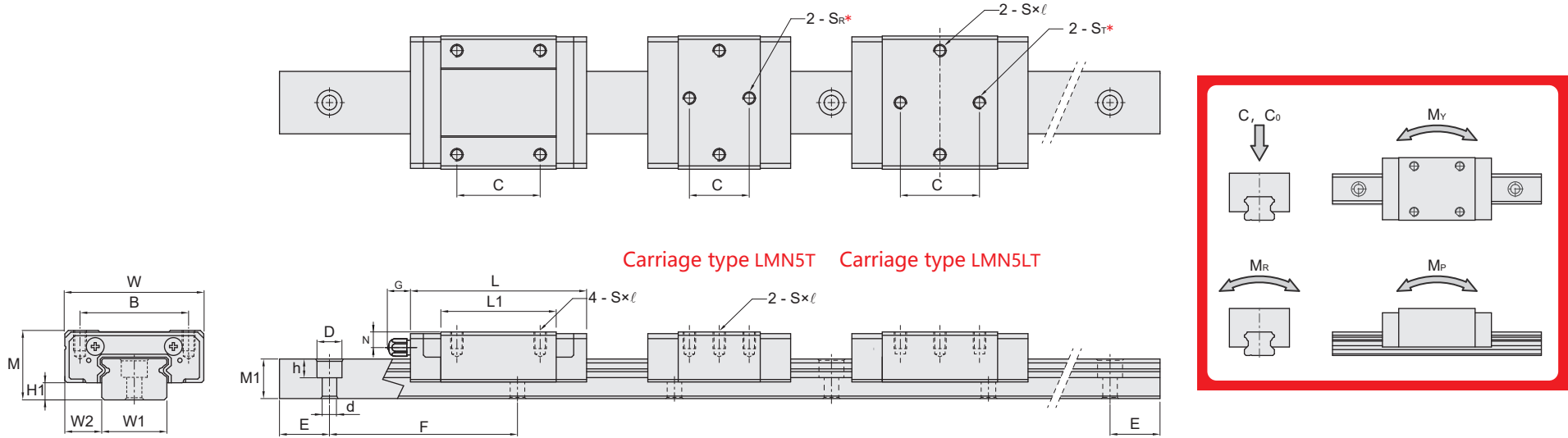


Measurement of running parallelism

Rail length (mm)		Running Parallelism Values (μm)		
Above	Or less (incl.)	Normal N	High H	Precision P
0	50	12	6	2
50	80	13	7	3
80	125	14	8	3.5
125	200	15	9	4
200	250	16	10	5
250	315	17	11	5
315	400	18	11	6
400	500	19	12	6
500	630	20	13	7
630	800	22	14	8
800	1000	23	16	9
1000	1200	25	18	11
1200	1300	26	19	12
1300	1400	27	19	12
1400	1500	28	20	13
1500	1600	29	20	14
1600	1700	30	21	14
1700	1800	30	21	15
1800	1900	31	22	15
1900	2000	31	22	16

Miniature Linear Guideway

Dimensions of LMN...T / LT



Unit (mm)

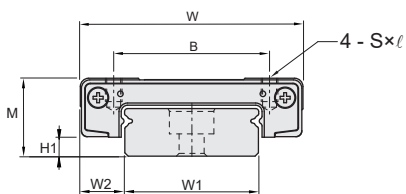
Model No.	External dimension			Carriage dimension							Rail dimension							Basic load rating		Static moment rating			Weight	
	Height	Width	Length	B	C	Mounting hole S×ℓ	L1	H1	G	N	Width		Height	Pitch	End distance	Mounting bolt hole	Dynamic C KN	Static Co KN	Mp N·m	My N·m	Mr N·m	Carriage g	Rail g/100mm	
	M	W	L								W1	W2												M1
LMN5 T	6	12	16.2	8	6	M2×1.5	9.6	1.2	-	-	5	3.5	3.6	15	5	3.6×0.8×2.4	0.48	0.71	1.1	1.1	1.8	3	13	
LMN5 LT	6	12	19.2	8	7	M2×1.5	12.6	1.2	-	-	5	3.5	3.6	15	5	3.6×0.8×2.4	0.58	0.93	1.8	1.8	2.4	4	13	
LMN7 T	8	17	23.4	12	8	M2×2.5	13.7	1.5	-	-	7	5	4.7	15	10	4.2×2.3×2.4	1.21	1.62	3.5	3.5	6	10	21	
LMN7 LT	8	17	29.7	12	13	M2×2.5	20	1.5	-	-	7	5	4.7	15	10	4.2×2.3×2.4	1.56	2.34	7	7	8.6	13	21	
LMN9 ST	10	20	21.9	15	-	M3×3.5	10.6	2	-	-	9	5.5	5.5	20	10	6×3.5×3.5	1.21	1.62	3.5	3.5	6	10	21	
LMN9 T	10	20	29.9	15	10	M3×3.5	18.6	2	-	-	9	5.5	5.5	20	10	6×3.5×3.5	1.85	2.38	6.7	6.7	11.2	20	31	
LMN9 LT	10	20	41	15	16	M3×3.5	29.7	2	-	-	9	5.5	5.5	20	10	6×3.5×3.5	2.52	3.7	15.3	15.3	17.4	28	31	
LMN12T	13	27	34.4	20	15	M3×3.5	21.2	3	-	-	12	7.5	7.5	25	15	6×4.5×3.5	3.12	4.05	13.1	13.1	26.3	37	61	
LMN12 LT	13	27	46.3	20	20	M3×3.5	33.1	3	-	-	12	7.5	7.5	25	15	6×4.5×3.5	4.25	6.3	26.1	26.1	38	53	61	
LMN15T	16	32	42.3	25	20	M3×4	27.7	4	5.6	3.4	15	8.5	9.5	40	15	6×4.5×3.5	4.67	6.13	25.3	25.3	49.5	66	102	
LMN15 LT	16	32	55.8	25	25	M3×4	41.2	4	5.6	3.4	15	8.5	9.5	40	15	6×4.5×3.5	6.2	9.19	54.2	54.2	74.2	94	102	

*ST: M2.6 THRU.

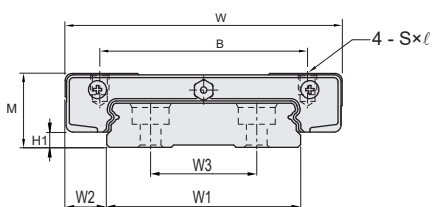
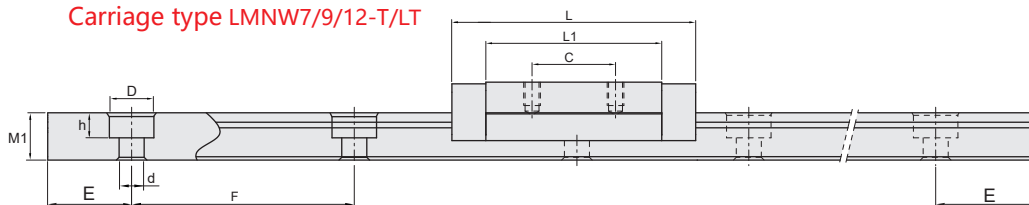
*SR: M2.0 THRU.

Miniature Linear Guideway

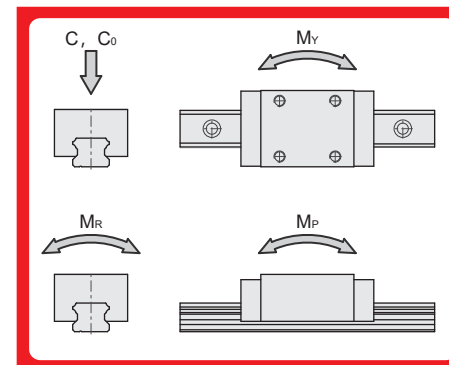
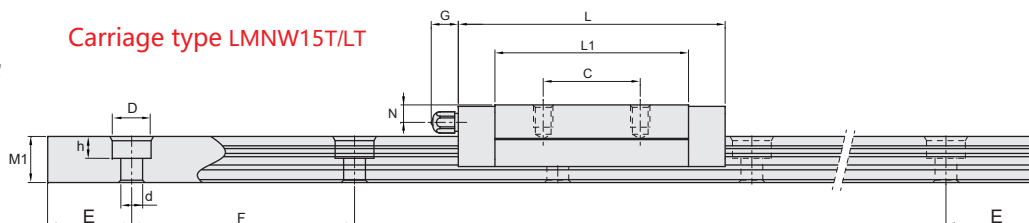
Dimensions of LMNW...T / LT



Carriage type LMNW7/9/12-T/LT



Carriage type LMNW15T/LT



Model No.	External dimension			Carriage dimension							Rail dimension							Basic load rating		Static moment rating			Weight	
	Height	Width	Length	B	C	Mounting hole S×l	L1	H1	G	N	Width		Height	Pitch	End distance	Mounting bolt hole	Dynamic C KN	Static C0 KN	Mp N·m	My N·m	Mr N·m	Carriage g	Rail g/100mm	
	M	W	L								W1	W2												W3
LMNW7 T	9	25	31.2	19	10	M3×3	21.5	2	-	-	14	5.5	-	5.2	30	10	6×3.2×3.5	1.61	2.3	6.9	6.9	15.4	20	51
LMNW7 LT	9	25	40.8	19	19	M3×3	31.1	2	-	-	14	5.5	-	5.2	30	10	6×3.2×3.5	2.14	3.56	14.7	14.7	25.4	29	51
LMNW9 T	12	30	38.5	21	12	M3×3	27.4	3	-	-	18	6	-	7	30	10	6×4.5×3.5	2.52	3.7	15.3	15.3	33.4	40	91
LMNW9 LT	12	30	50.4	23	24	M3×3	39.3	3	-	-	18	6	-	7	30	10	6×4.5×3.5	3.23	5.28	30.3	30.3	47.7	57	91
LMNW12T	14	40	43.8	28	15	M3×3.8	31.6	3.5	-	-	24	8	-	8.5	40	15	8×4.5×4.5	4.04	5.85	26.1	26.1	75.8	71	149
LMNW12 LT	14	40	58.1	28	28	M3×3.8	45.9	3.5	-	-	24	8	-	8.5	40	15	8×4.5×4.5	5.27	8.55	53.9	53.9	110.8	103	149
LMNW15T	16	60	55	45	20	M4×4.5	39.9	3.3	5.6	3.6	42	9	23	9.5	40	15	8×4.5×4.5	6.95	9.37	55.4	46.6	192.2	143	286
LMNW15 LT	16	60	72.6	45	35	M4×4.5	57.5	3.3	5.6	3.6	42	9	23	9.5	40	15	8×4.5×4.5	9.15	13.7	120.3	120.3	293.5	215	286

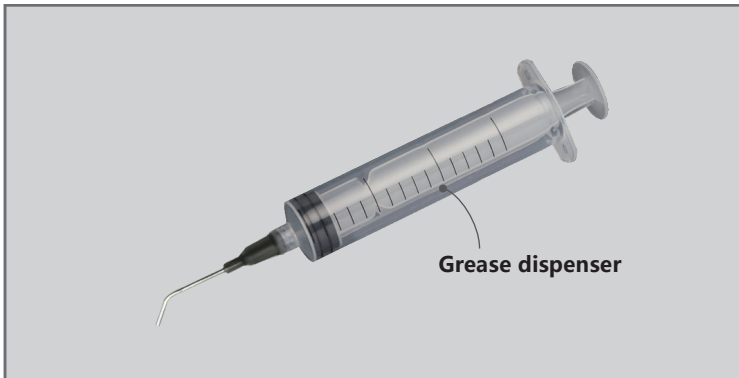
Unit (mm)

Lubrication

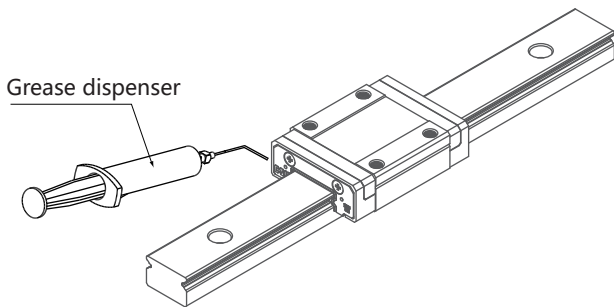
Lubrication position

A high grade lithium soap based grease is applied to the CSK carriages prior to shipment for immediate use. Relubricate timely according to the use.

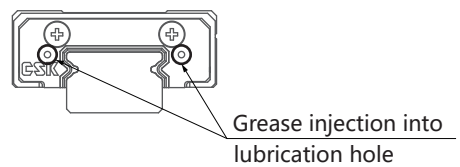
A special syringe lubricant dispenser is available from CSK as an option.



- Special syringe lubricant dispenser
- Scientific greasing method and position
- For technical support, please contact CSK.

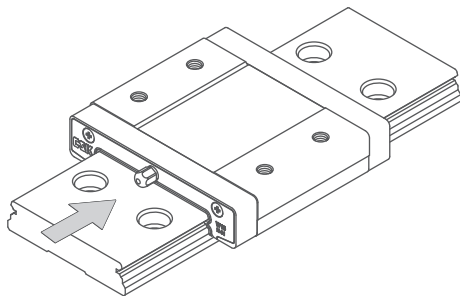


LMN12 LMNW9 LMNW12



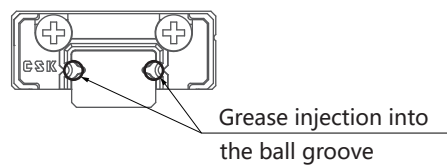
Grease injection into lubrication hole

LMN15 LMNW15



Injecting oil into the nozzle

LMN5 LMN7 LMN9 LMNW7

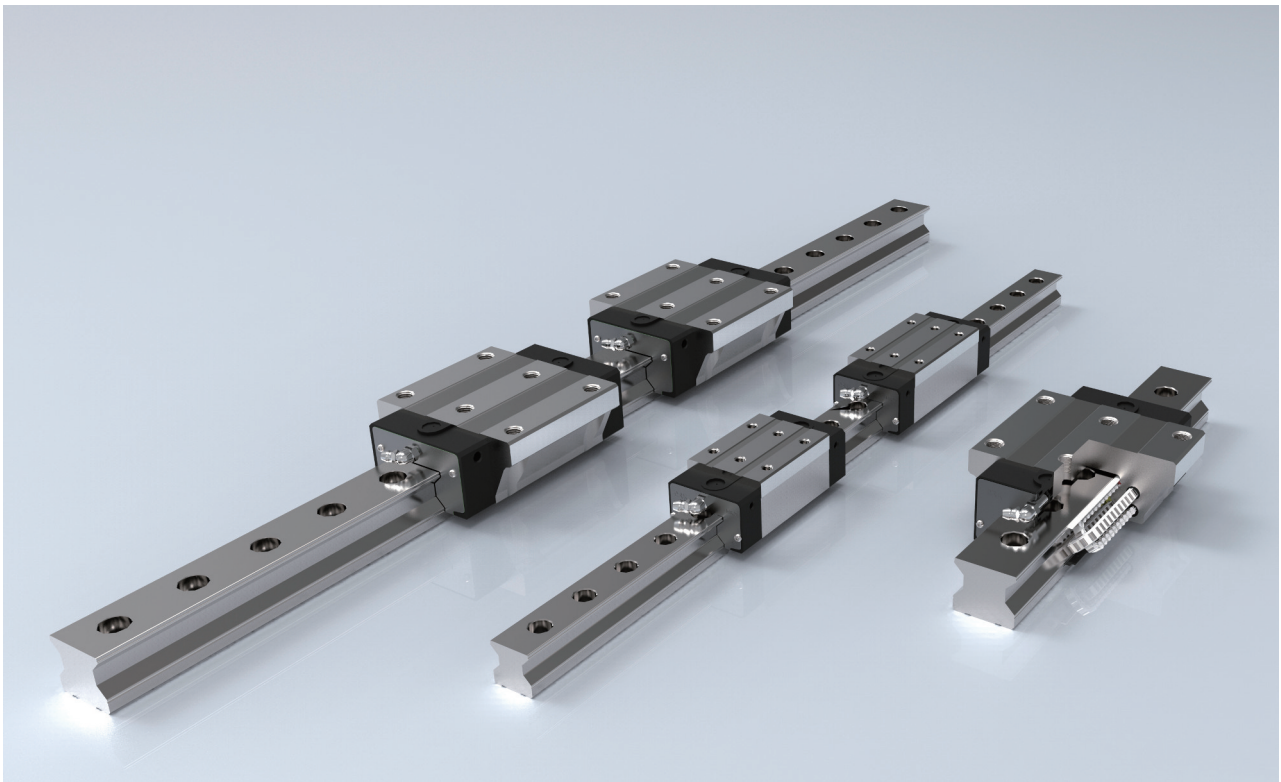


Grease injection into the ball groove

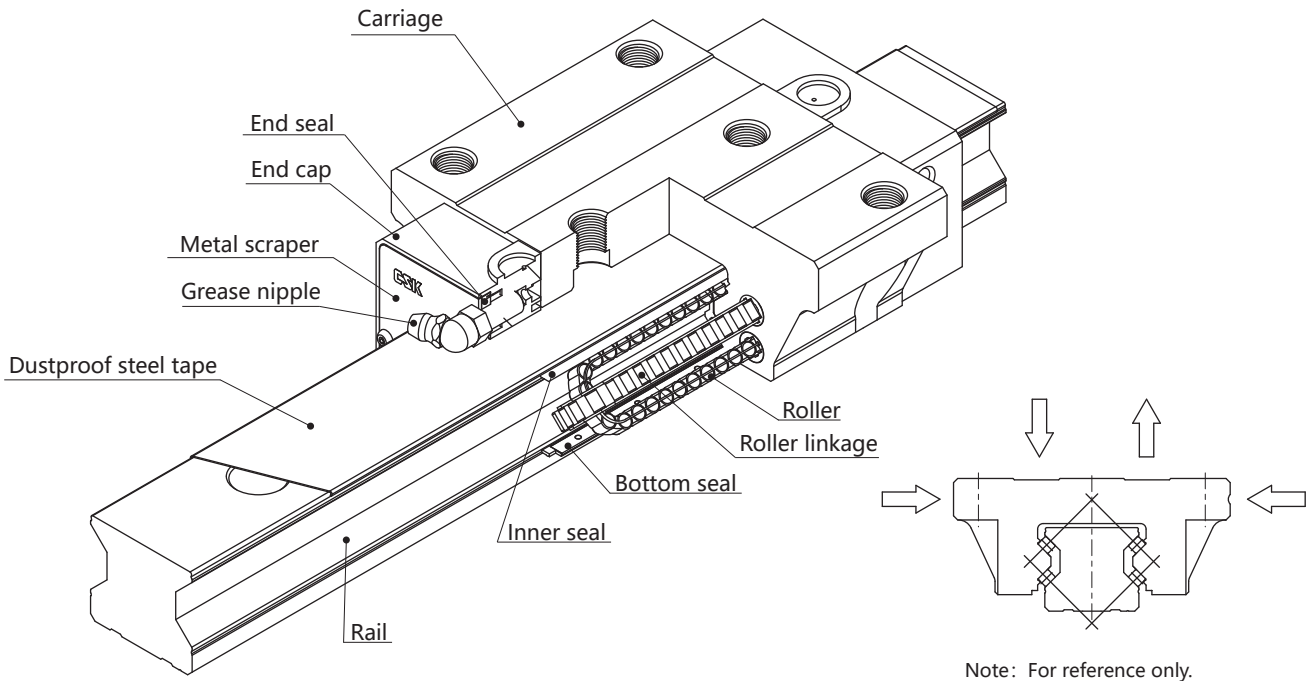
Roller Linear Guideway

LMR series

LMR



Roller LMR series



Characteristics

LMR series linear guide adopts roller type rolling body, which changes from the original point contact to line contact, greatly improved. When the load capacity is high, the elastic deformation of roller type rolling body will be smaller; Because the four roller rows use 45° contact Angle DB set Meter, so that it has high rigidity, high load performance, can withstand radial, radial, and left and right lateral four directions of the load capacity. And the roller linkage device built inside the meter can remove the gear effect caused by the friction between the rollers and reduce the row Walk resistance, improve the smoothness of operation, achieve the effect of reducing noise. To achieve a perfect balance of walking resistance, rigidity and life. To achieve high precision equipment for high precision, high load, high reliability, low noise and smooth stability Fixed linear motion requirements.

- ultra high rigid, ultra-heavy loads
- Four-way equal load
- Complete dust sealing system
- High positioning accuracy
- Low noise and high speed application
- Interchangeability
- Comprehensive lubrication design
- Complete dust sealing system
- Dustproof steel tape
- International standard

Applications

Machine Tool (CNC、Lathe ...)

