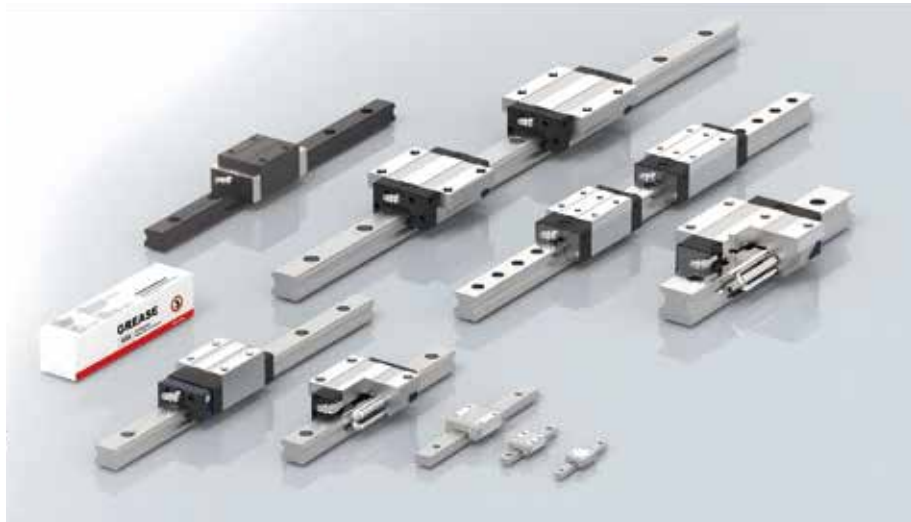


SIMKAWA

Product Information



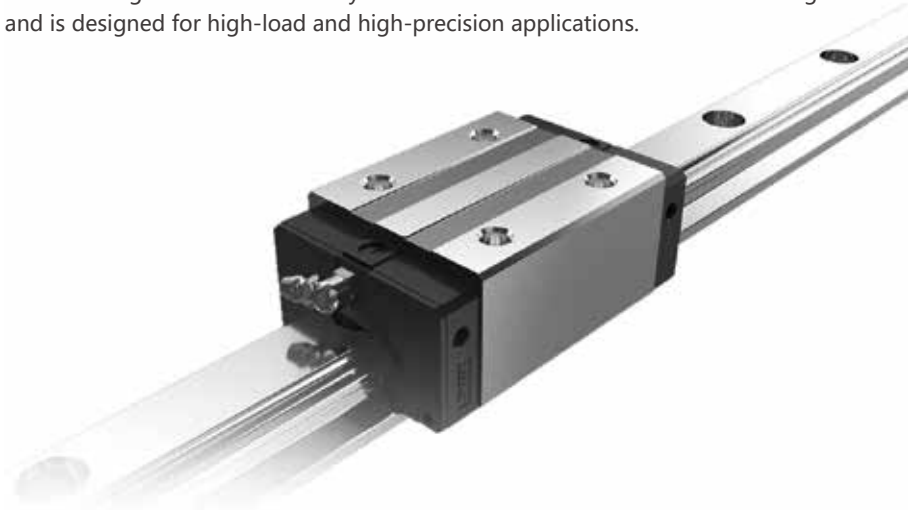
Company Introduction



JINAN SIMKAWA TECH CO.,LTD., established in May 2013, is a Chinese independent brand. The factory has established ISO9001 quality management systems and ISO14001 environmental management systems. It adheres to the business philosophy of "integrity, efficiency, innovation, and win-win." Adhering to the principles of "focus, trust, breakthroughs, and progress," the factory has established long-term strategic goals and established an effective management control system and decision support system. The company has cultivated a highly qualified, experienced, skilled, adventurous, and innovative technical team. The company has established efficient, standardized, and scalable operational processes. With strong technical R&D capabilities, the company designs and develops a wide range of high-quality products for its customers. The company specializes in the research, development, production, and sales of precision transmission products, focusing on a wide range of modular transmission products and peripheral accessories. We operate under the proprietary "SIMKAWA" brand. Our products are widely used in precision machine tools, semiconductor equipment, automation equipment, new energy lithium battery equipment, medical equipment, and aerospace applications. Our goal is to provide customers with high-quality products and services at competitive prices and with prompt delivery, while continuously improving and innovating in transmission technology. Our vision is to possess key core technologies, become a sustainable enterprise, and establish a leading position in Chinese transmission products internationally.