Semiconductor Manufacturing Equipment

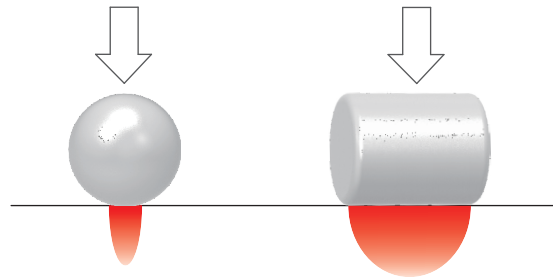
Industrial Robot

Other (Injection Molding Machine ...)

Characteristics

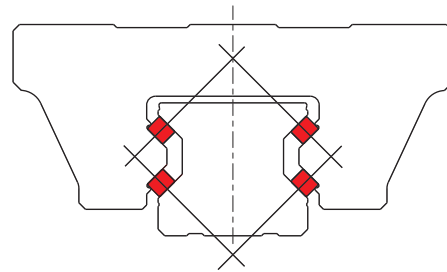
Ultra high load capacity

The roller replaces the steel ball as the rolling body, the point contact is upgraded to the line contact, the contact area is increased, and the load capacity is greatly improved.



Ultra high rigid

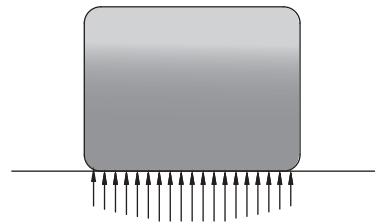
Through the analysis of modern digital technology, the maximum design roller contact position, so that it has the best resistance to torque load.



High rigid DB structure

Motion accuracy

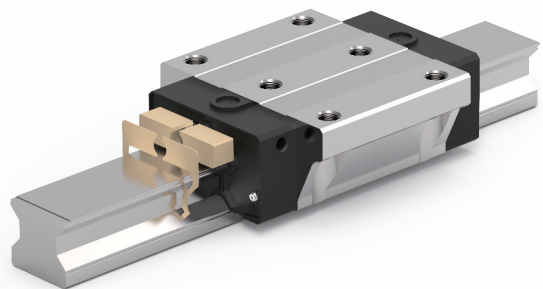
Specially developed for precise control of roller contact surfaces, providing smooth rolling and ultimately achieving ideal walking accuracy.



Contact stress distribution

Innovative lubrication

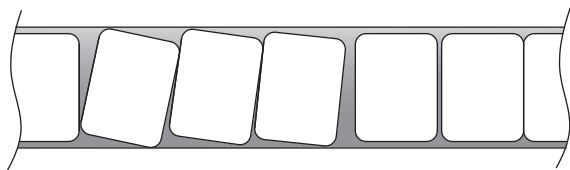
The sliding block is built with a self-moistening module, which guides the lubricating oil to the surface of the guide rail through the engineering fiber for lubrication. The guide rail of rolling friction only needs a very thin oil film to complete the lubrication, and the built-in self-moistening module can improve the lubrication cycle and prolong the service life..



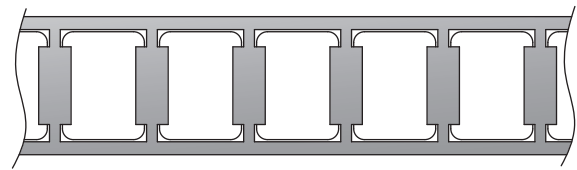
Characteristics

Smooth motion

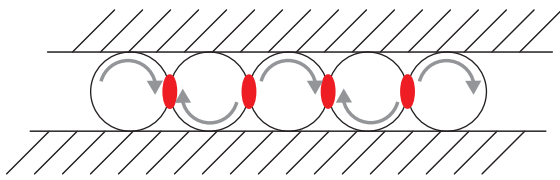
Optimize the design to each component, arrange each roller evenly through a roller linkage, solve the unique rolling problem of the rollers, and eliminate the gear effect of the rolling element, limit the reduction of rolling resistance, and achieve the best running quality.



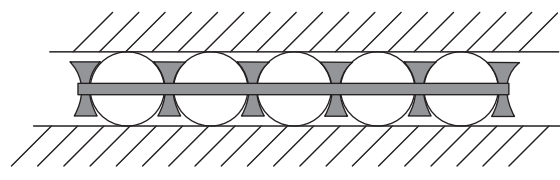
Roller skew indication



Linkage array rollers

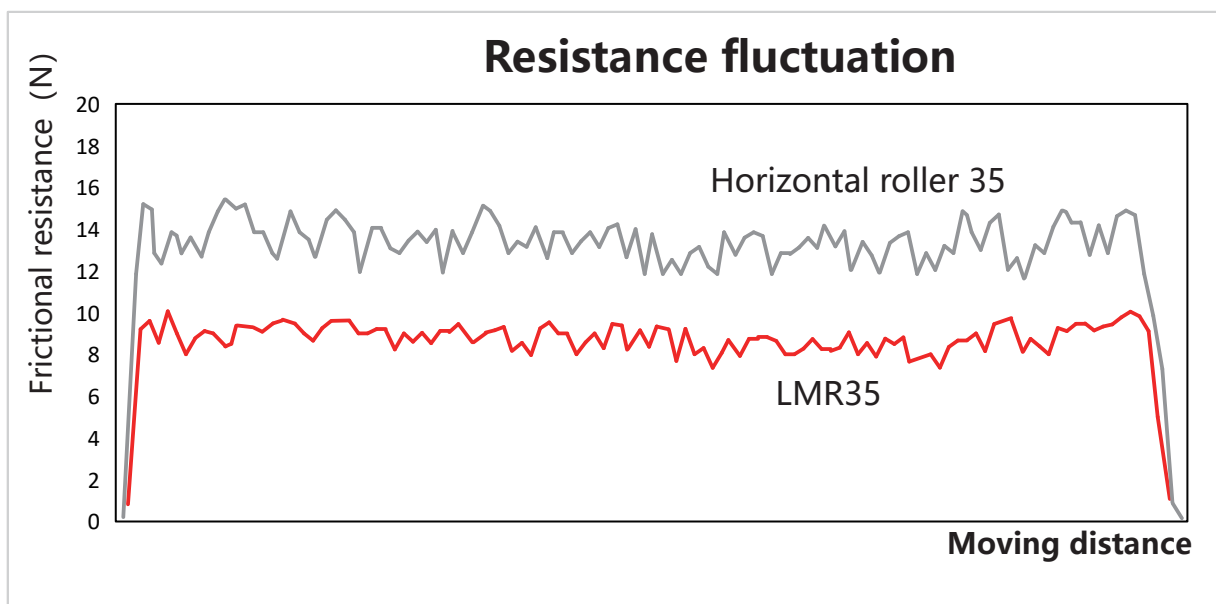


Gear effect indication



Linkage structure schematic

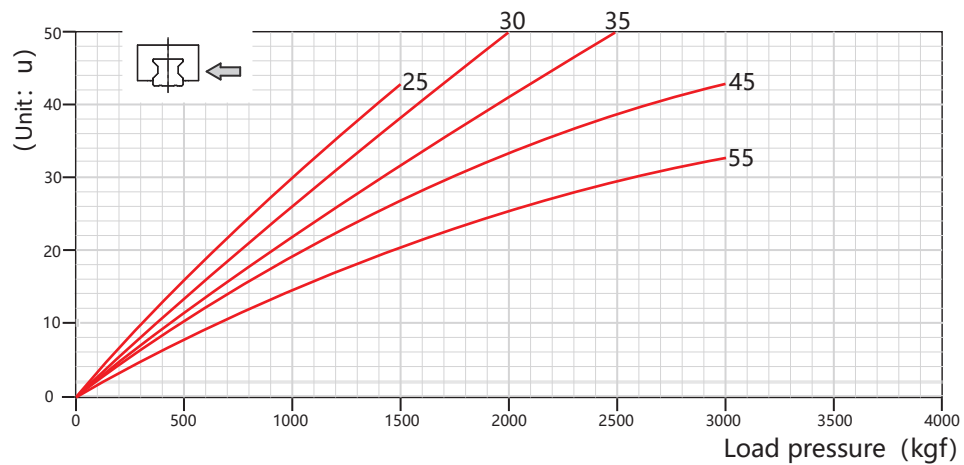
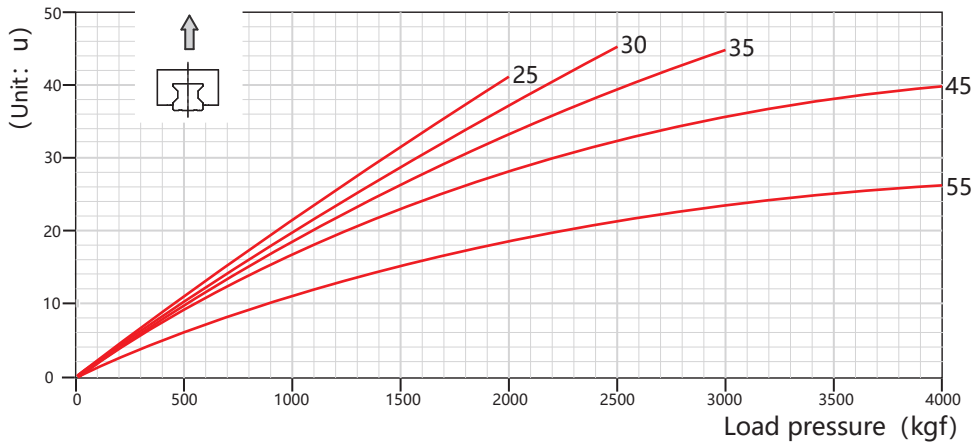
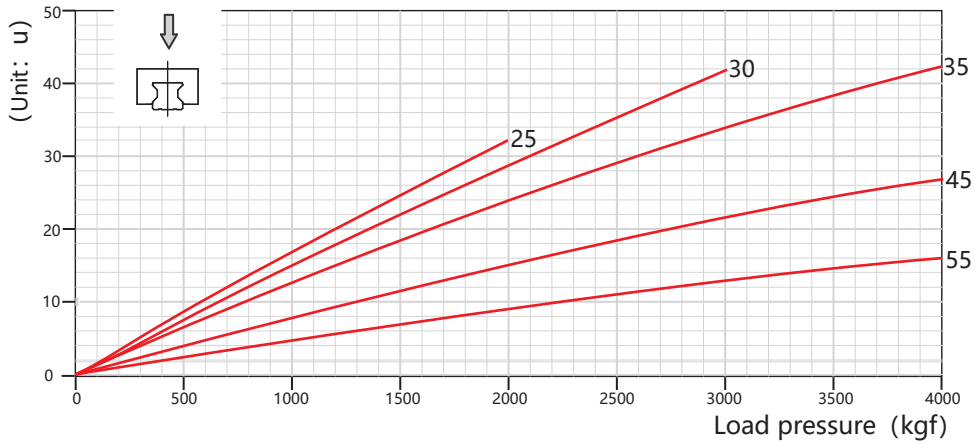
Resistance fluctuation test report



Characteristics

Rigidity

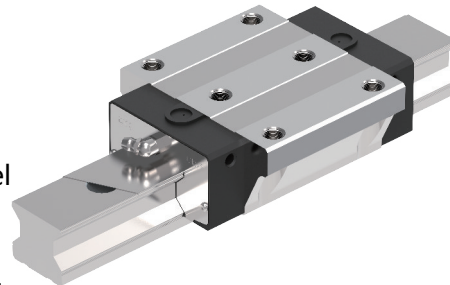
When the preload is P1, the roller guide rail is rigid, as shown in the following figure.



Characteristics

Protection performance

Faced with the demand of harsh environments, the end face of the slider is covered with a metal scraper. The first layer of protection effectively protects the probability of sealing plates being damaged by metal chipping. The slide rail is protected by a full series of steel belts. In addition to improving assembly efficiency, It can also effectively avoid the problem of foreign body intrusion caused by the wear of the traditional bolt cover.



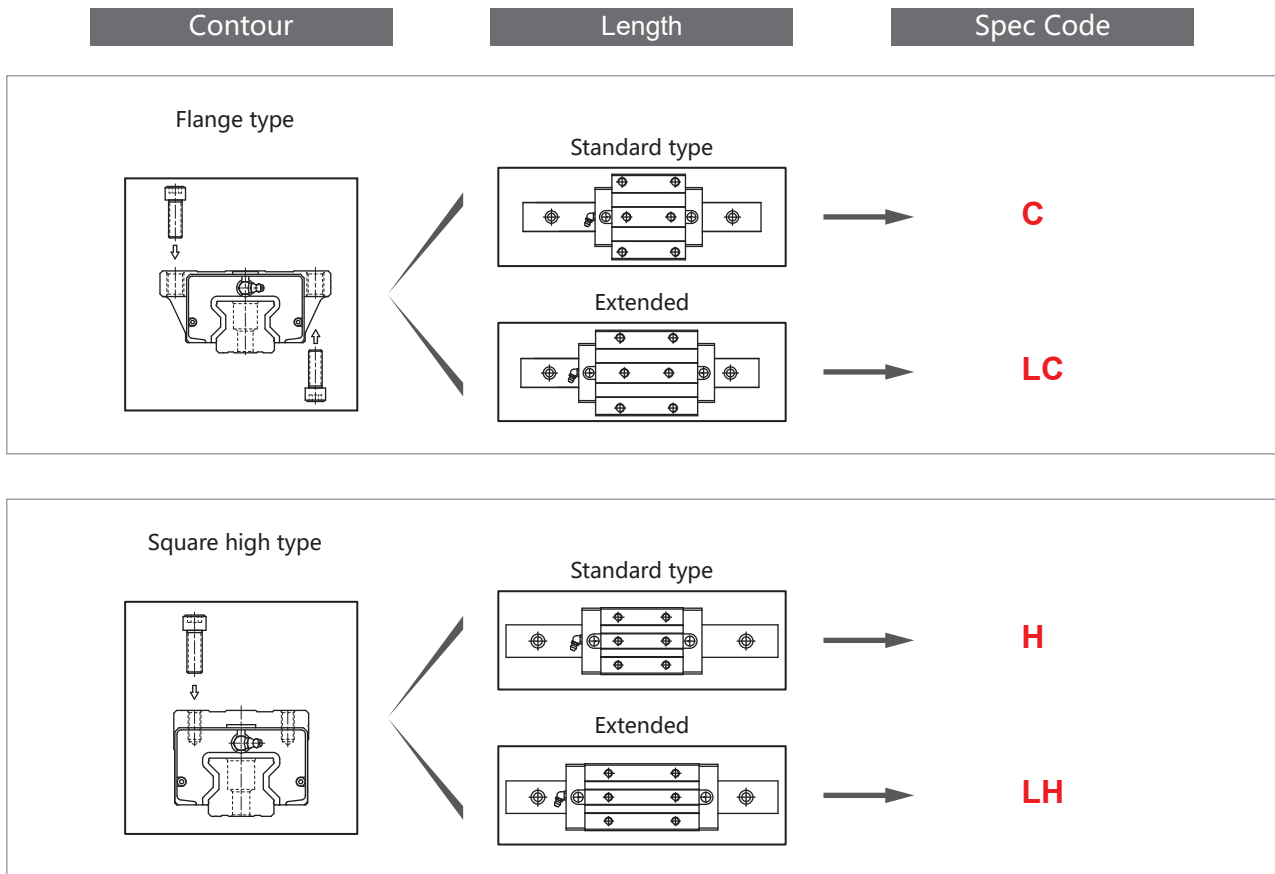
Dust test

Model No.	Test conditions
specifications	LMR30H1ZZP1+R1000-20/20H
speed	1m/s
Stroke	800mm
Environment	Aluminum chip covering

Dust testing machine	Using bolt caps	Dustproof steel tape

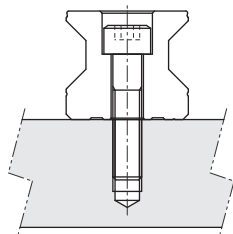
Dust prevention method for guide rails	Operating mileage	Test result
Bolt cover	10000km	There are aluminum chips inside the slider
Dustproof steel tape	10000km	There is no abnormal inside the slider

Carriage Type

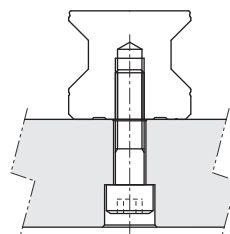


Rail Type

Counter bore (R type)



Tapped hole (T type)



Rail Type

(1) For Butt-joint Rail

When applied length of rail longer than specified max. length, the rails can be connected to one another. For this situation, the joint marks indicate the matching position. Accuracy may deviate at joints when carriages pass the joint simultaneously. Therefore, the joints should be interlaced for avoiding such accuracy problem.

- Identification of butt-joint rail

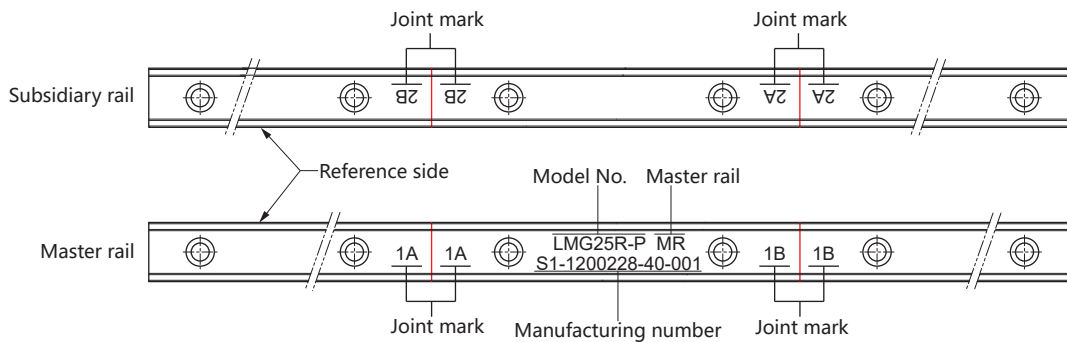


Fig. (A)

- Staggering the joint position

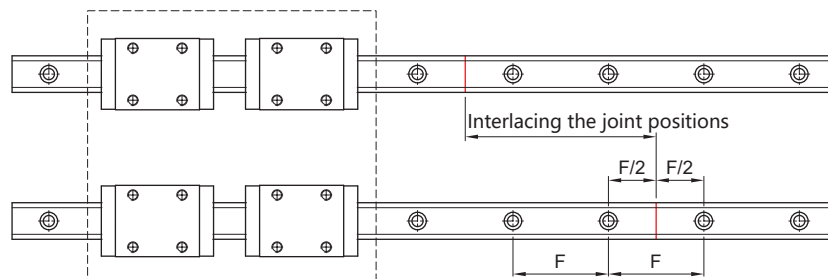
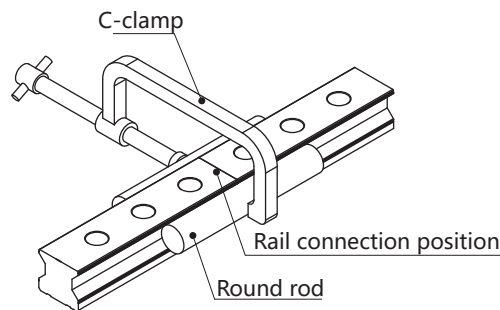


Fig. (B)

- Method of continuous installation

As shown in the schematic diagram, connect the two ends of the guide rail to be spliced together, take two standard round rods and press them against the groove of the guide rail, and use C-clamp.