LG Heavy Duty Linear Guide

LG heavy duty guide rails system has improved load and rigidity capabilities compared to other linear guides. It has four-way load characteristics and automatic centering function, and is designed for high-load and high-precision applications.



Self-Aligning Capability

The DF (45°-45°) combination of circular grooves allows for the elastic deformation of the steel balls and the shifting of the contact points during installation. Even slight deviations in the mounting surface are absorbed internally by the linear guide slider, resulting in self-aligning motion and stable, smooth motion.

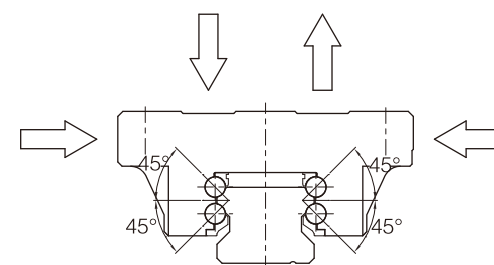
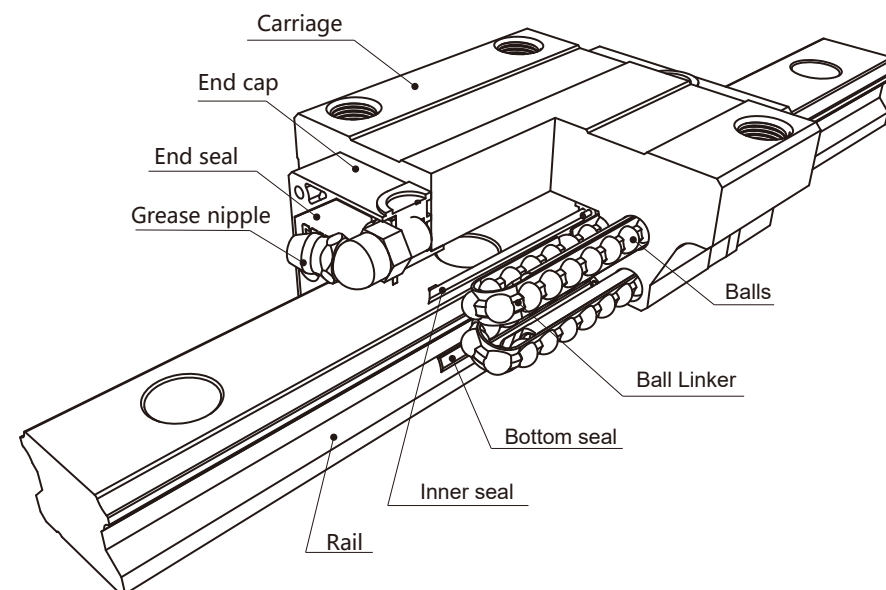
Interchangeability

Thanks to strict manufacturing precision control, linear guide dimensions are maintained within a certain range. The sliders feature retainers to prevent ball loss, making some series interchangeable. Customers can order either rails or sliders as needed, and can store rails and sliders separately to reduce storage space.

High Rigidity in All Directions

The four-row circular groove design and the 45° contact angle of the steel balls create an ideal two-point contact structure, capable of withstanding loads from both vertical and horizontal directions. Preload can be applied to increase rigidity if necessary.