Model No.	Standard round bar size
LMR 25	Ø15
LMR 30	Ø20
LMR 35	Ø22
LMR 45	Ø25
LMR 55	Ø28

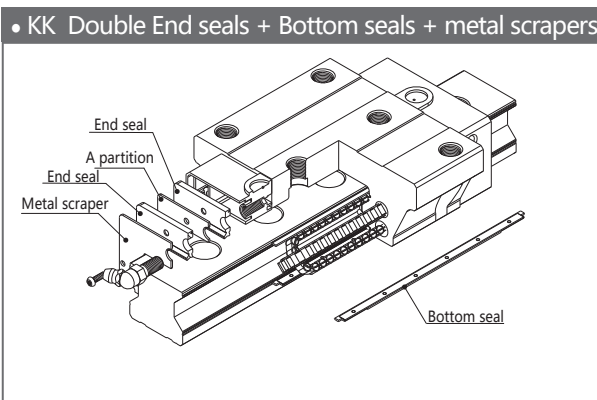
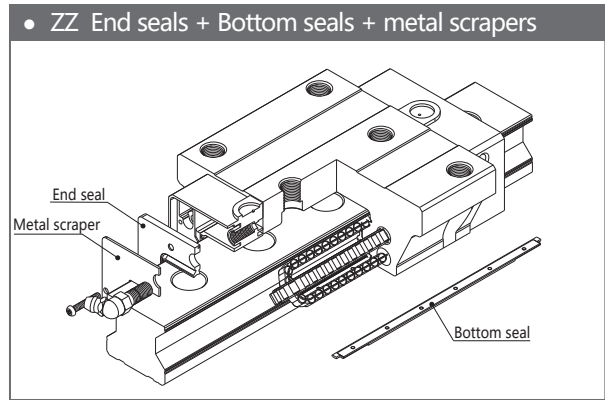
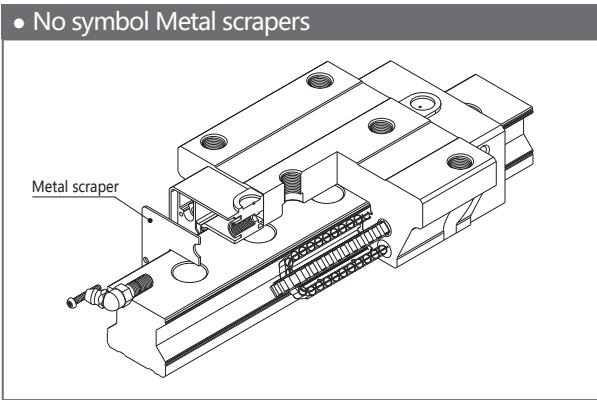


Guide rail connection installation diagram

Dust Proof

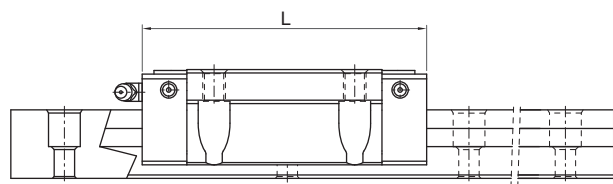
(1) Code of contamination protection for carriage

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



- Types of dust proof accessories, 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.

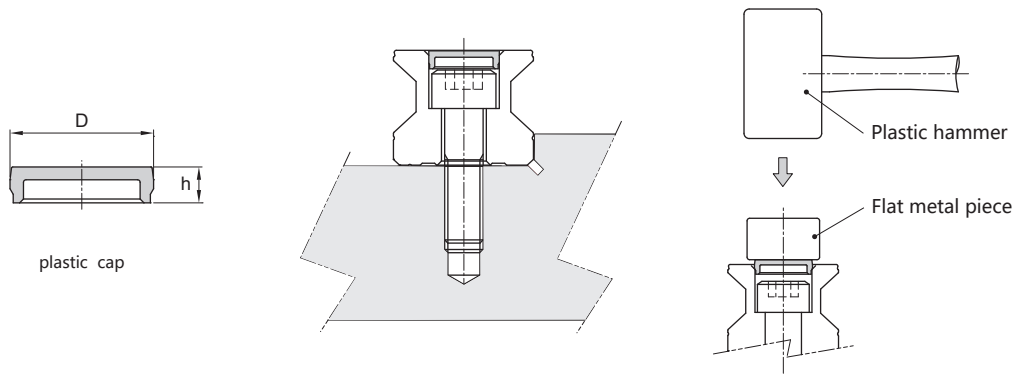
Model No.	No symbol	ZZ	KK
LMR 25	-	-	6
LMR 30	-	-	6
LMR 35	-	-	8
LMR 45	-	-	6
LMR 55	-	-	6



Dust Proof

(2) Code of contamination protection for rail

- Caps for rail mounting hole
A special designed of cap is used to cover the bolt hole to prevent the foreign matters from entering the carriage.
- Installation of plastic cap
Put the plate on the cap, then pound it into the bolt of rail with rubber hammer vertically. Continue pounding the cap until the cap is on the same plane with the top surface of rail.



• Plastic Cap

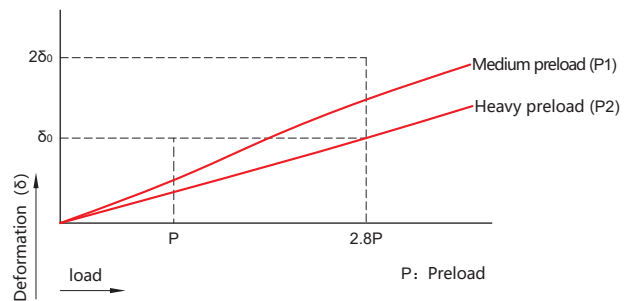
Code of Plastic Cap	Bolt Size	D (mm)	h (mm)	Rail Model
L6	M6	11.2	2.8	LMR25R
L8	M8	14.2	3.3	LMR30R, LMR 35R
L12	M12	20.2	4.5	LMR 45R
L14	M14	23.2	5.5	LMR 55R

Preload

Since the radial clearance of the linear guideway greatly affects the running accuracy, load carrying capacity and rigidity of the linear guideway, it is important to select an appropriate clearance according to the application. In general, selecting a negative clearance while taking into account possible vibrations and impact generated from reciprocating motion favorably affects the service life and the accuracy.

(1) Preload and Rigidity

Selecting appropriate preload to adapt the rigidity of machinery and equipment. The rigidity of a linear guideway could be enhanced by increasing the preload. As shown as below figure, the load could be raised up to 2.8 times the preload applied.



(2) Preload and Service life

The preload is represented by negative clearance resulting from the increase of rolling element diameter. Therefore, the preload should be considered in calculation service life.

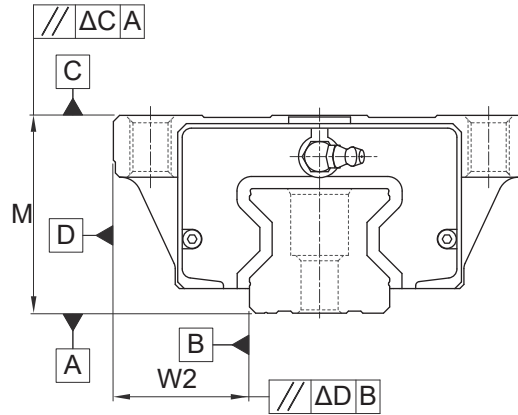
Preload Grade

Preload grade	Code	Preload	Operating Condition
Medium preload	P1	0.07~0.09C	<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	0.12~0.14C	<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).

Accuracy Grade

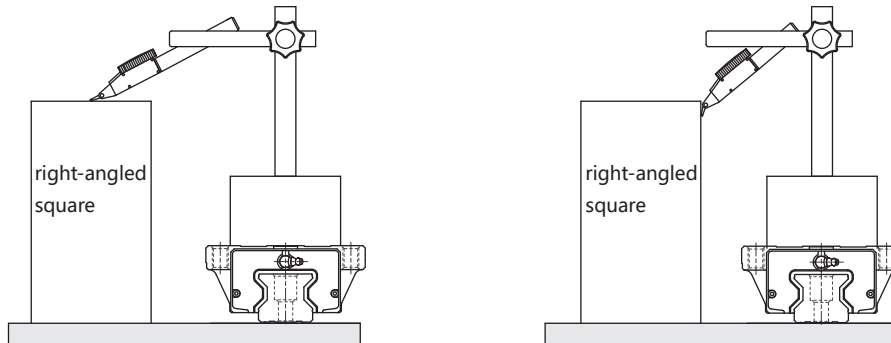
The accuracy of LMR series is divided into four classes, High accuracy grade (H), Precision grade (P), Super precision grade (SP) and Ultra precision grade (UP).



Model No.	Item	Accuracy Grade			
		High H	Precision P	Super Precision SP	Ultra Precision UP
LMR 25 LMR 30 LMR 35	Tolerance for height M	±0.04	0 -0.04	0 -0.02	0 -0.01
	Height difference ΔM	0.015	0.007	0.005	0.003
	Tolerance for distance W2	±0.04	0 -0.04	0 -0.02	0 -0.01
	Difference in distance W2 (ΔW2)	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)			
LMR 45 LMR 55	Tolerance for height M	±0.05	0 -0.05	0 -0.03	0 -0.02
	Height difference ΔM	0.015	0.007	0.005	0.003
	Tolerance for distance W2	±0.05	0 -0.05	0 -0.03	0 -0.02
	Difference in distance W2 (ΔW2)	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

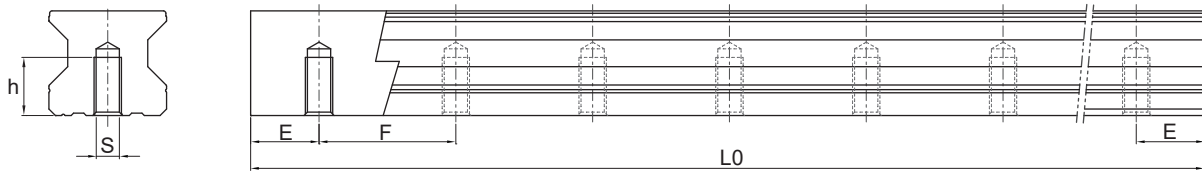
The running accuracy is the deviation of parallelism between the reference surface of carriage and reference surface of rail when carriage moving over the entire length of rail.



Measurement of running parallelism

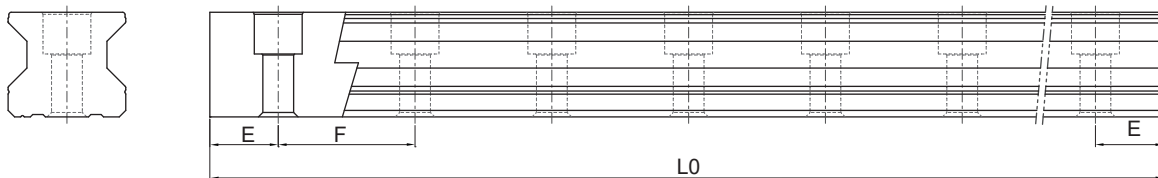
Rail length (mm)		Running Parallelism Values (μm)			
Above	Or less (incl.)	High H	Precision P	Super Precision SP	Ultra Precision UP
0	315	6	3	2	1.5
315	400	8	4	2	1.5
400	500	9	5	2	1.5
500	630	11	6	2.5	1.5
630	800	12	7	3	2
800	1000	14	8	4	2
1000	1250	16	10	5	2.5
1250	1600	18	11	6	3
1600	2000	20	13	7	3.5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

Tapped Hole Rail Dimensions



Model	S	h (mm)
LMR 25T	M6	12
LMR 30T	M8	15
LMR 35T	M8	17
LMR 45T	M12	24
LMR 55T	M14	24

Rail Maximum Length and Standard



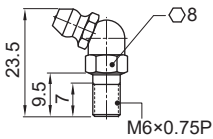
Size	Unit (mm)				
	LMR 25	LMR 30	LMR 35	LMR 45	LMR 55
Standard Pitch (F)	30	40	40	52.5	60
Standard (Estd.)	20	40	40	40	30
Minimum (Emin.)	7	8	8	11	12.5
Maximum Length (L0)	4000	4000	4000	4000	4000

Lubrication

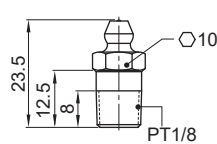
Grease nipple and oil piping joint

(1) Grease nipple

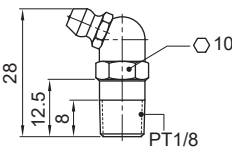
GC - M6M



GS - 7M



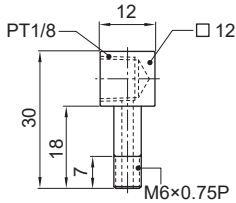
GC - 7M



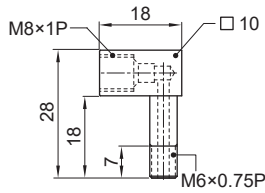
(2) Oil piping joint

● OC 型

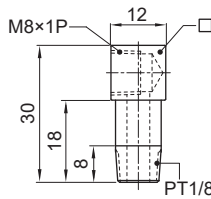
OCL - 67



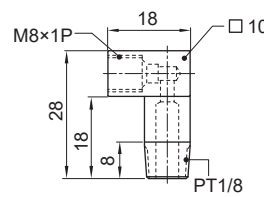
OCL - 68



OCL - 77

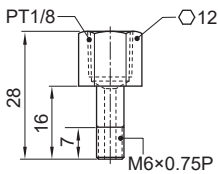


OCL - 78

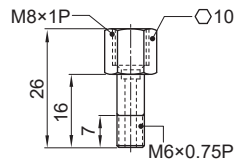


● OS 型

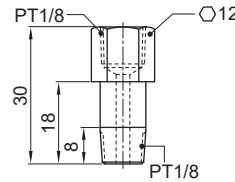
OSL - 67



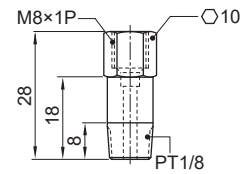
OSL - 68



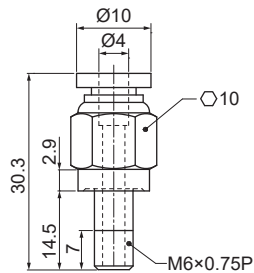
OSL - 77



OSL - 78



OSL - 64 (Fast joint)

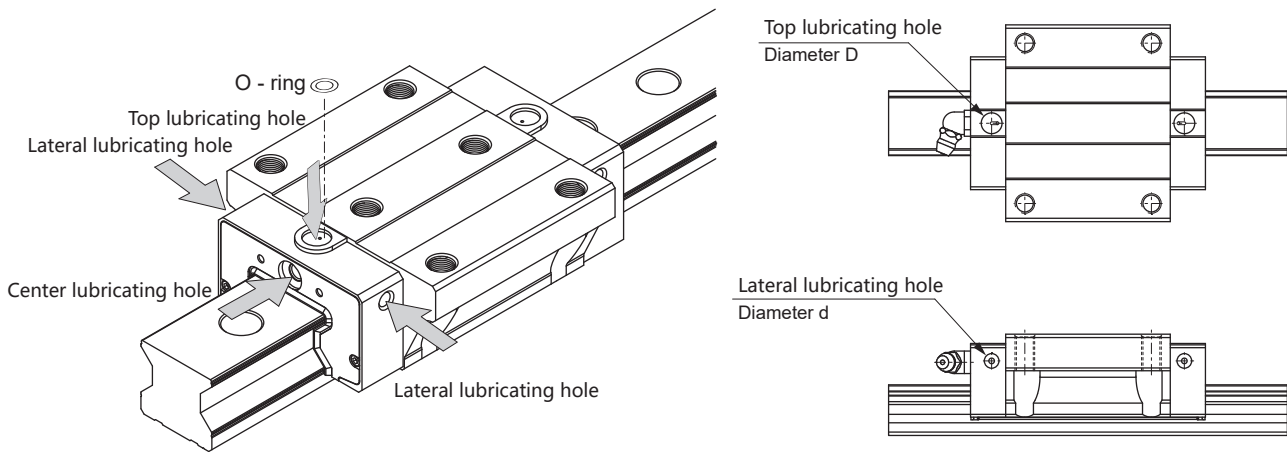


Model No.	Grease Nipple		Oil Piping Joint
	Standard	Option	Option
LMR 25	GC - M6M	GS - M6M	OCL - 67, OCL - 68, OSL - 67, OSL - 68, OSL - 64
LMR 30			
LMR 35			
LMR 45	GC - 7M	GS - 7M	OCL - 77, OCL - 78, OSL - 77, OSL - 78
LMR 55			

Lubrication

Lubrication position

The standard lubricating position of carriage is at the center of both ends, as shown below. As for lateral and top application, please specify when ordering.



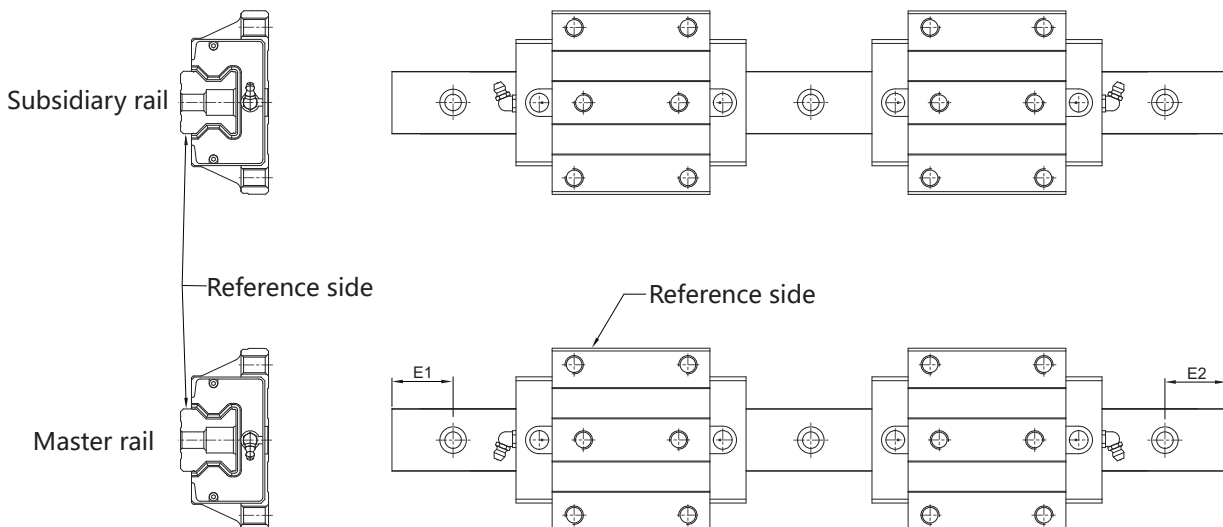
Unit (mm)

Model No.	Center Lubricating	Lateral Lubricating		Top Lubricating	
	Grease Nipple	Diameter d	Grease Nipple	Diameter D	O - ring
LMR 25	M6×0.75P	5.2	M6×0.75P	7.4	P4
LMR 30					
LMR 35					
LMR 45	PT1/8			10.2	P7
LMR 55					

Specifications

(1) Non-Interchangeable type

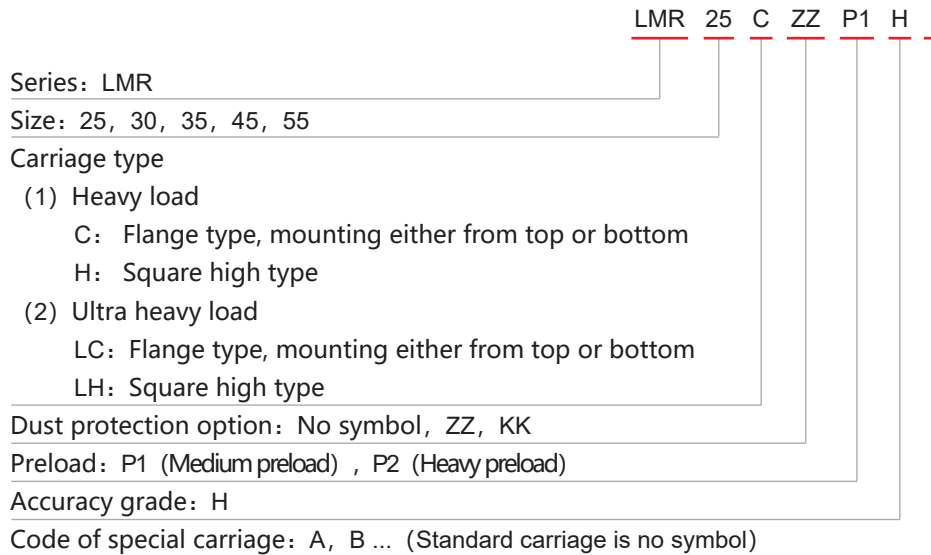
	LMR	25	C	2	ZZ	P1	+R	C	1000	-20	/20	P	II	
Series:	LMR													
Size:	25, 30, 35, 45, 55													
Carriage type														
(1) Heavy load														
C:	Flange type, mounting either from top or bottom													
H:	Square high type													
(2) Ultra heavy load														
LC:	Flange type, mounting either from top or bottom													
LH:	Square high type													
Number of carriages per rail:	1, 2, 3 ...													
Dust protection option:	No symbol, ZZ, KK													
Preload:	P1 (Medium preload) , P2 (Heavy preload)													
Code of special carriage:	A, B ... (Standard rail is no symbol)													
Rail type:	R, T (Tapped hole type)													
Dustproof steel tape:	No symbol, C													
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:	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 ...													