LG series



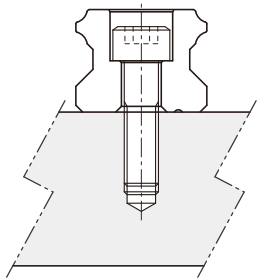
Note: For reference only.

SPECIFICATIONS

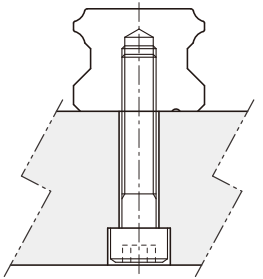
	LG	H	20 - LA	2	SS + R	1000 -	Z0 - 20 - 20	P	II
Series Model: High-Assembly Linear Guide									
Block Type: H Square High Assembly Type C Flange Type with Top and Bottom Locks									
Size: 15, 20, 25, 30, 35, 45, 55, 65									
Block Model: LA Extended Block A Standard Block									
Number of blocks Number of blocks on a single rail									
Dust-proof type: Unmarked, UU, SS, ZZ, DD, KK									
Rail Type: R, T (Threaded Hole Type)									
Rail Length (mm)									
Preload level: Z0: Light preload Z1: Medium preload Z2: Heavy preload									
Distance from the starting point to the center of the first fixed hole Distance from the end to the center of the last fixed hole									
Accuracy level: N: General level, H: High level, P: Precision level, SP: Super precision level, UP: Ultra-high precision level									
Number of Linear Guides on the Same Plane Single-axis rail quantity: omit if one rail; II denotes two rails; III denotes three rails; and so on.									

Rail Type

Counter bore (R, U type)



Tapped hole (T type)



(1) Jointing rails

When the length of the rails used exceeds the specified maximum length, the rails can be joined together. In this case, the joint markings indicate the joint position.

When carriages pass through the joints simultaneously, the accuracy of the joints may deviate. Therefore, the joints should be staggered to avoid such accuracy problems.

Butt-Joint

• Identification of butt-joint rail

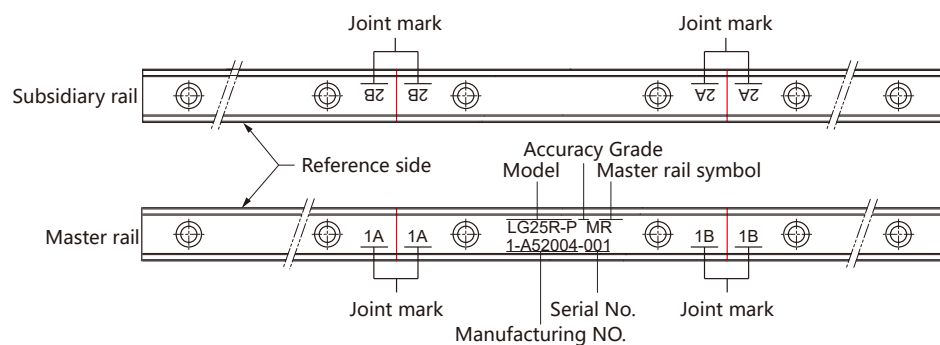


Fig. (A)

• Staggering the joint position

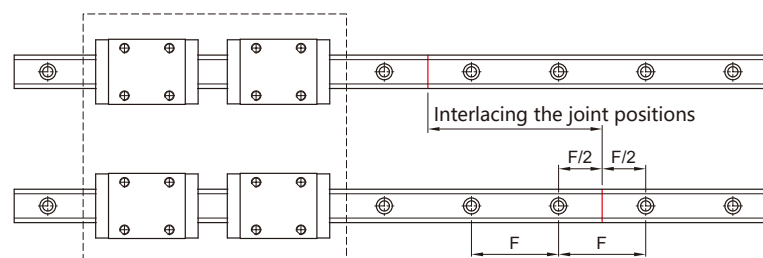


Fig. (B)

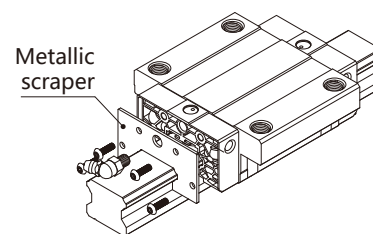
Dust Proof

(1) Code of contamination protection for carriage

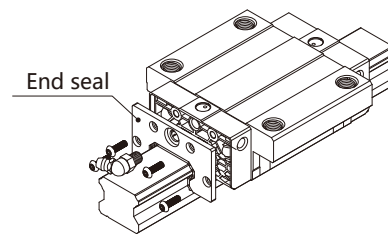
Contamination protection

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

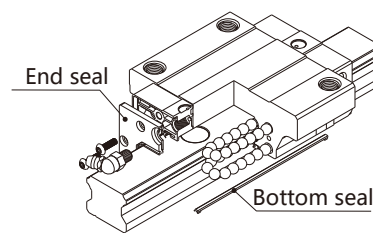
• No symbol Metallic scraper (both ends)



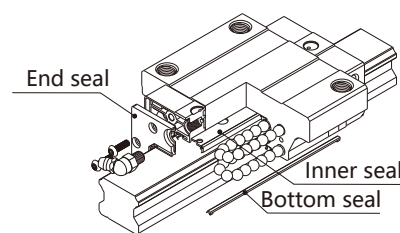
• UU Bidirectional end seal (both ends)



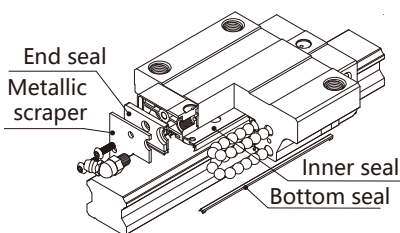
• SS Bidirectional end seal + Bottom seal



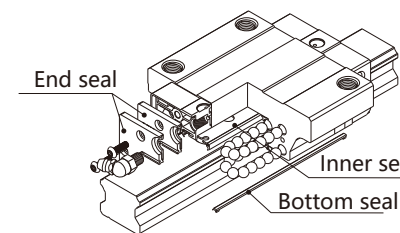
• VV Bidirectional end seal + Bottom seal + Inner seal



• ZZ SS + Metallic scraper

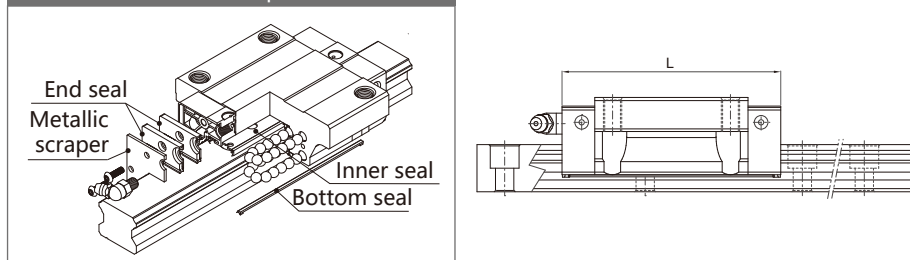


• DD Double bidirectional end seal + Bottom seal + Inner seal



Dust Proof

• 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
LG 15	-	-	-	-	7	6	13
LG 20	-	-	-	-	7	6	13
LG 25	-	-	-	-	7	6	13
LG 30	-	-	-	-	7	6	13
LG 35	-	-	-	-	7	6	13
LG 45	-	-	-	-	7	6	13
LG 55	-	-	-	-	7	6	13

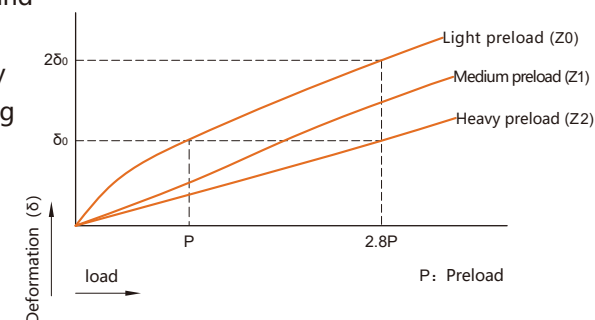
Preload

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 machine 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.