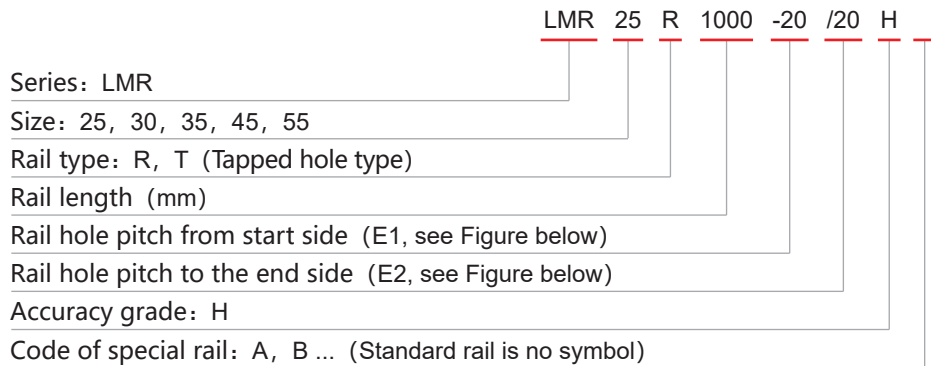
Specifications

(2) Interchangeable type

- Code of Carriage



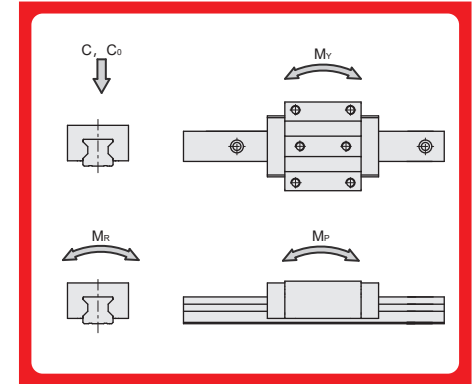
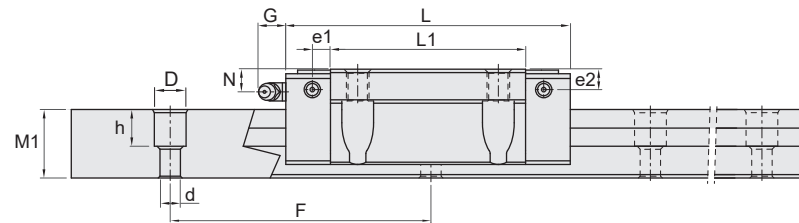
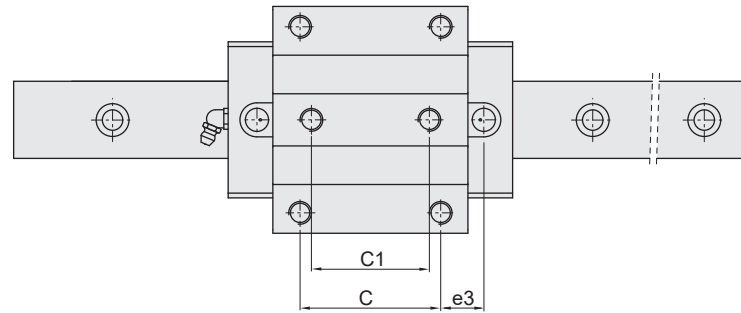
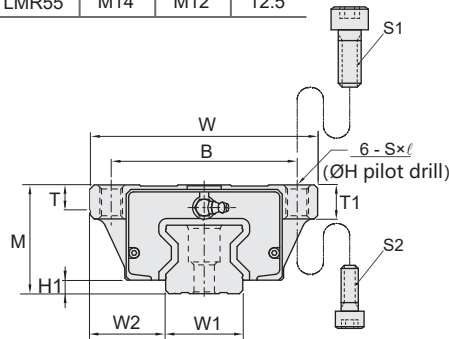
- Code of Rail



Roller Linear Guideway

Dimensions of LMR...C / LC

Model No.	Bolt Size		Pilot drill
	S1	S2	H
LMR25	M8	M6	6.9
LMR30	M10	M8	8.6
LMR35	M10	M8	8.6
LMR45	M12	M10	10.4
LMR55	M14	M12	12.5

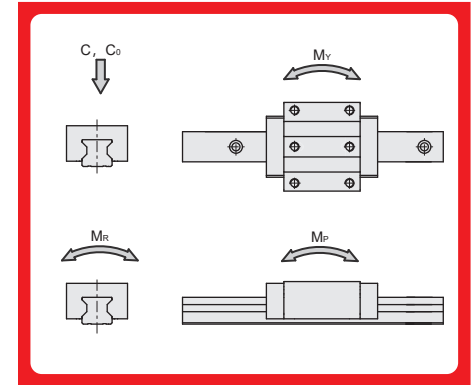
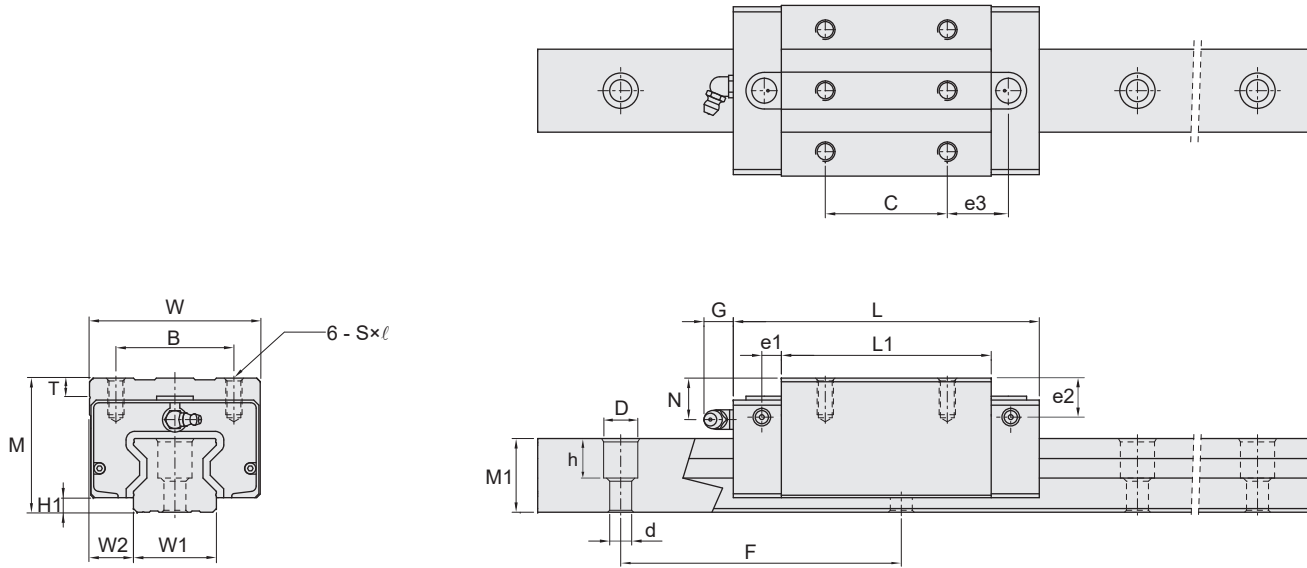


Unit (mm)

Model No.	External dimension			Carriage dimension														Rail dimension					Basic load rating		Static moment rating			Weight	
	Height	Width	Length	B	C	C1	Mounting hole S×ℓ	L1	T	T1	H1	N	e1	e2	e3	G	Grease nipple	Width		Height	Pitch	Mounting bolt hole D×h×d	Dynamic C KN	Static C0 KN	Mp (KN·m)	Mv (KN·m)	Mr (KN·m)	Carriage Kg	Rail Kg/m
	M	W	L															W1	W2										
LMR25C	36	70	101.2	57	45	40	M8×10	65.2	8	13	5	6.6	7.5	6.5	17.1	15	M6×0.75	23	23.5	23.6	30	11×9×7	26.6	60.6	0.59	0.59	0.74	0.68	3.16
LMR25LC	36	70	117.2	57	45	40	M8×10	81.2	8	13	5	6.6	7.5	6.5	25.15	15	M6×0.75	23	23.5	23.6	30	11×9×7	30.9	73.3	0.85	0.85	0.90	0.85	3.16
LMR30 C	42	90	113.1	72	52	44	M10×10	71.5	8	13	5.8	7.2	7.5	7.3	16.75	15	M6×0.75	28	31	28	40	14×12×9	39.6	82.5	0.85	0.85	1.26	1.19	4.4
LMR30LC	42	90	135	72	52	44	M10×10	93.4	8	13	5.8	7.2	7.5	7.3	28	15	M6×0.75	28	31	28	40	14×12×9	51.3	115.5	1.64	1.64	1.76	1.45	4.4
LMR35 C	48	100	129	82	62	52	M10×13	86	10	13.5	6	10	8	9	19	15	M6×0.75	34	33	30.2	40	14×12×9	49.4	110.0	1.49	1.49	2.01	1.61	6.23
LMR35 LC	48	100	154.8	82	62	52	M10×13	111.8	10	13.5	6	10	8	9	31.9	15	M6×0.75	34	33	30.2	40	14×12×9	58.8	137.5	2.30	2.30	2.51	2.13	6.23
LMR45 C	60	120	153	100	80	60	M12×15	107	12	15	7.8	10	8.5	10	20.5	16.5	PT 1/8	45	37.5	38	52.5	20×17×14	88.3	213.5	3.56	3.56	5.00	3.04	10.23
LMR45 LC	60	120	184.2	100	80	60	M12×15	138.2	12	15	7.8	10	8.5	10	36.1	16.5	PT 1/8	45	37.5	38	52.5	20×17×14	109.4	281.4	6.12	6.12	6.59	3.85	10.23
LMR55 LC	70	140	231.6	116	95	70	M14×18	176	12	18	10	12	9	20	46.75	16.5	PT 1/8	53	43.5	44	60	23×20×16	154.6	414.4	10.82	10.82	11.42	6.43	14.45

Roller Linear Guideway

Dimensions of LMR...H / LH



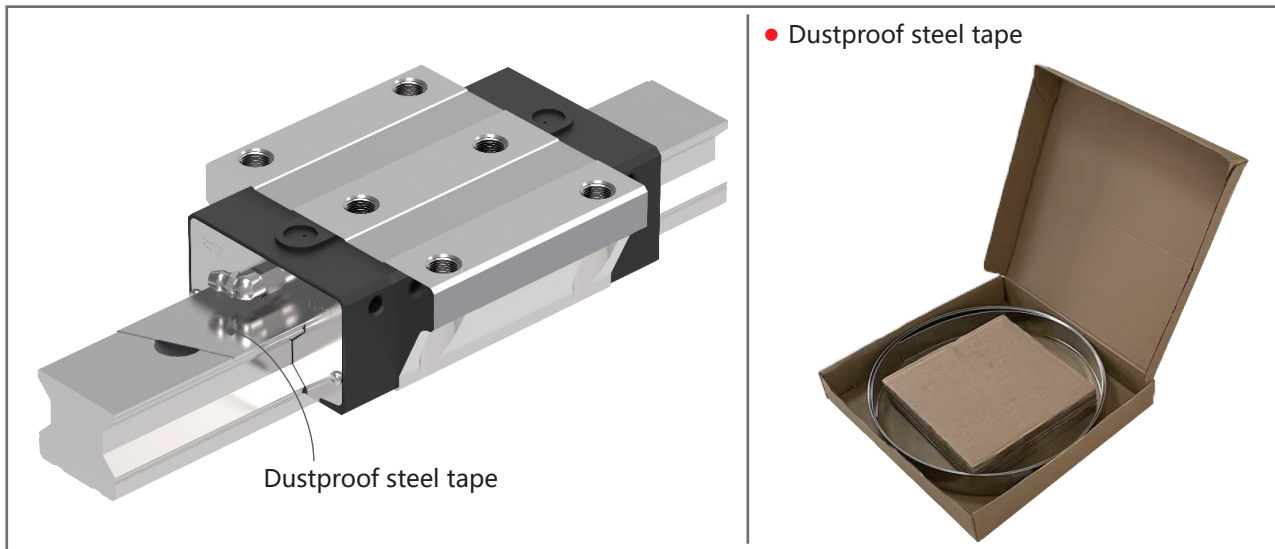
Unit (mm)

Model No.	External dimension			Carriage dimension													Rail dimension					Basic load rating		Static moment rating			Weight	
	Height	Width	Length	B	C	Mounting hole $S \times \ell$	L1	T	H1	N	e1	e2	e3	G	Grease nipple	Width		Height	Pitch	Mounting bolt hole D×h×d	Dynamic C KN	Static C ₀ KN	M _P (KN·m)	M _V (KN·m)	M _R (KN·m)	Carriage Kg	Rail Kg/m	
	M	W	L													W1	W2											M1
LMR25H	40	48	101.2	35	35	M6×8	65.2	8	5	10.6	7.5	10.5	22.1	15	M6×0.75	23	12.5	23.6	30	11×9×7	26.6	60.6	0.59	0.59	0.74	0.61	3.16	
LMR25LH	40	48	117.2	35	50	M6×8	81.2	8	5	10.6	7.5	10.5	22.65	15	M6×0.75	23	12.5	23.6	30	11×9×7	30.9	73.3	0.85	0.85	0.90	0.76	3.16	
LMR30 H	45	60	113.1	40	40	M8×10	71.5	9	5.8	10.2	7.5	10.3	22.75	15	M6×0.75	28	16	28	40	14×12×9	39.6	82.5	0.85	0.85	1.26	0.94	4.4	
LMR30LH	45	60	135	40	60	M8×10	93.4	9	5.8	10.2	7.5	10.3	24	15	M6×0.75	28	16	28	40	14×12×9	51.3	115.5	1.64	1.64	1.76	1.15	4.4	
LMR35 H	55	70	129	50	50	M8×12	86	15	6	17	8	16	25	15	M6×0.75	34	18	30.2	40	14×12×9	49.4	110.0	1.49	1.49	2.01	1.55	6.23	
LMR35 LH	55	70	154.8	50	72	M8×12	111.8	15	6	17	8	16	26.9	15	M6×0.75	34	18	30.2	40	14×12×9	58.8	137.5	2.30	2.30	2.51	2.07	6.23	
LMR45 H	70	86	153	60	60	M10×17	107	12	7.8	20	8.5	20	30.5	16.5	PT 1/8	45	20.5	38	52.5	20×17×14	88.3	213.5	3.56	3.56	5.00	3.07	10.23	
LMR45 LH	70	86	184.2	60	80	M10×17	138.2	12	7.8	20	8.5	20	36.1	16.5	PT 1/8	45	20.5	38	52.5	20×17×14	109.4	281.4	6.12	6.12	6.59	3.87	10.23	
LMR55 H	80	100	231.6	75	75	M12×18	176	17	10	22	9	20	46.75	16.5	PT 1/8	53	23.5	44	60	23×20×16	154.6	414.4	10.82	10.82	11.42	5.94	14.45	
LMR55 LH	80	100	231.6	75	95	M12×18	176	17	10	22	9	20	46.75	16.5	PT 1/8	53	23.5	44	60	23×20×16	154.6	414.4	10.82	10.82	11.42	5.94	14.45	

Roller Linear Guideway - Options



Dustproof steel tape C



Product characteristics

- **Easy to install and disassemble**
Quick installation during installation, simple and fast disassembly of the entire strip during disassembly.
- **Prevent foreign object intrusion**
Effectively prevent the chip or foreign matter damage the bolt hole special cover and then invade the inside of the slider, affecting the life of the linear guide.
- **Strong versatility**
There is no need for special processing or individual customization of the slide, which greatly saves costs.

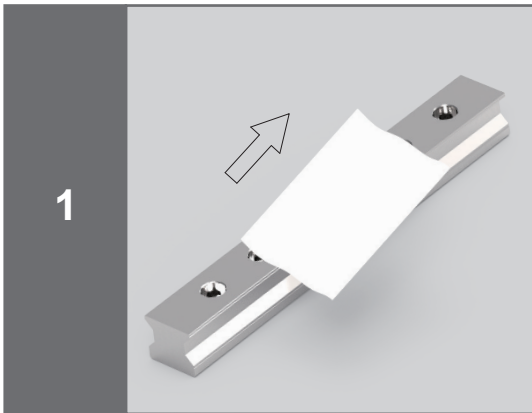
Specifications

	<u>LMR</u>	<u>25</u>	C	2	ZZ	P1	+R	<u>C</u>	1000	-20	/20	P
Series: LMR												
Size: 25, 30, 35, 45, 55												
Dustproof steel tape												

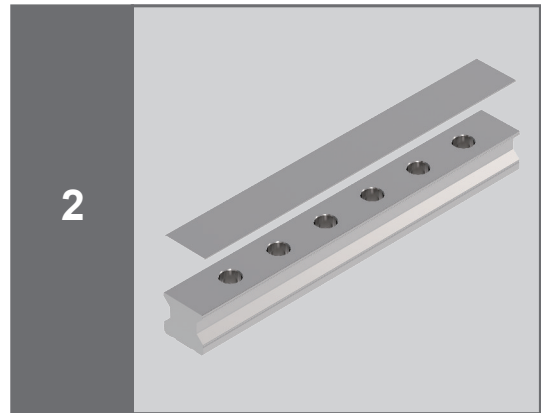
Note:

- Dust proof steel belt can not be bent.
- Before installing the dust-proof steel belt, clean the upper surface of the guide rail.
- The edge and both ends of the dust-proof steel belt are sharp. To prevent scratches, please wear gloves when installing.
- Make chamfering at the cut off of the dust-proof steel belt to avoid scratches during installation.

Installation

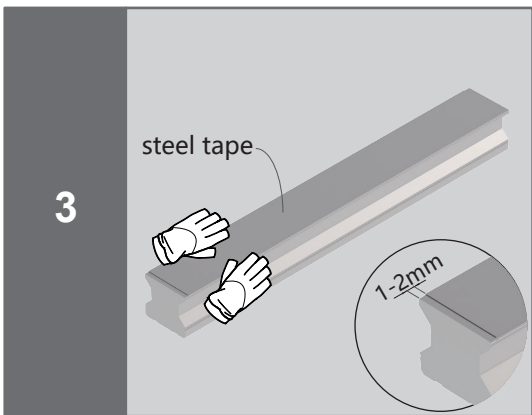


1 Clean rail surface before installation.



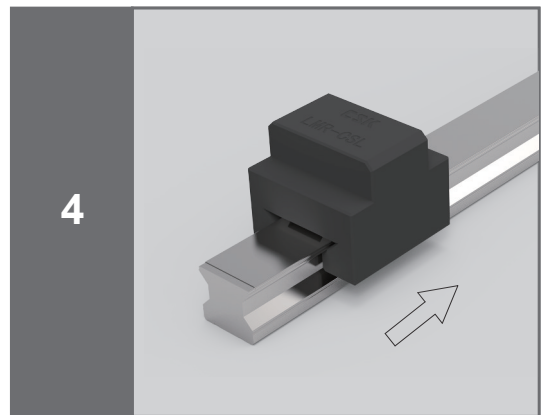
2 When cutting, make the cover stripe 1~2mm shorter than the guideway.

⚠ The cover stripe cannot be bent.

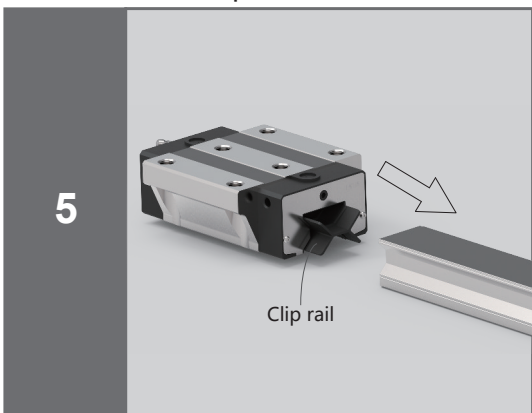


3 Place the steel belt neatly, hold down the edge of the steel belt, and press down to make sure that the end of the steel belt is closely connected with the end of the guideway.

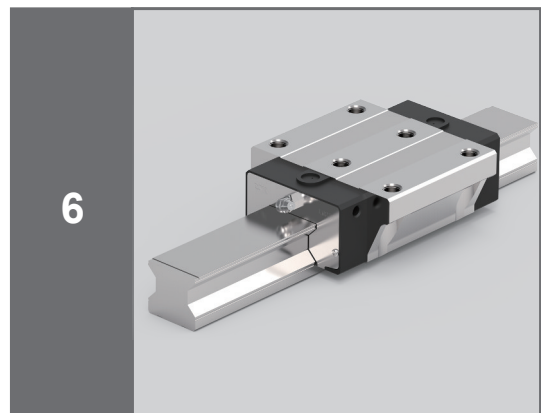
⚠ The cover stripe cannot be bent.



4 Align the steel belt with the guideway and push it downward to check whether the steel belt is in place. Repeat Step 4 until the steel belt is in place.



5 After the clip rail is aligned with the guideway, push the slide block into the guideway. Take out the slide block, use the clip rail.