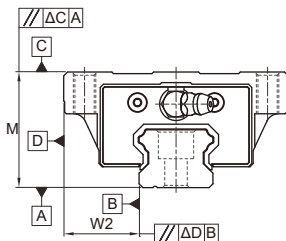
Preload Grade

Preload grade	Code	Preload	Operating Condition
Light preload	P0	0~0.02C	• 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	• 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	• 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).

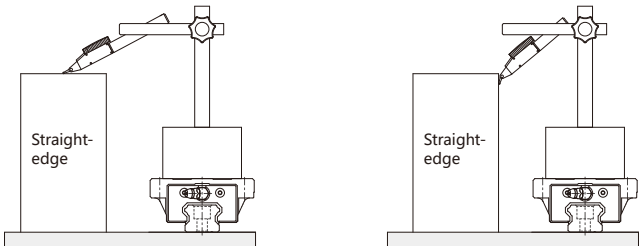


Unit (mm)

Model No.	Item	Accuracy Grade				
		Normal N	High H	Precision P	Super Precision SP	Ultra Precision UP
15 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)				
25 30 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)				
45 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

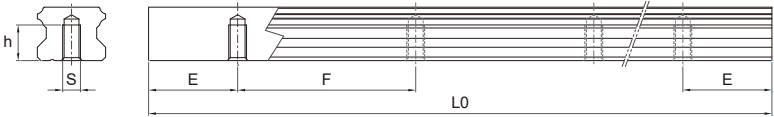
The running accuracy is the deviation of parallelism between the reference surface of carriage and reference surface of rail when carriage moving over the entire length of rail.



Measurement of running parallelism

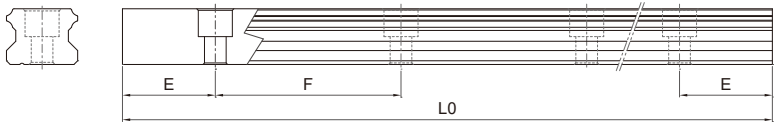
Rail length (mm)		Running Parallelism Values (μm)				
Above	Or less (incl.)	Normal N	High H	Precision P	Super Precision SP	Ultra Precision UP
0	315	9	6	3	2	1.5
315	400	11	8	4	2	1.5
400	500	13	9	5	2	1.5
500	630	16	11	6	2.5	1.5
630	800	18	12	7	3	2
800	1000	20	14	8	4	2
1000	1250	22	16	10	5	2.5
1250	1600	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)
LG/GQ 15T	M5	8
LG/GQ 20T	M6	10
LG/GQ 25T	M6	12
LG 30T	M8	15
LG 35T	M8	17
LG 45T	M12	24
LG 55T	M14	24

Rail Maximum Length and Standard



Unit (mm)

Size	LG/GQ 15	LG/GQ 20	LG/GQ 25	LG 30	LG 35	LG 45	LG 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 Torque Value for Fastening Bolts on Linear Guideway