6 Complete

Description of slider back hole cover

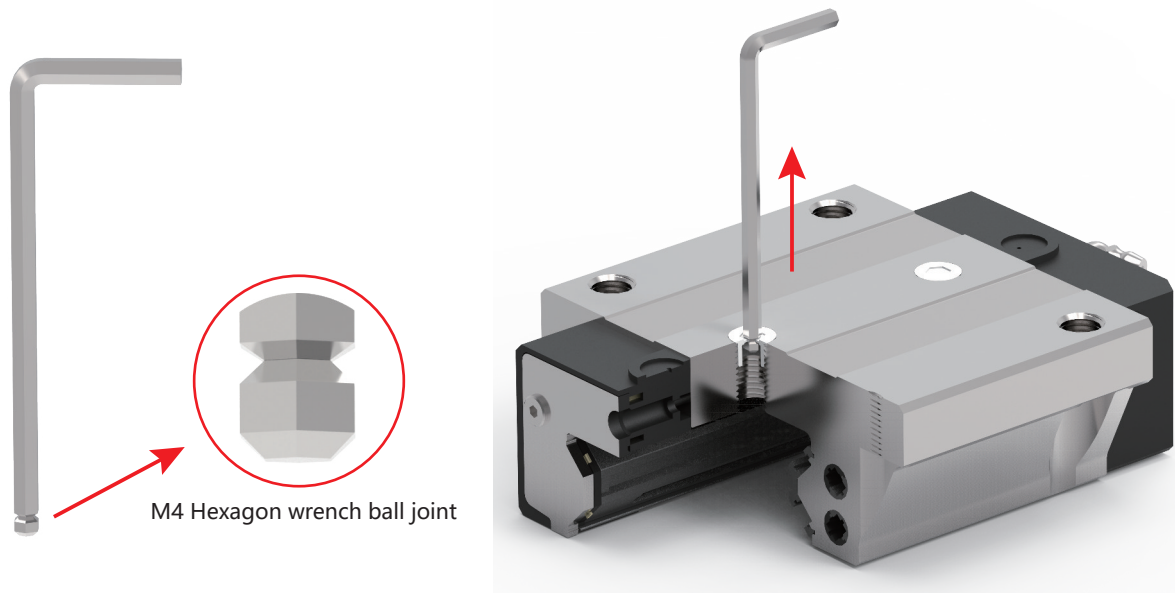
Characteristics

When the LMR series C-type slider is locked down, Prevent foreign objects from entering the interior of the slider through the back hole of the slider, Affects the service life of linear guides.

Disassembly method

When using the middle two holes, remove the dust plug from the back hole of the slider as follows.

1. Insert the ball head of the M4 Allen wrench into the center slot of the dustproof back hole cover.
Lift out the dustproof back hole cover with vertical upward force

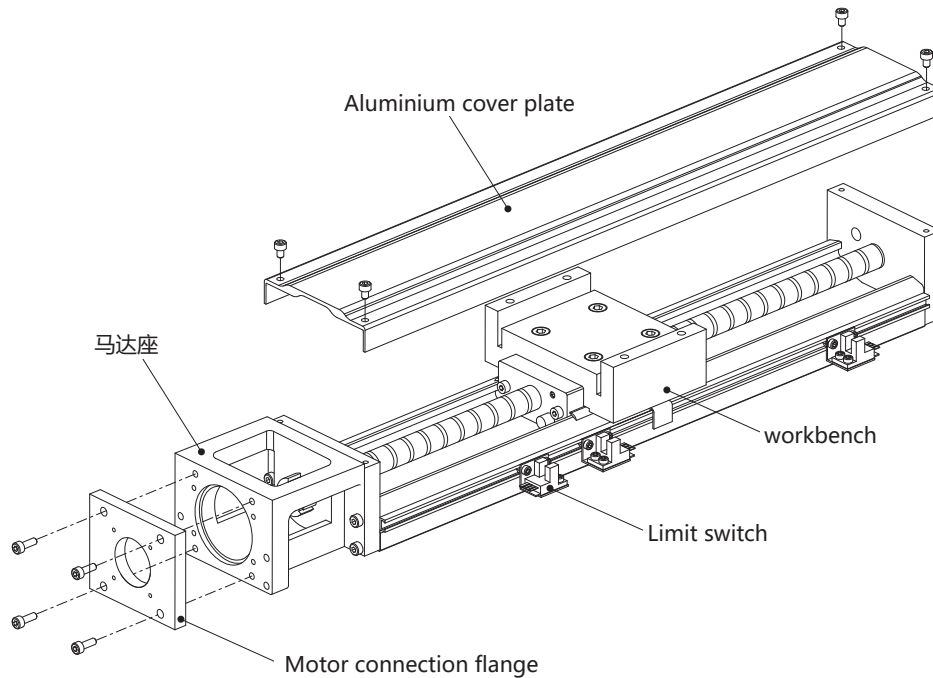


Single-axis robot

LMK



product mix



Note: Some components are not shown or explained, and the specific structure is based on the actual object. The illustration is for reference only.

Characteristics

The LMK single-axis robot is a versatile series of products driven by the motor, integrating ball screws and U-shaped rails, which can provide high positioning accuracy, with fast selection, fast installation, compact volume, high rigidity and other features.

- Easy to design and install
- High precision
- Fully equipped
- Small size and light weight
- High rigidity
- Optimal design

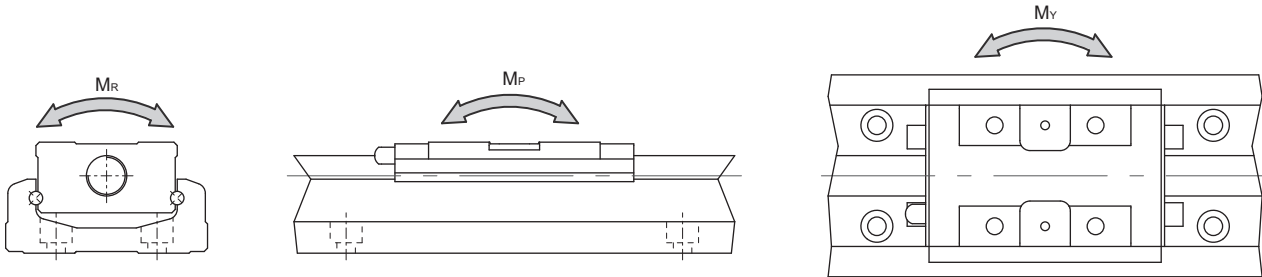
Applications

Precision CNC machine tools, semiconductor manufacturing equipment, automatic loading and unloading equipment, automatic welding machine, dispensing machine, assembling machine, packaging equipment

Specifications

	LMK	60D	10	P	E	-	300	E	A	1	E	-F0	C	S1	M
LMK: Single-axis robot															
Size: 40, 50, 60D, 86D															
Ball screw lead															
LMK40: 2															
LMK50: 2															
LMK60: 5, 10															
LMK86: 10, 20															
Accuracy grade															
P: Precision grade															
N: Normal Grade															
Special processing of ball screw															
E: Special processing of ball screw															
No symbol: Ball screw standard type															
Rail length															
LMK40: 100, 150, 200															
LMK50: 150, 200, 250, 300															
LMK60: 150, 200, 300, 400, 500, 600															
LMK86: 340, 440, 540, 640, 740, 940															
special processing of rail															
E: special processing of rail															
No symbol: Rail standard type															
special processing of rail															
A: standard type															
S: Light load type															
Number of slides															
1, 2															
Special processing of sliding															
E: Special processing of sliding No symbol: slide standard type															
Motor connection flange specifications															
FE: Special processing (refer to D12-14)															
Dust protection option															
C: Aluminium cover plate															
B: Telescopic sheath															
No symbol: No cover plate															
Limit switch															
S0 : Only limiting orbits															
S1 : Three limit switches BS5-L1M (refer to D14)															
S2 : Three limit switches BS5-Y1M (refer to D14)															
SE:Customer specified limit switches or quantities															
No symbol															
Motor specification															
M:Attached motor (motor connection holes refer to page D12-14)															

Load specification



Unit (mm)

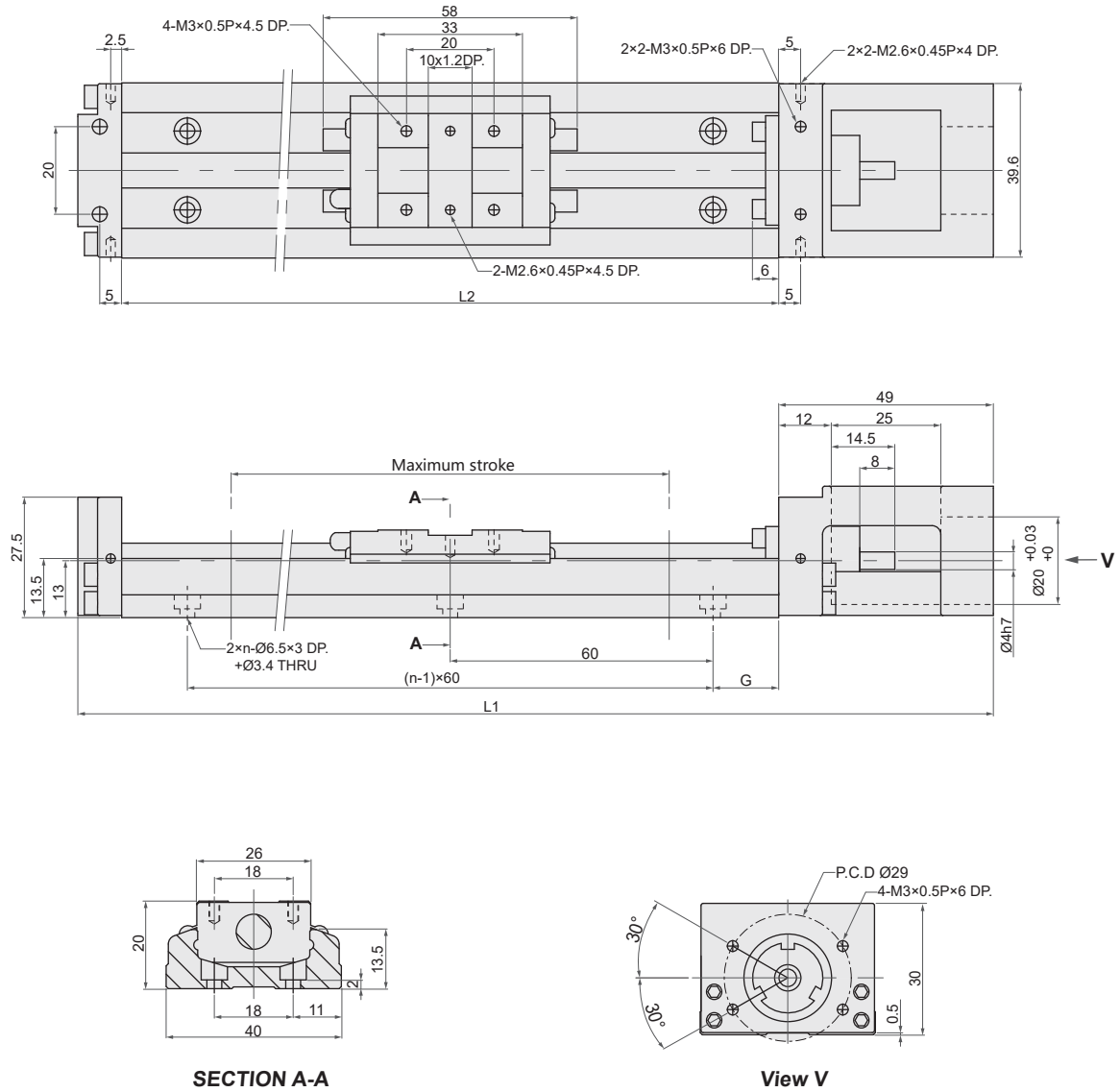
Effective stroke		ball screw				Linear Guideway							
		Diameter (mm)	lead (mm)	Dynamic (N)	Static (N)	Dynamic (N)	Static (N)	Static moment rating					
Model No.	sliderA							sliderA	Mp (N-m)		My (N-m)		Mr (N-m)
		sliderA1	sliderA2	sliderA1	sliderA2	sliderA1	sliderA2						
LMK4002	Precision grade	8	2	735	1538	3920	6468	33	182	33	182	81	162
	Normal Grade			676	1284								
LMK5002	Precision grade	8	2	2136	3468	8007	12916	116	545	116	545	222	444
	Normal Grade			1813	2910								
LMK6005	Precision grade	12	5	3744	6243	13230	21464	152	348	152	348	419	838
	Normal Grade			3377	5625								
LMK6010	Precision grade	12	10	2410	3743	13230	21464	152	348	152	348	419	838
	Normal Grade			2107	3234								
LMK8610	Precision grade	15	10	7144	12644	31548	50674	622	3050	622	3050	1507	3014
	Normal Grade			6429	11387								
LMK8620	Precision grade	15	20	4645	7655	31548	50674	622	3050	622	3050	1507	3014
	Normal Grade			4175	6889								
LMK10020	Precision grade	20	20	7046	12544	39200	63406	960	4763	960	4763	2205	4410
	Normal Grade			4782	9163								

Accuracy Grade

Unit (mm)

Model No.	Rail length	Location reproducibility		Accuracy		Running Parallelism		Maximum rotational torque (N-cm)	
		Precision	Normal Grade	Precision	Normal Grade	Precision	Normal Grade	Precision	Normal Grade
LMK40	100	±0.003	±0.005	0.020	-	0.010	-	1.2	0.8
	150								
	200								
LMK50	150	±0.003	±0.005	0.020	-	0.010	-	4	2
	200								
	250								
	300								
LMK60	150	±0.003	±0.005	0.025	-	0.010	-	15	7
	200								
	300								
	400	±0.003	±0.005	0.025	-	0.015	-	15	7
	500								
600									
LMK86	340	±0.003	±0.005	0.030	-	0.015	-	15	10
	440								
	540								
	640								
	740	±0.003	±0.005	0.040	-	0.020	-	17	10
	940	±0.003	±0.005	0.035	-	0.030	-	25	10
LMK100	980	±0.005	±0.01	0.035	-	0.025	-	17	12
	1080								
	1180	±0.005	±0.01	0.04	-	0.03	-	20	12
	1280	±0.005	±0.01	0.045	-	0.035	-	23	15
	1380			0.05	-	0.04	-	25	

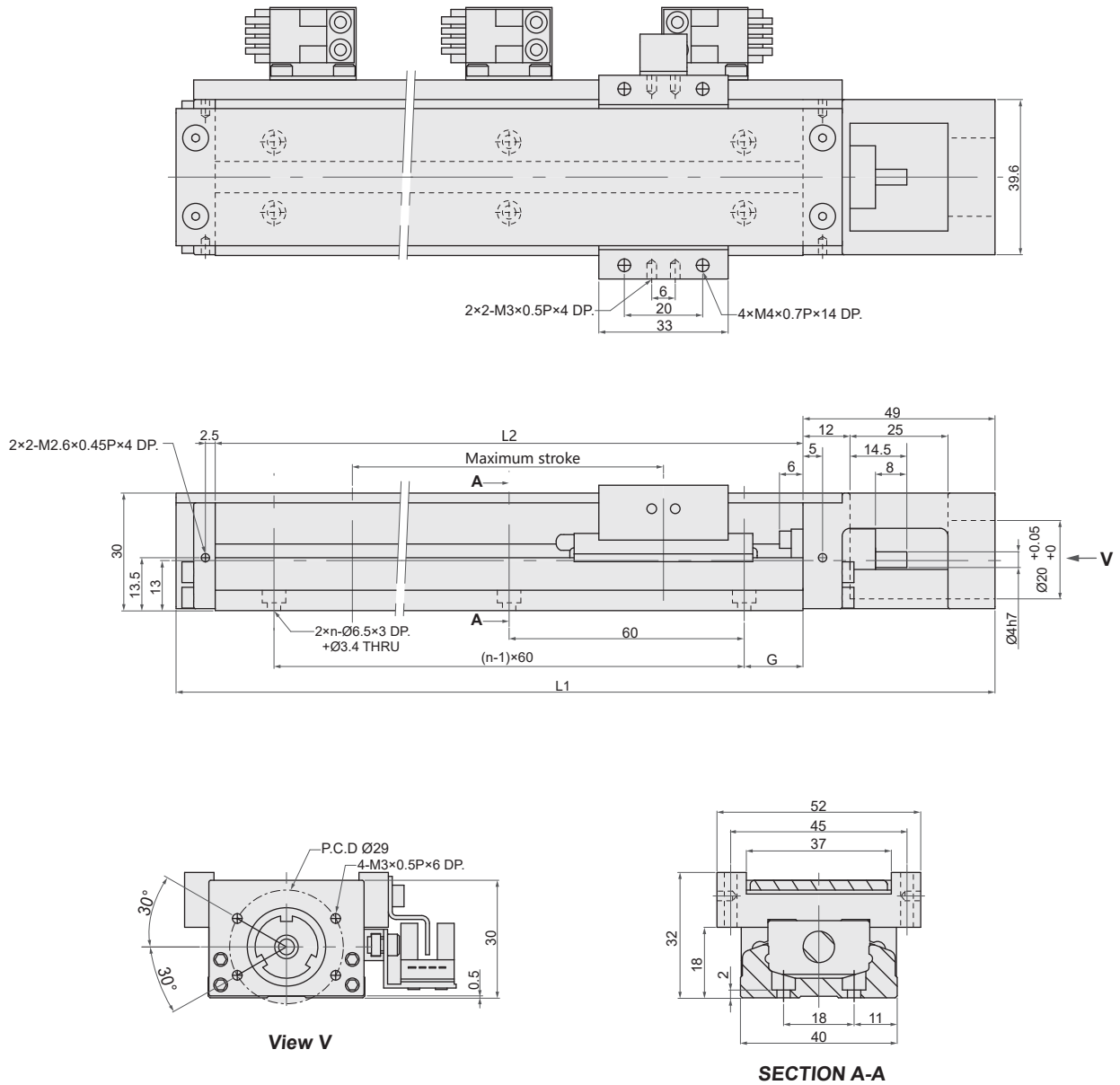
LMK40



Unit (mm)

Rail lengthL2 (mm)	lengthL1 (mm)	Maximum stroke (mm)		G (mm)	n	Weight (kg)	
		A1 slider	A2 slider			A1 slider	A2 slider
100	159	36	-	20	2	0.48	-
150	209	86	34	15	3	0.6	0.67
200	259	136	84	40	3	0.72	0.79

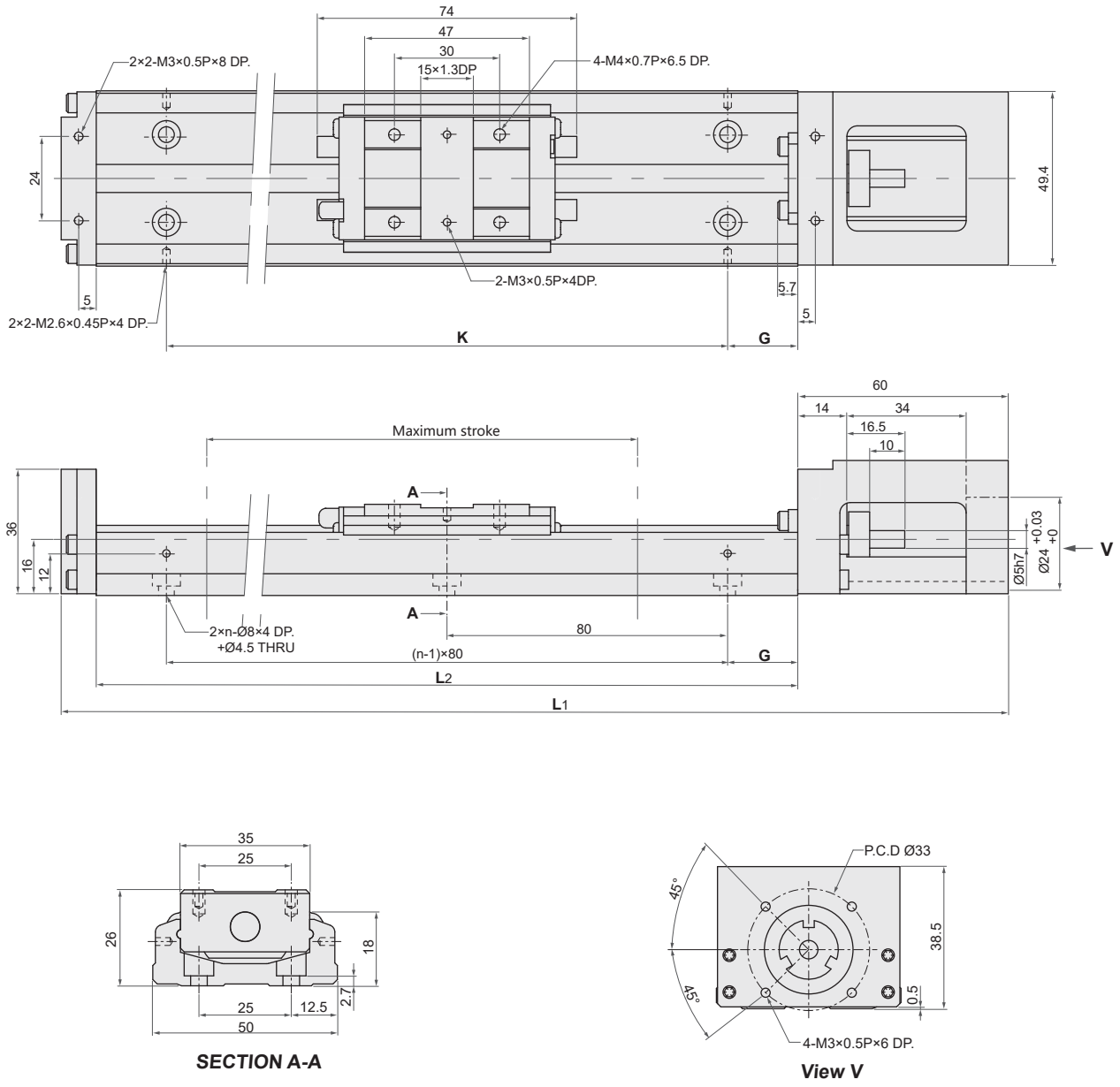
LMK40



Unit (mm)

Rail length L2 (mm)	length L1 (mm)	Maximum stroke (mm)		G (mm)	n	Weight (kg)	
		A1 slider	A2 slider			A1 slider	A2 slider
100	159	36	-	20	2	0.55	-
150	209	86	34	15	3	0.68	0.76
200	259	136	84	40	3	0.82	0.89

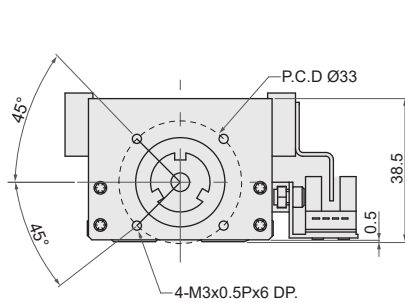
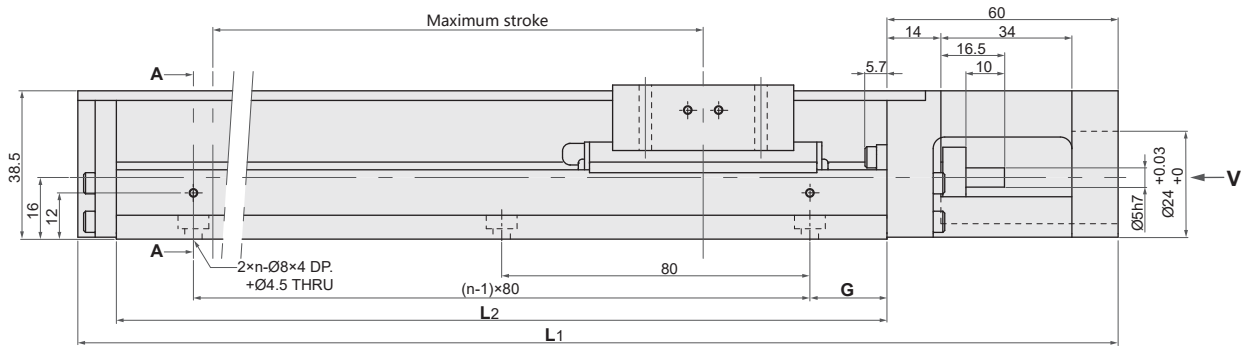
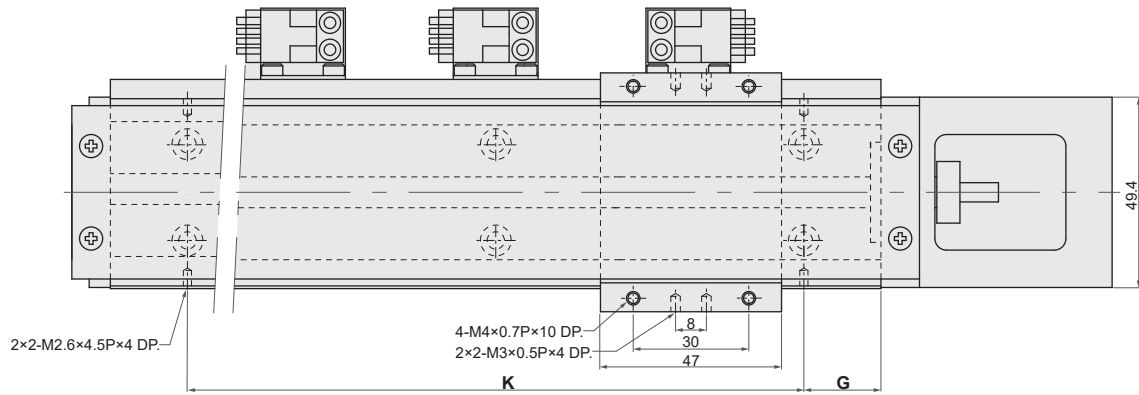
LMK50



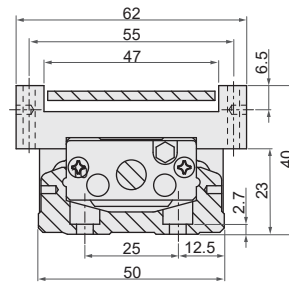
Unit (mm)

Rail length L2 (mm)	lengthL1 (mm)	Maximum stroke (mm)		G (mm)	K (mm)	n	Weight (kg)	
		A1 slider	A2 slider				A1 slider	A2 slider
150	220	70	-	35	80	2	1	-
200	270	120	55	20	160	3	1.2	1.4
250	320	170	105	45	160	3	1.4	1.6
300	370	220	155	30	240	4	1.6	1.8

LMK50



View V

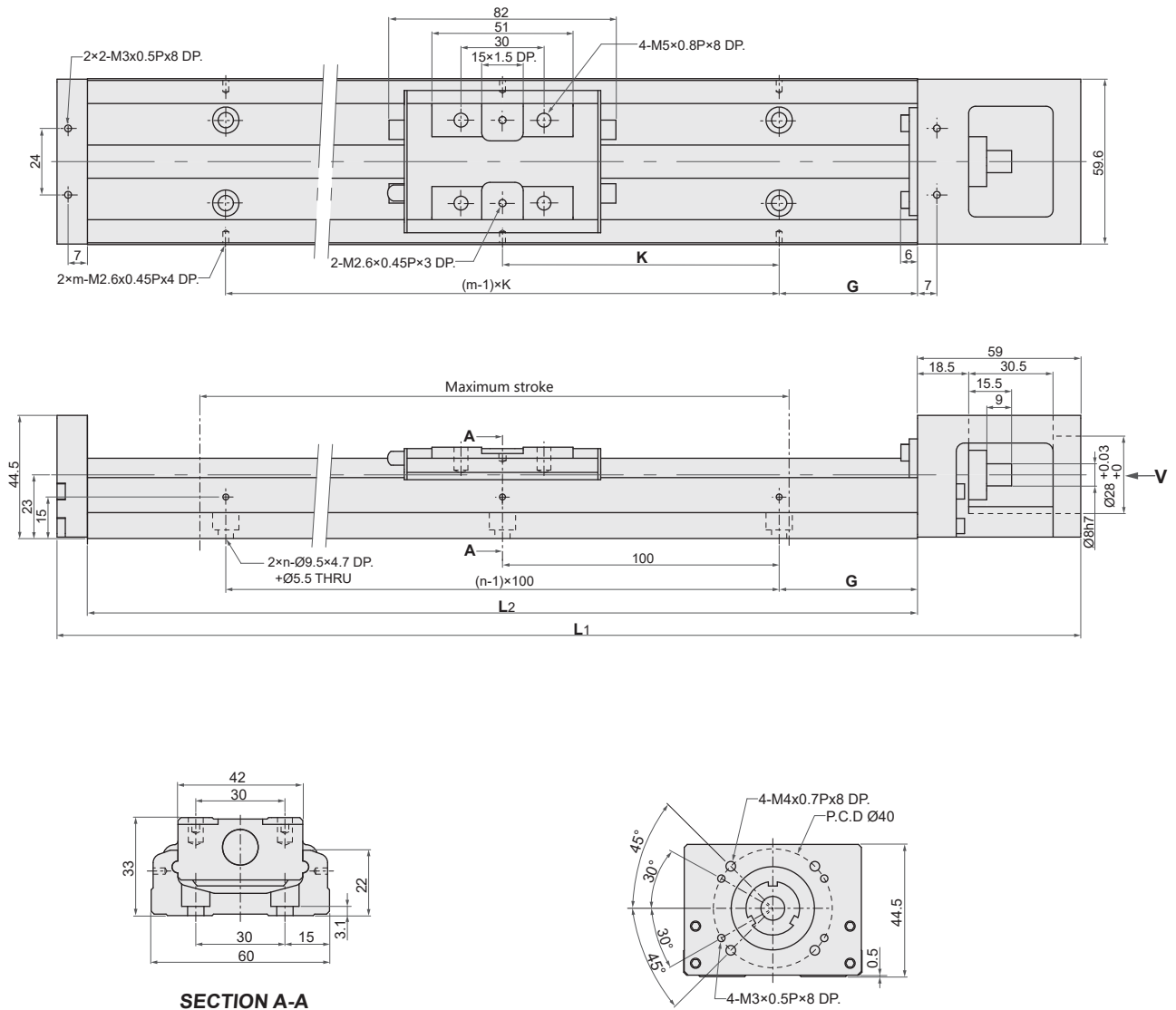


SECTION A-A

Unit (mm)

Rail length L2 (mm)	length L1 (mm)	Maximum stroke (mm)		G (mm)	K (mm)	n	Weight (kg)	
		A1 slider	A2 slider				A1 slider	A2 slider
150	220	70	-	35	80	2	1.1	-
200	270	120	55	20	160	3	1.3	1.5
250	320	170	105	45	160	3	1.6	1.8
300	370	220	155	30	240	4	1.8	2.0

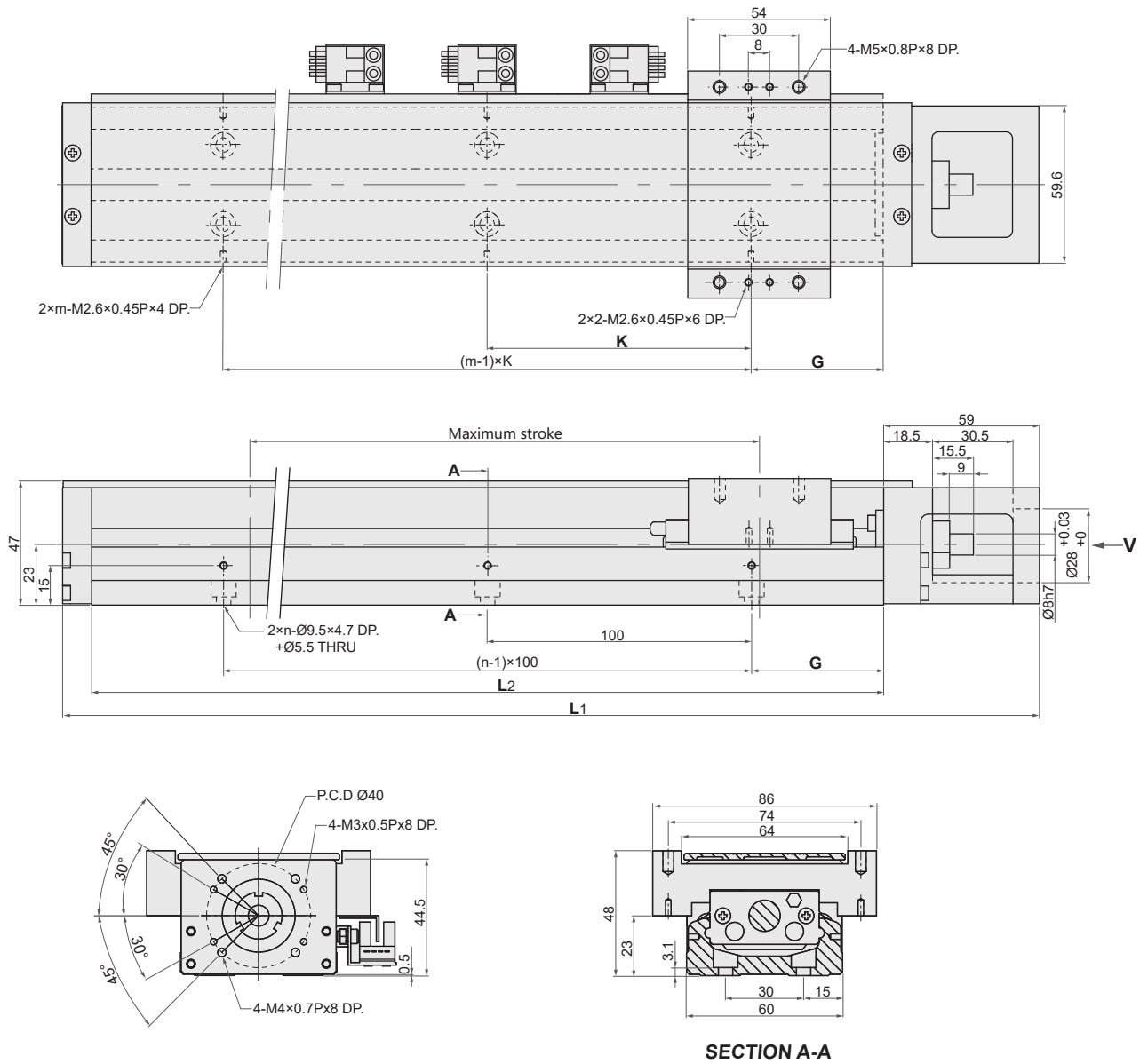
LMK60(D)



Unit (mm)

Rail lengthL2 (mm)	lengthL1 (mm)	Maximum stroke (mm)		G (mm)	K (mm)	n	m	Weight (kg)	
		A1 slider	A2 slider					A1 slider	A2 slider
150	220	60	-	25	100	2	2	1.5	-
200	270	110	-	50	100	2	2	1.8	-
300	370	210	135	50	200	3	2	2.4	2.7
400	470	310	235	50	100	4	4	3	3.3
500	570	410	335	50	200	5	3	3.6	3.9
600	670	510	435	50	100	6	6	4.2	4.6

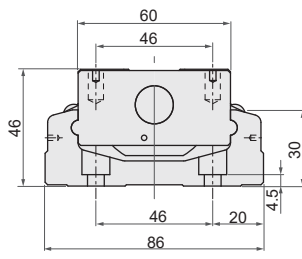
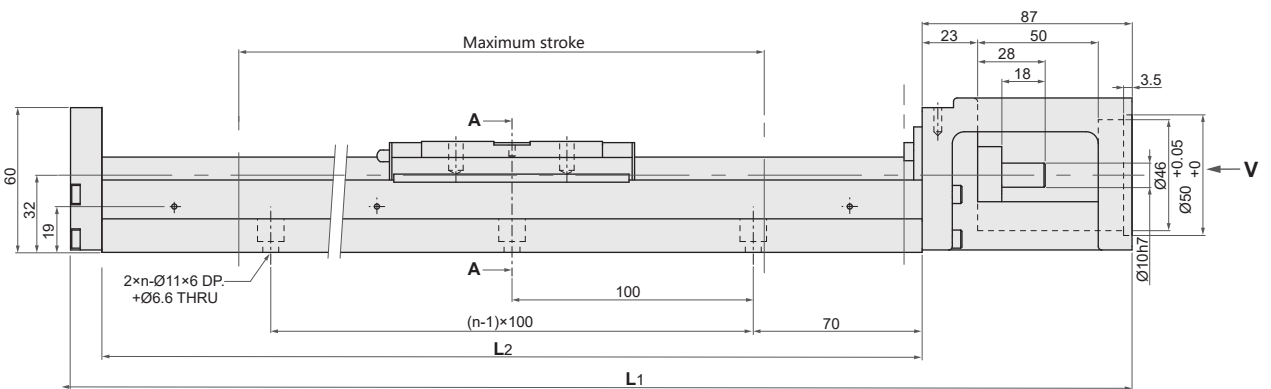
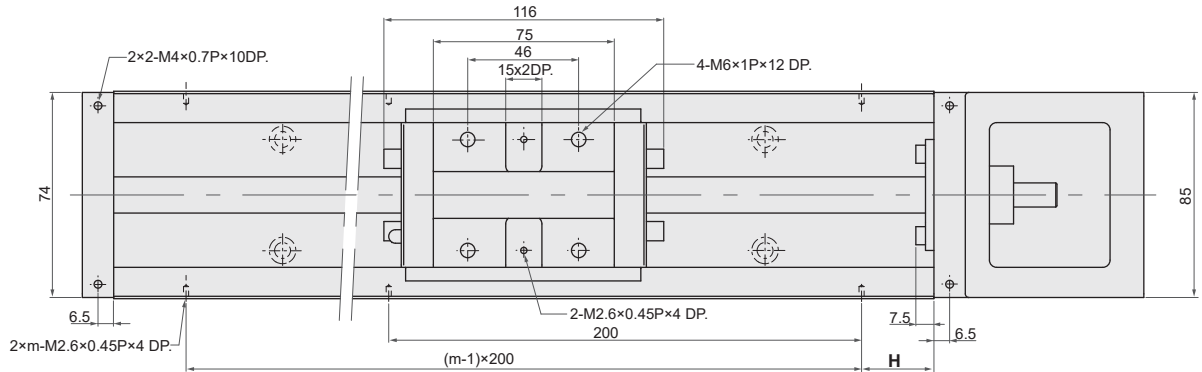
LMK60(D)



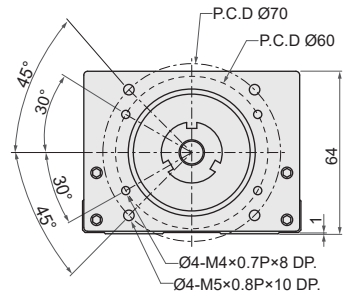
Unit (mm)

Rail length L_2 (mm)	length L_1 (mm)	Maximum stroke (mm)		G (mm)	K (mm)	n	m	Weight (kg)	
		A1 slider	A2 slider					A1 slider	A2 slider
150	220	60	-	25	100	2	2	1.7	-
200	270	110	-	50	100	2	2	2.1	-
300	370	210	135	50	200	3	2	2.7	3
400	470	310	235	50	100	4	4	3.3	3.6
500	570	410	335	50	200	5	3	3.9	4.2
600	670	510	435	50	100	6	6	4.6	5

LMK86(D)