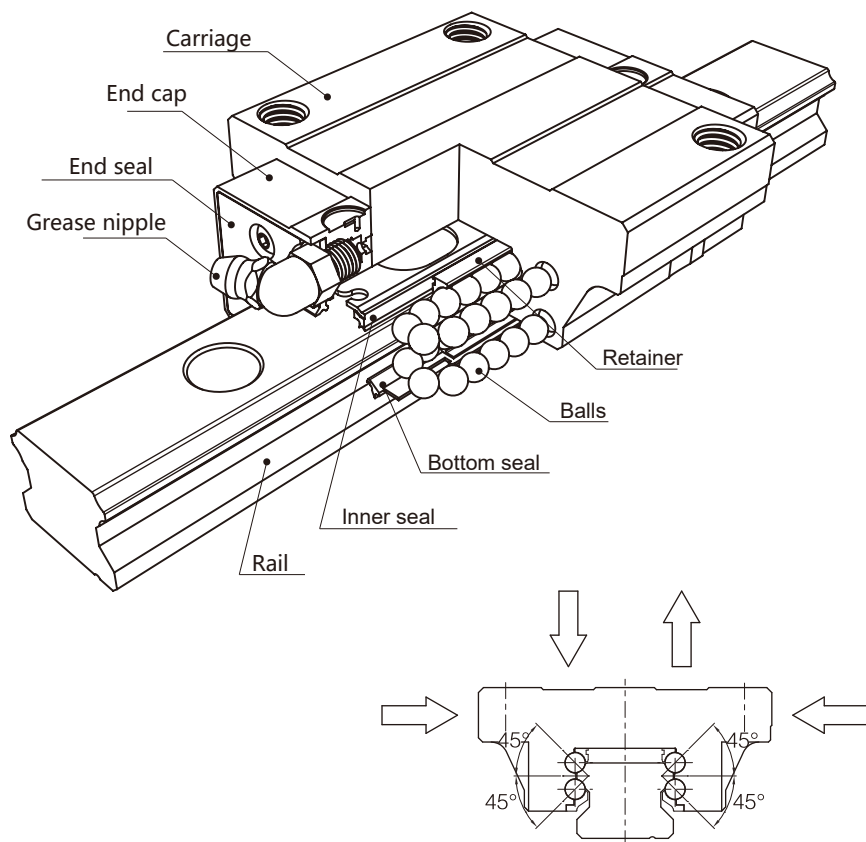
When installing linear guideway, the tightening force of assembly bolts significantly impacts overall assembly precision. Therefore, uniformity in the tightening force is crucial. It is recommended to use a torque wrench to tighten assembly bolts according to the torque values provided in the table below. Keep in mind that the torque values for bolts may vary based on the material of the mounting surface.

Unit (mm)

Nominal Size of Bolts	Tightening Torque Value		
	Iron components	Cast Components	Aluminum Alloy Components
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

LG 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

	LG	20	C	M	2	SS	P	SR		+R	1000-20	/20	P	II
Series: LG														
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														
Accessories: No symbol, M (Metal End Cap) , E (Electrolyte Resistant)														
Number of carriages per rail: 1, 2, 3														
Dust proof option: No symbol, UU, SS, VV, ZZ, DD, KK														
Preload: Z0 (Light preload) , Z1 (Medium preload) , Z2 (Heavy preload)														
Accessories: No symbol, SR (Self-Lubricating Module)														
Code of special carriage: A, B ... (Standard rail is no symbol)														
Rail type: R, U* (Counter-bore type) , T (Tapped hole type)														
Rail length (mm)														
Rail hole pitch from start side														
Rail hole pitch to the end side														
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 LG15 and LG30, detail information please see the specification table for the corresponding model number.

Specifications

(2) Interchangeable type

● Code of Carriage

	LG	20	C	M	SS	P0	SR	N
Series: LG								
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								
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) Short type								
ST: Square compact type								
Accessories: No symbol, M (Metal End Cap) , E (Electrolyte Resistant)								
Dust proof option: No symbol, UU, SS, VV, ZZ, DD, KK								
Preload: Z0 (Light preload)								
Accessories: No symbol, SR (Self-Lubricating Module)								
Accuracy grade: N, H								
Code of special carriage: A, B ... (Standard carriage is no symbol)								