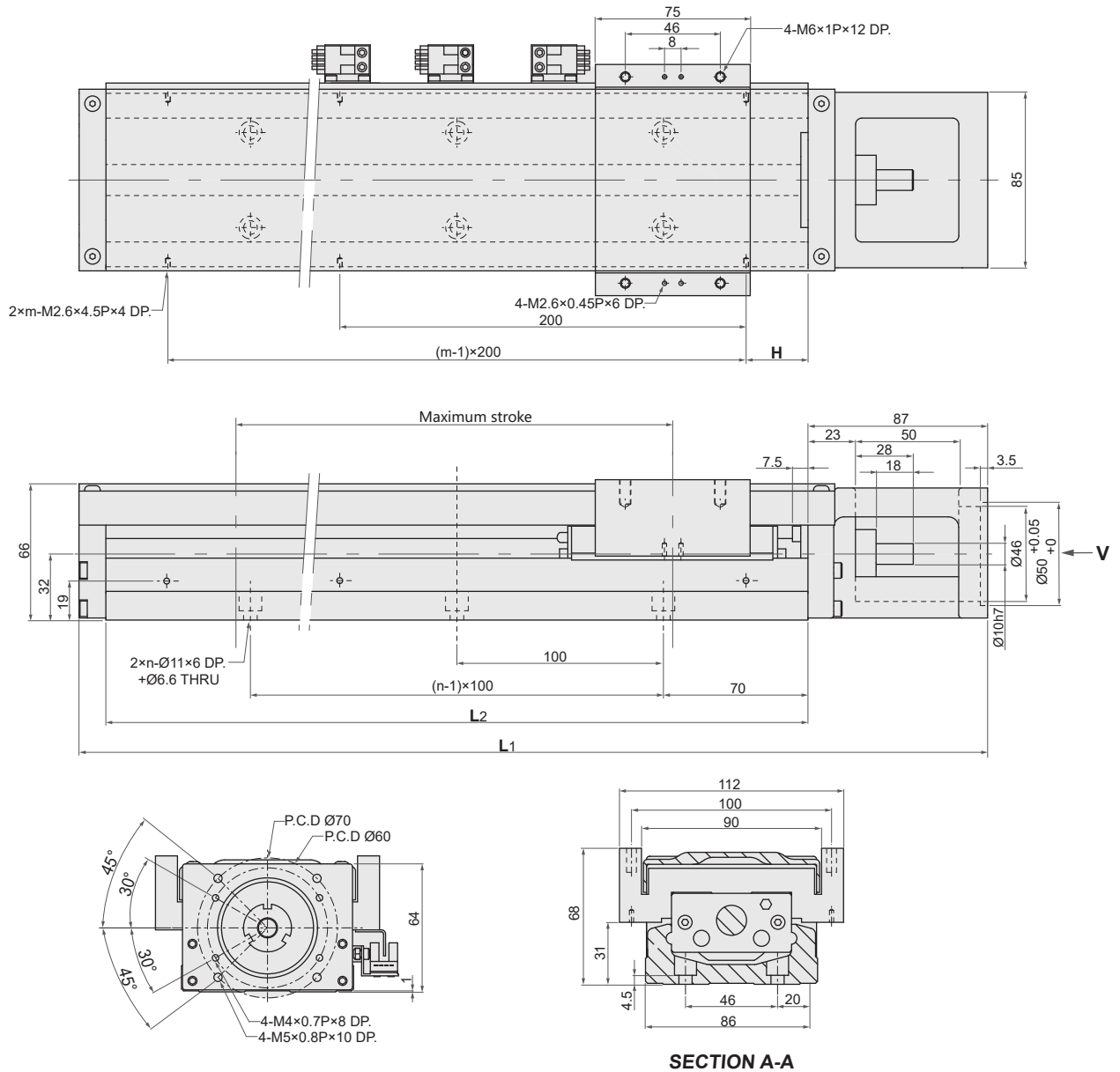
SECTION A-A



Unit (mm)

Rail lengthL2 (mm)	lengthL1 (mm)	Maximum stroke (mm)		H (mm)	n	m	Weight (kg)	
		A1 slider	A2 slider				A1 slider	A2 slider
340	440	216.5	108.5	70	3	2	5.7	6.5
440	540	316.5	208.5	20	4	3	6.9	7.7
540	640	416.5	308.5	70	5	3	8	8.8
640	740	516.5	408.5	20	6	4	9.2	10
740	840	616.5	508.5	70	7	4	10.4	11.2
940	1040	816.5	708.5	70	9	5	11.6	12.4

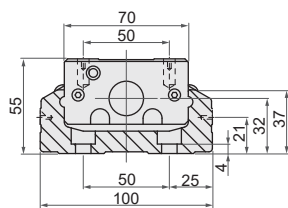
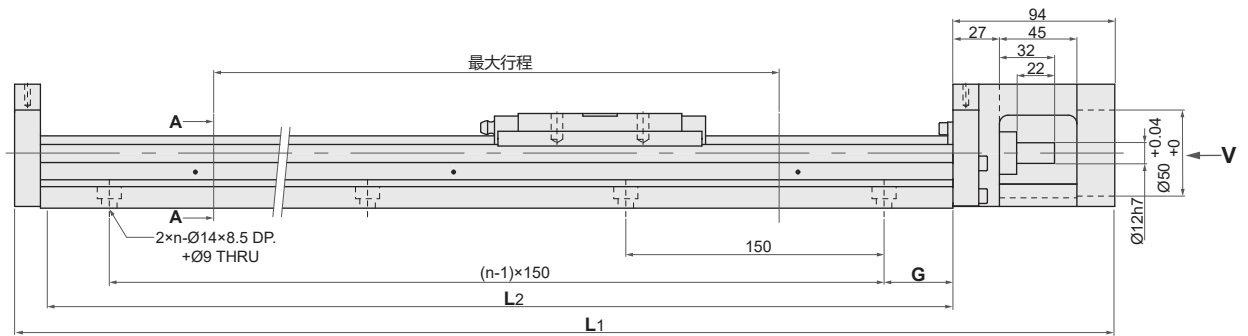
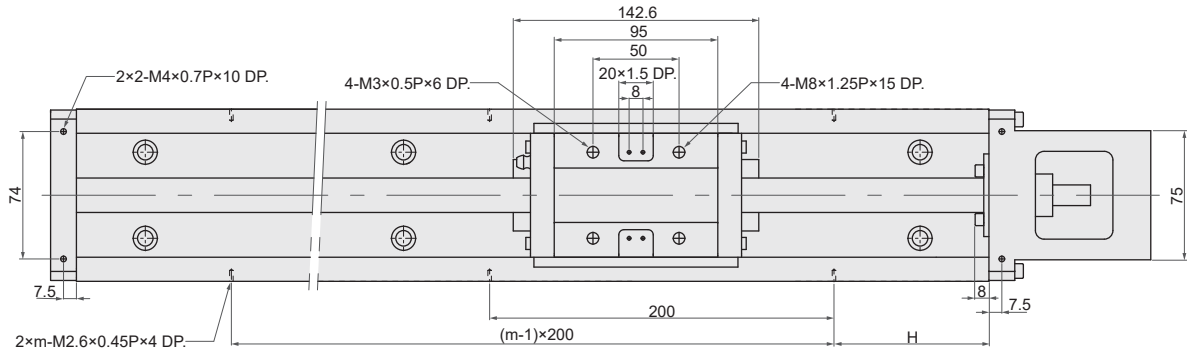
LMK86(D)



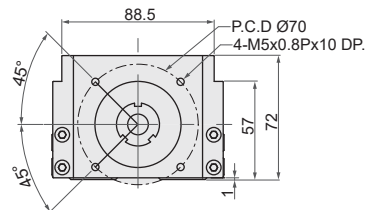
Unit (mm)

Rail length L2 (mm)	length L1 (mm)	Maximum stroke (mm)		H (mm)	n	m	Weight (kg)	
		A1 slider	A2 slider				A1 slider	A2 slider
340	440	216.5	108.5	70	3	2	6.5	7.3
440	540	316.5	208.5	20	4	3	7.8	8.6
540	640	416.5	308.5	70	5	3	9	9.8
640	740	516.5	408.5	20	6	4	10.3	11.3
740	840	616.5	508.5	70	7	4	11.6	12.4
940	1040	816.5	708.5	70	9	5	13	13.8

LMK100



View V

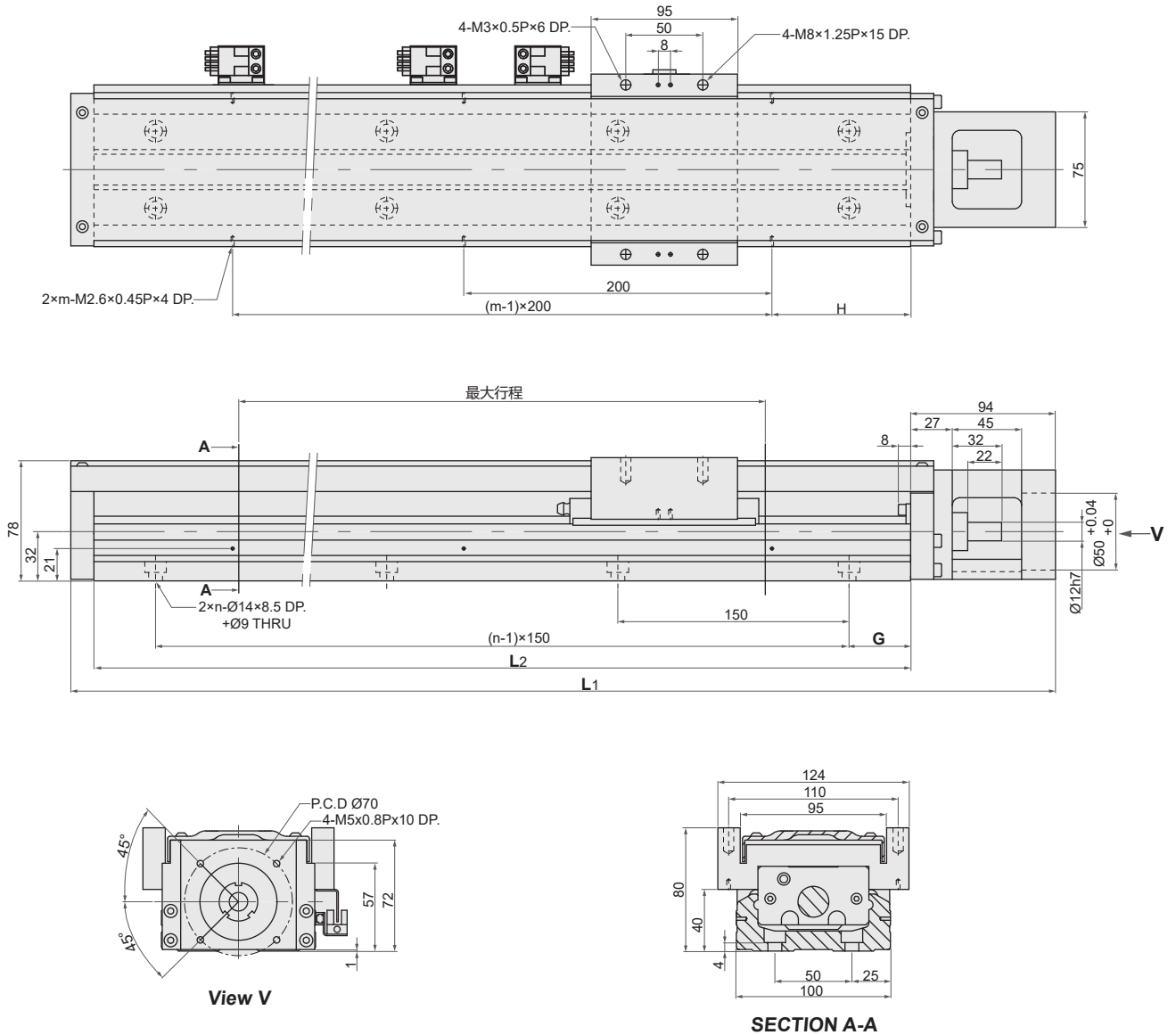


SECTION A-A

单位 (mm)

轨道长度L2 (mm)	全长L1 (mm)	最大行程 (mm)		G (mm)	H (mm)	n	m	重量 (kg)	
		A1滑座	A2滑座					A1滑座	A2滑座
980	1089	828	700	40	90	7	5	18.6	20.3
1080	1189	928	800	15	40	8	6	20.3	22
1180	1289	1028	900	65	90	8	6	22	23.7
1280	1389	1128	1000	40	40	9	7	23.6	25.3
1380	1489	1228	1100	15	90	10	7	25.3	27

LMK100

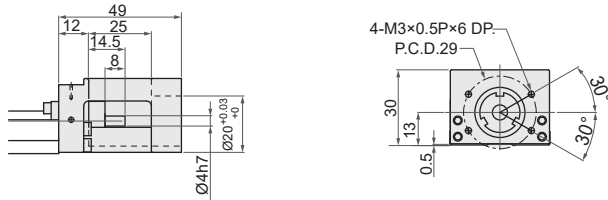


单位 (mm)

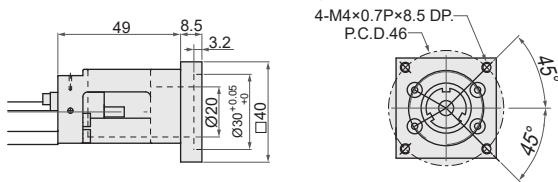
轨道长度L2 (mm)	全长L1 (mm)	最大行程 (mm)		G (mm)	H (mm)	n	m	重量 (kg)	
		A1滑座	A2滑座					A1滑座	A2滑座
980	1089	828	700	40	90	7	5	20.4	22.1
1080	1189	928	800	15	40	8	6	22.2	23.9
1180	1289	1028	900	65	90	8	6	24	25.7
1280	1389	1128	1000	40	40	9	7	25.7	27.4
1380	1489	1228	1100	15	90	10	7	27.5	29.2