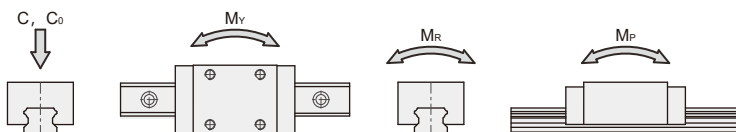
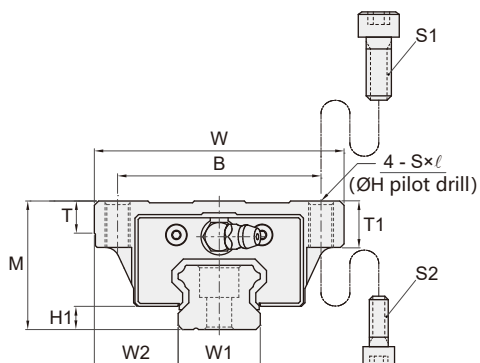
● Code of Rail

	LG	20	R	1000	-20	/20	N
Series: LG							
Size: 15, 20, 25, 30, 35, 45, 55							
Rail type: R, U* (Counter-bore type) , T (Tapped hole type)							
Rail length (mm)							
Rail hole pitch from start side							
Rail hole pitch to the end side							
Accuracy grade: N, H							
Code of special rail: A, B ... (Standard rail is no symbol)							

*U type rail is only applicable for LG15 and LG30, detail information please see the specification table for the corresponding model number.

Dimensions of LG...C / LC

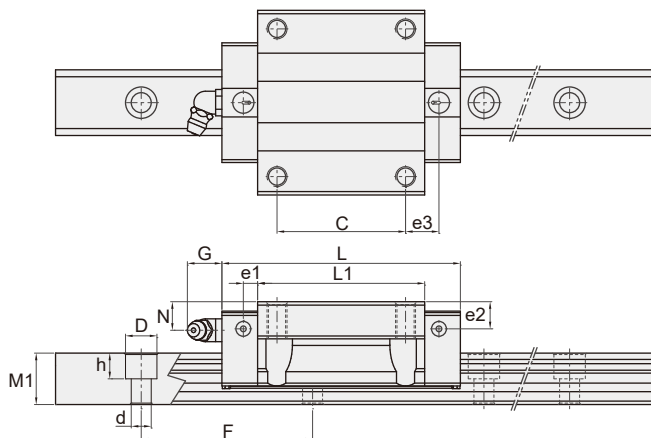
Model No.	Bolt Size		Pilot drill
	S1	S2	H
LG15	M5	M4	4.4
LG20	M6	M5	5.3
LG25	M8	M6	6.9
LG30	M10	M8	8.6
LG35	M10	M8	8.6
LG45	M12	M10	10.4
LG55	M14	M12	12.5



Unit (mm)

Model No.	External dimension			Carriage dimension													Grease nipple
	Height	Width	Length	B	C	Mounting hole S×ℓ	L1	T	T1	H1	N	e1	e2	e3	G		
	M	W	L														
LG15 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	
LG20 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	
LG20 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	
LG25 C	36	70	83.8	57	45	M8×13	58.8	9	13	6	10	5	9.5	11.8	12	M6×0.75	
LG25 LC	36	70	102.8	57	45	M8×13	77.8	9	13	6	10	5	9.5	21.3	12	M6×0.75	
LG30 C	42	90	98	72	52	M10×15	69.8	10	15	8	8	6	8	14	12	M6×0.75	
LG30 LC	42	90	120.2	72	52	M10×15	92	10	15	8	8	6	8	25.1	12	M6×0.75	
LG35 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	
LG35 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	
LG45 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	
LG45 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	
LG55 C	70	140	166	116	95	M14×25	126	15	25	13	12	9	10.5	33.5	13.5	PT 1/8	
LG55 LC	70	140	204	116	95	M14×25	164	15	25	13	12	9	10.5	42.5	13.5	PT 1/8	

Dimensions of LG...C / LC



Unit (mm)