LMK40 Connection flange

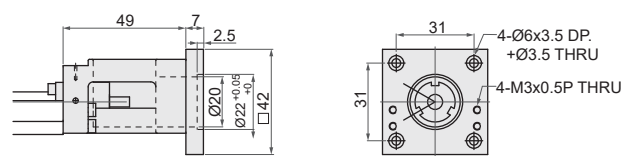
Motor connection seat F0



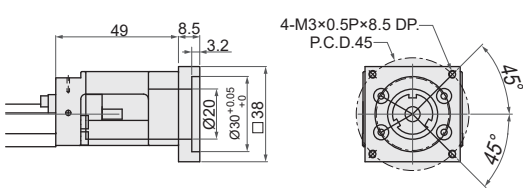
Motor connection flange F1



Motor connection flange F3



Motor connection flange F2

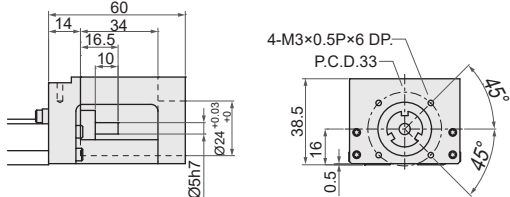


Transfer fixed seat H0

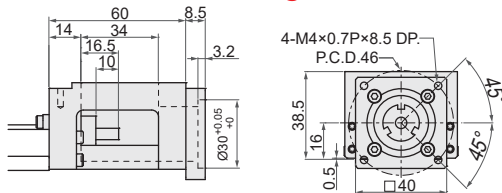


LMK50 Connection flange

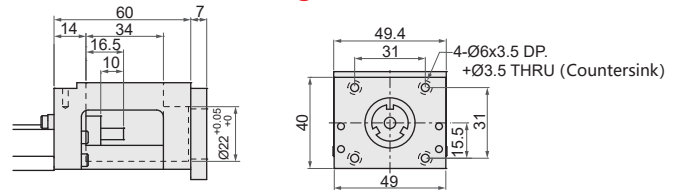
Motor connection seat F0



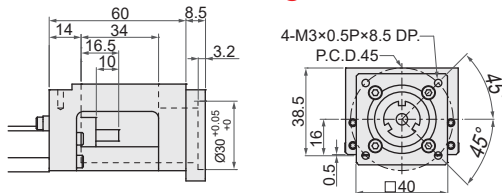
Motor connection flange F1



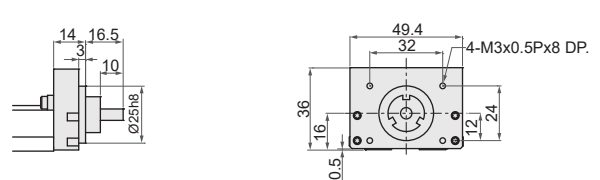
Motor connection flange F3



Motor connection flange F2

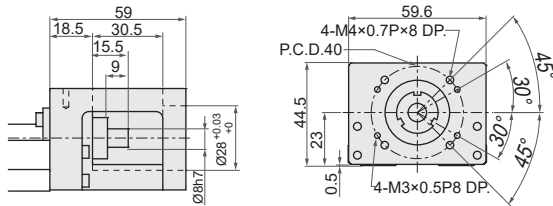


Transfer fixed seat H0

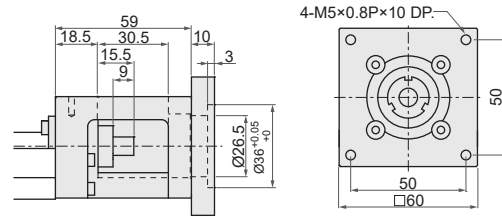


LMK60 Connection flange

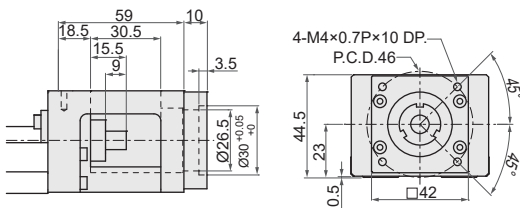
Motor connection seat F0



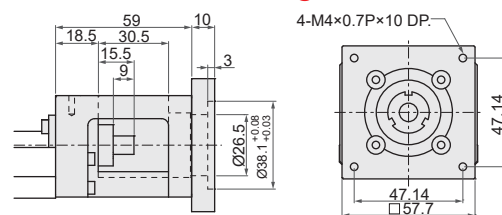
Motor connection flange F3



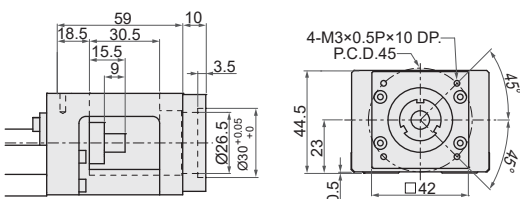
Motor connection flange F1



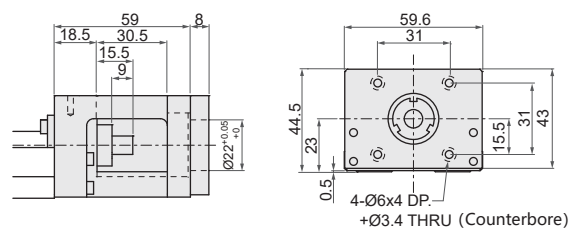
Motor connection flange F4



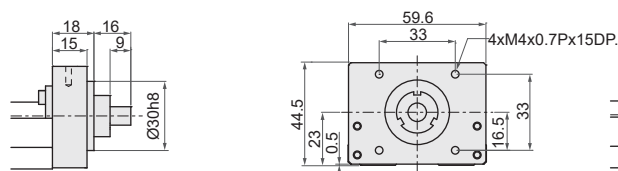
Motor connection flange F2



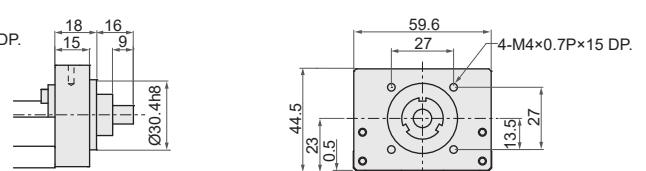
Motor connection flange F5



Transfer fixed seat H0

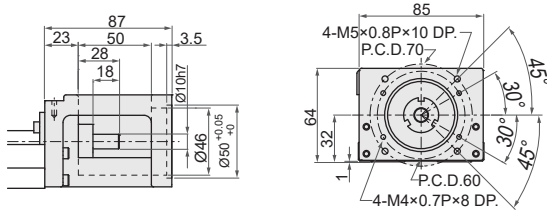


Adapter fixed seat flange H1

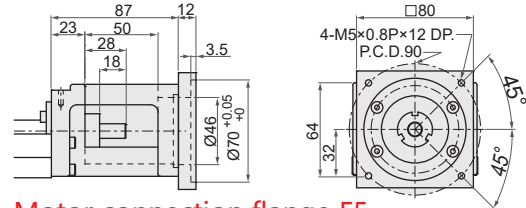


LMK86 Connection flange

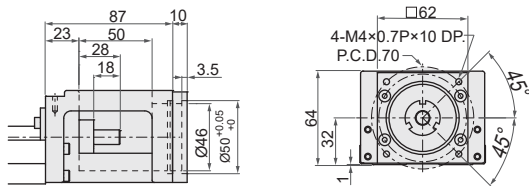
Motor connection seat F0



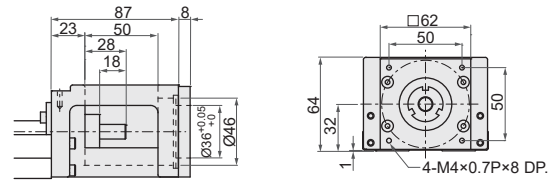
Motor connection flange F4



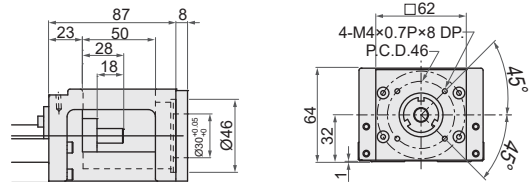
Motor connection flange F1



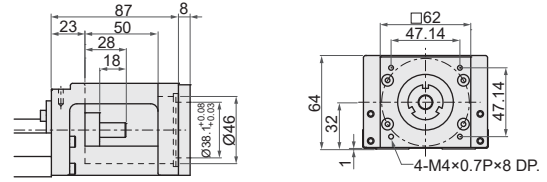
Motor connection flange F5



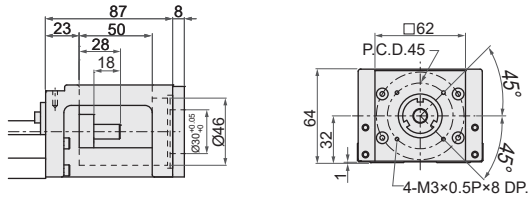
Motor connection flange F2



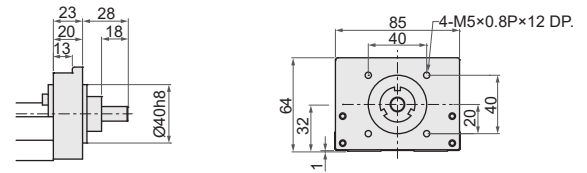
Motor connection flange F6



Motor connection flange F3

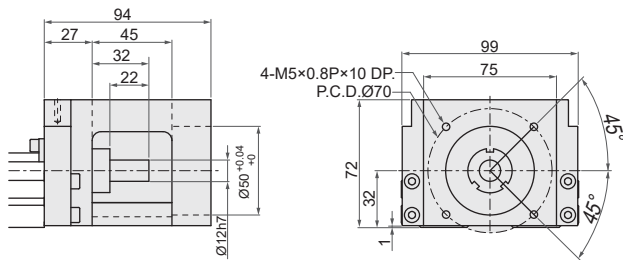


Transfer fixed seat H0

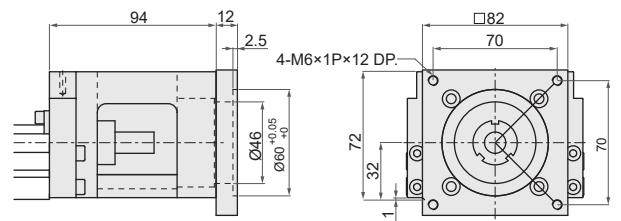


LMK100 Connection flange

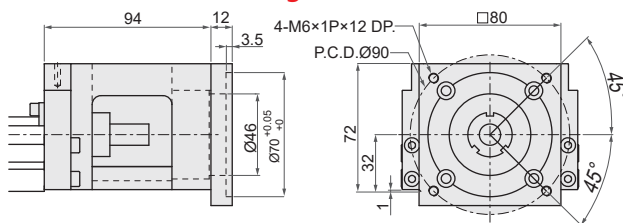
Motor connection seat F0



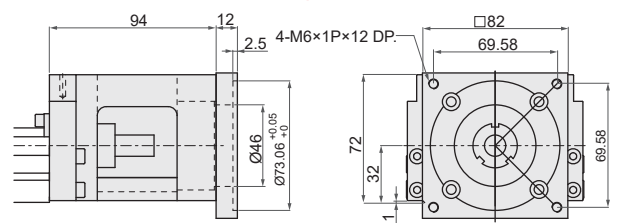
Motor connection flange F3



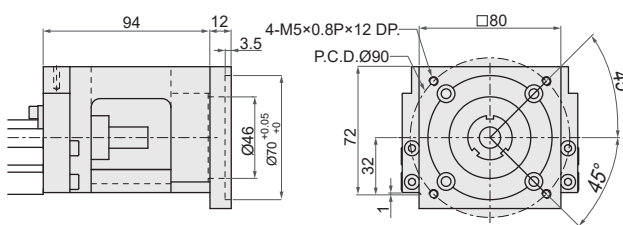
Motor connection flange F1



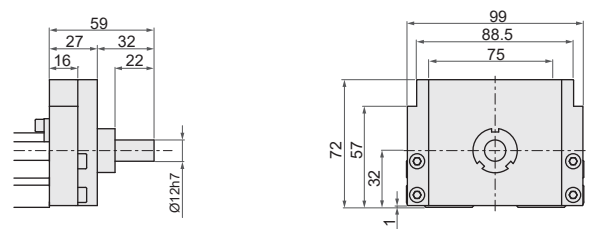
Motor connection flange F4



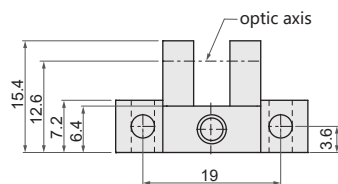
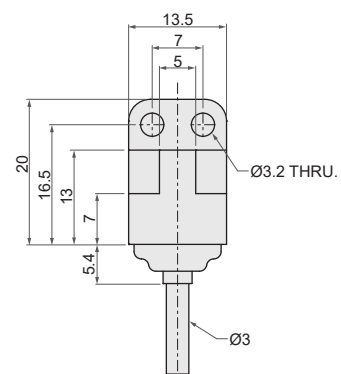
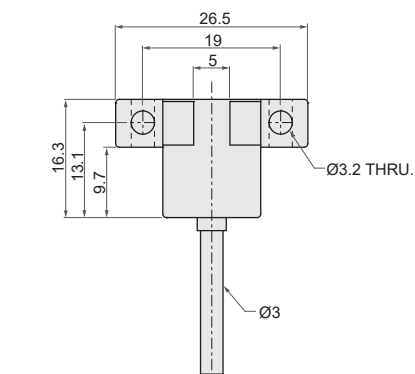
Motor connection flange F2



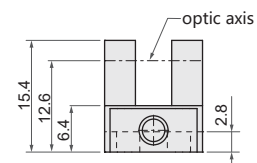
Transfer fixed seat H0



Limit switch

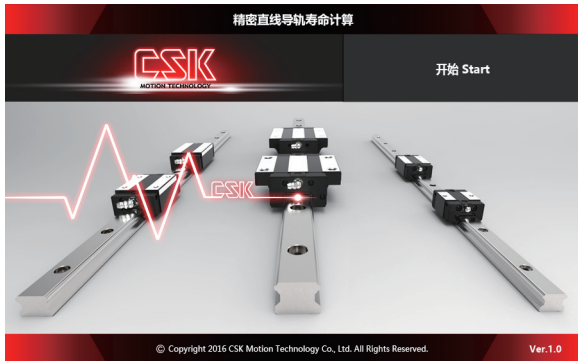


BS5-L1M



BS5-Y1M

Theoretical Calculation Software



Precision Linear Guide Life Calculation Software

Applicable products: CSK LMG series linear guideway

In order to provide customers with scientific data reference, CSK specially produces this theoretical calculation software, which is convenient for users to select products and evaluate schemes.

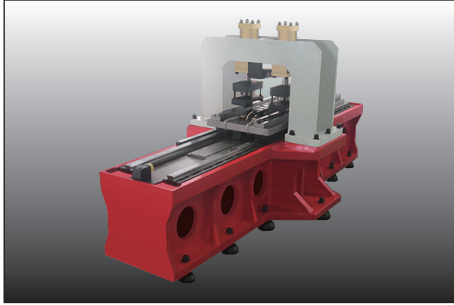
The software is based on the theoretical calculation, and there is deviation between the calculation result and the actual value, which is only for reference.

The software copyright belongs to CSK Motion Technology Co., Ltd. please consult CSK for more technical support.

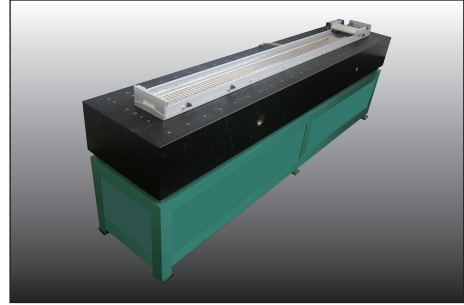
Product performance verification equipment

In CSK's product development process, products are rigorously tested and strive to provide the best products to customers.

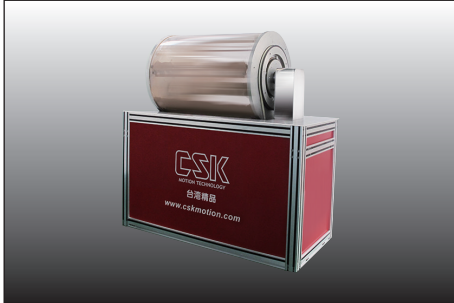
Guide life testing machine



Guide high speed testing machine



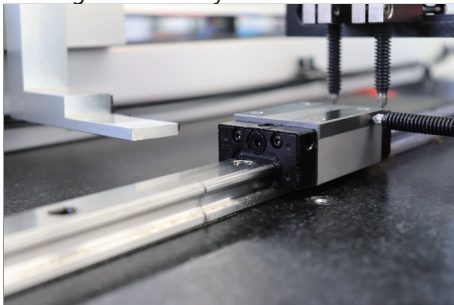
Guide dustproof testing machine



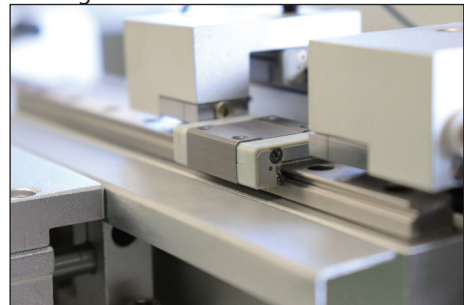
Salt spray testing machine



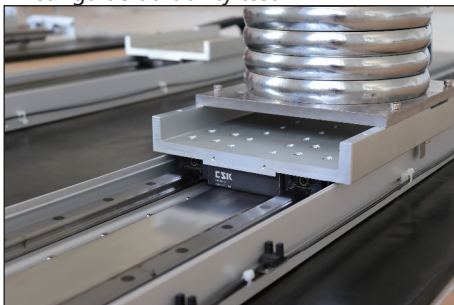
Linear guide accuracy detection



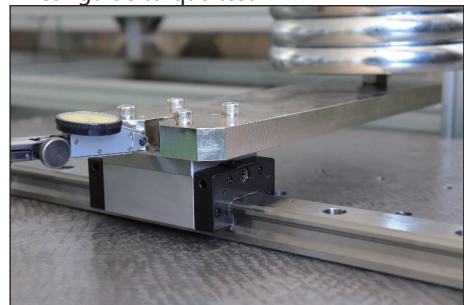
Linear guide thrust fluctuation test



Linear guide durability test



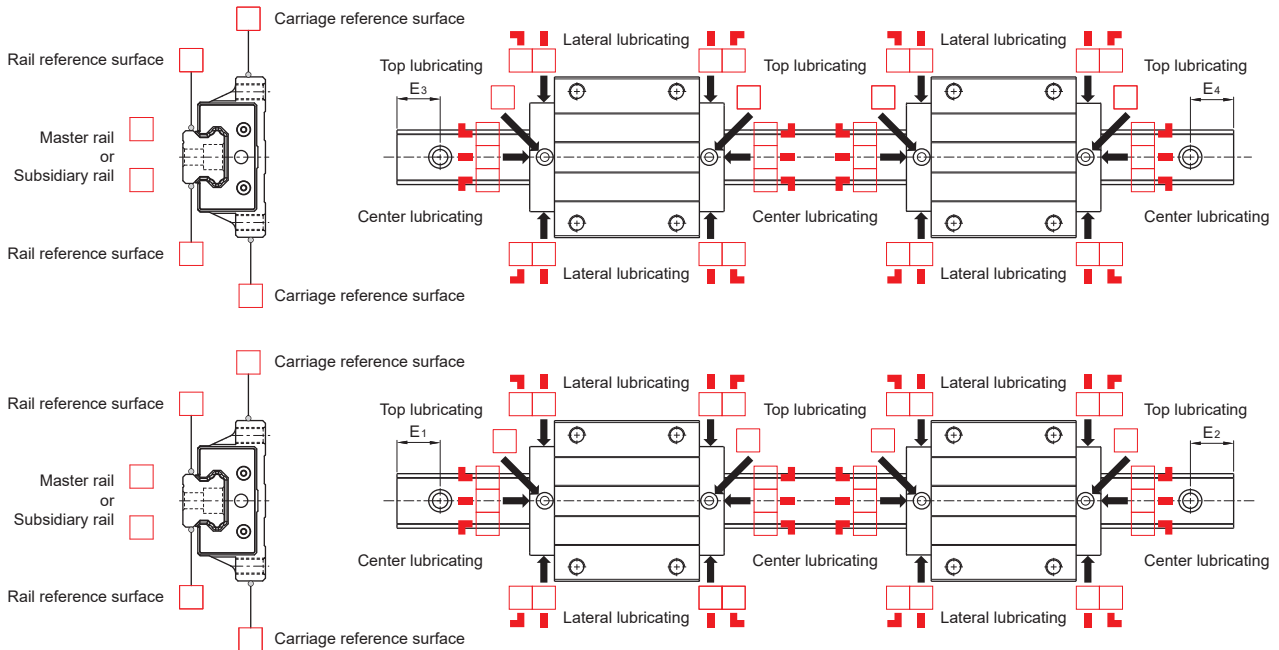
Linear guide torque test



Date:

Customer Name:	Address:						
TEL:	Model:						
FAX:	Number:						
Contact Person:	Application:						
Installation Direction	 <input type="checkbox"/> H type	 <input type="checkbox"/> R type	 <input type="checkbox"/> V type	 <input type="checkbox"/> K type	 <input type="checkbox"/> T type	 <input type="checkbox"/> RV type	<input type="checkbox"/> Others
Carriage Type	<input type="checkbox"/> C <input type="checkbox"/> LC <input type="checkbox"/> H <input type="checkbox"/> LH <input type="checkbox"/> T <input type="checkbox"/> ST						
Size	<input type="checkbox"/> 15 <input type="checkbox"/> 20 <input type="checkbox"/> 25 <input type="checkbox"/> 30 <input type="checkbox"/> 35 <input type="checkbox"/> 45						
No. of Carriages	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> Others:						
Dust Protection	<input type="checkbox"/> 无 <input type="checkbox"/> UU <input type="checkbox"/> SS <input type="checkbox"/> ZZ <input type="checkbox"/> DD <input type="checkbox"/> KK						
Preload Grade	<input type="checkbox"/> P0 <input type="checkbox"/> P1 <input type="checkbox"/> P2						
Rail Type	<input type="checkbox"/> Counter-bore (R Type) <input type="checkbox"/> Tapped hole (T Type) <input type="checkbox"/> Counter-bore (U Type)						
Rail Length & Pitch	L0:	E1:	E2:	E3:	E4:		
Accuracy Grade	<input type="checkbox"/> N <input type="checkbox"/> H <input type="checkbox"/> P <input type="checkbox"/> SP <input type="checkbox"/> UP						
Rail per Axis	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> Others:						
Lubrication Type	<input type="checkbox"/> Grease <input type="checkbox"/> Oil						
Lubrication Fitting	<input type="checkbox"/> Grease nipple (Code:) <input type="checkbox"/> Oil piping joint (Code:)						
Full Code of Spec.							
Required Quantity							

Reference surface, Lubricating location and direction

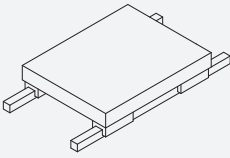
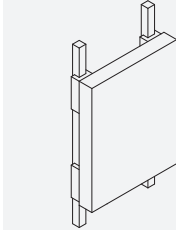
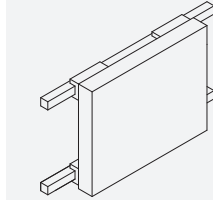
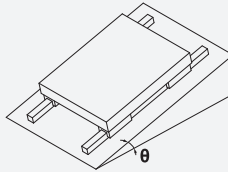
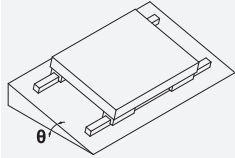


Note : Non-specified cases followed by CSK standards. For other special requirements, please contact us.

Date: _____

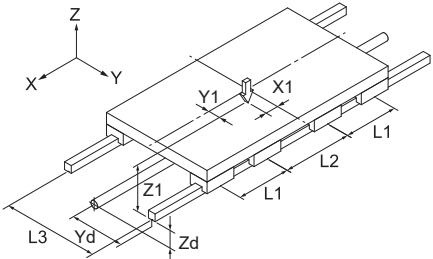
Customer Name: _____	Address: _____
TEL: _____	Model: _____
FAX: _____	Number: _____
Contact Person: _____	Application: _____

Installation:

 <input type="checkbox"/> Horizontal mount	 <input type="checkbox"/> Vertical mount	 <input type="checkbox"/> Wall mount	 <input type="checkbox"/> Front tilt mount	 <input type="checkbox"/> Laterally tilt mount
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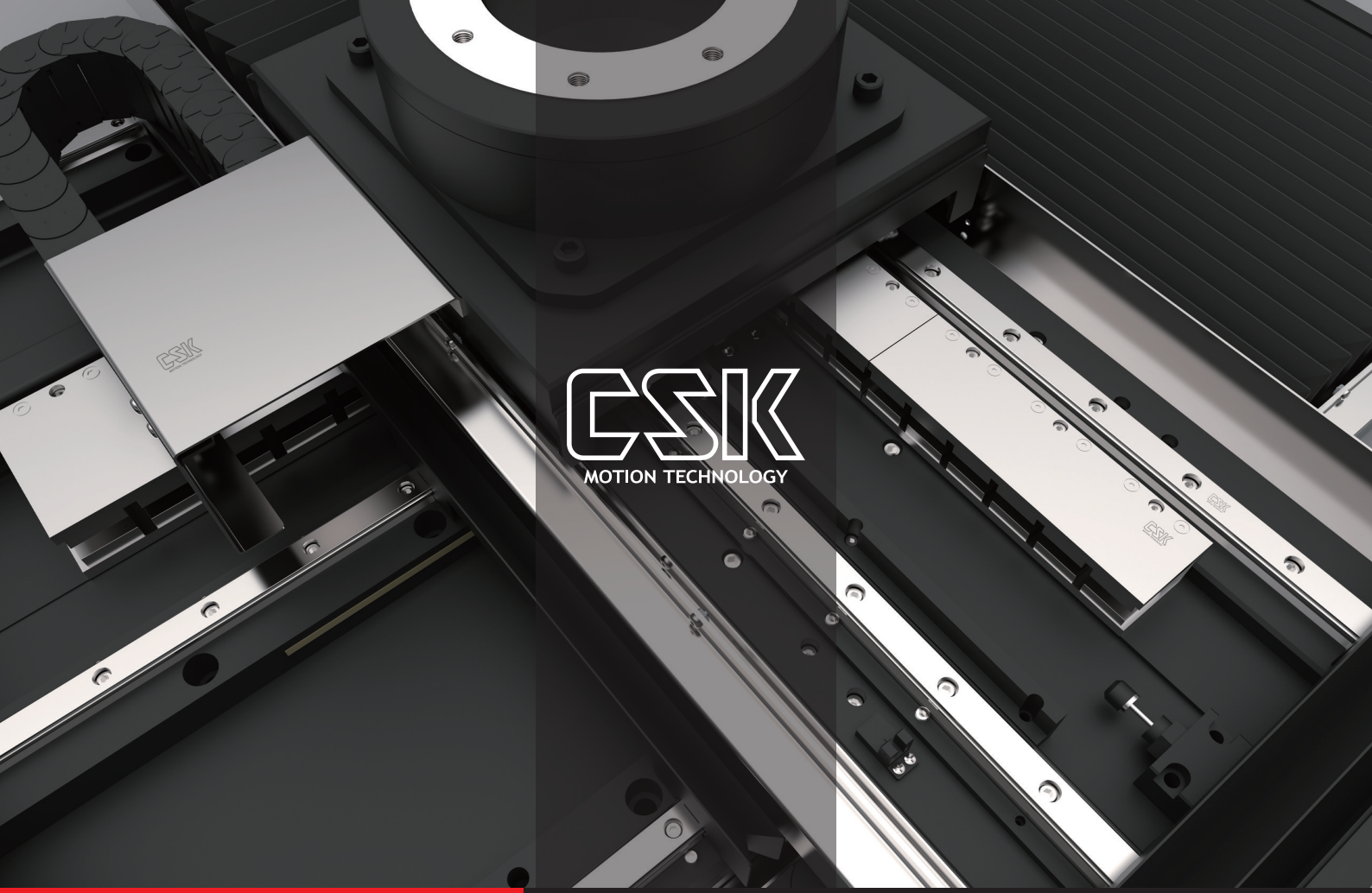
Note: please draw a schematic drawing for other requirements.

Parameters:

Preselection conditions				Figure: 
Series		Preload		
Size		Accuracy grade		
Installation				Schematic drawing:
Speed conditions				
Max. speed	m/s	Stroke	mm	
Acceleration time	sec	No. of reciprocations	1/min	
Service conditions				
Driving original position		Carriage distance		
Yd	mm	L1	mm	
Zd	mm	Middle distance		
Load	kg	L2	mm	
Load position		Rail distance		
X1	mm	L3	mm	
Y1	mm	Tilt angle		
Z1	mm	θ	$^{\circ}$	

Demand:

Note : Non-specified cases followed by CSK standards. For other special requirements, please contact us.



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Distributor