Model No.	Rail dimension					Basic load rating		Static moment rating				Weight		
	Width		Height	Pitch	Mounting bolt hole	Dynamic	Static	M _P (KN·m)		M _V (KN·m)		M _r KN·m	Carriage Kg	Rail Kg/m
	W1	W2						Single Carriage	Double Carriages	Single Carriage	Double Carriages			
LG15 C	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
LG20 C	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
LG20 LC	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
LG25 C	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
LG25 LC	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
LG30 C	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
LG30 LC	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
LG35 C	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
LG35 LC	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
LG45 C	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
L45 LC	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
LG55 C	53	43.5	44	120	23×20×16	130	184	2.08	12.35	2.08	12.35	5.12	6.35	15.08
LG55 LC	53	43.5	44	120	23×20×16	156	241	3.49	19.14	3.49	19.14	6.69	7.67	15.08

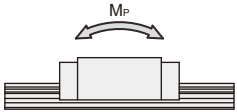
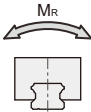
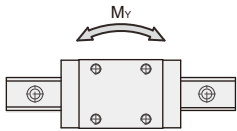
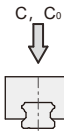
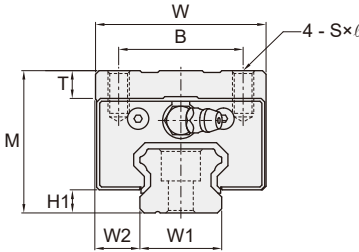
*1.Rail mounting hloes for M3 bolt (6×4.5×3.5) and M4 bolt (7.5×5.3×4.5) are available for LG15 rail.

The codes of rail type are LG15R for M4 bolt, and LG15U for M3 bolt.

2.Rail mounting hloes for M6 bolt (11×9×7) and M8 bolt (14×12×9) are available for LG30 rail.

The codes of rail type are LG30R for M8 bolt, and LG30U for M6 bolt.

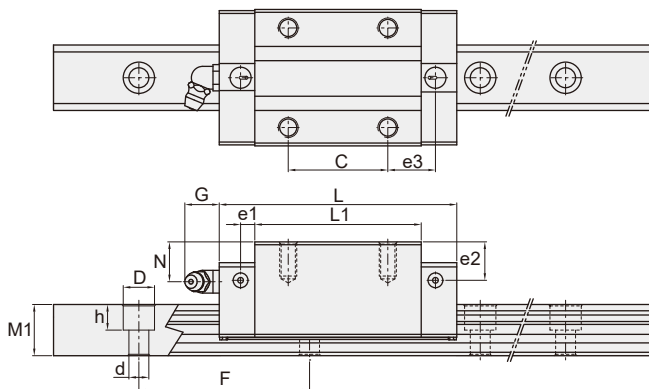
Dimensions of LG···H / LH



Unit (mm)

Model No.	External dimension			Carriage dimension											
	Height	Width	Length	B	C	Mounting hole S×ℓ	L1	T	H1	N	e1	e2	e3	G	Grease nipple
	M	W	L												
LG15 H	28	34	58.2	26	26	M4×7	39.5	6	4.5	9	3.3	8	10.6	5	M4×0.7
LG15 LH	28	34	72.6	26	34	M4×7	53.6	6	4.5	9	3.3	8	13.7	5	M4×0.7
LG20 H	30	44	75	32	36	M5×8	52.5	6	4.6	8.5	4.5	7	12.8	12	M6×0.75
LG20 LH	30	44	87.4	32	50	M5×8	64.9	6	4.6	8.5	4.5	7	13	12	M6×0.75
LG25 H	40	48	83.8	35	35	M6×12	58.8	8	6	14	5	13.5	16.8	12	M6×0.75
LG25 LH	40	48	102.8	35	50	M6×12	77.8	8	6	14	5	13.5	18.8	12	M6×0.75
LG30 H	45	60	98	40	40	M8×12	69.8	8	8	11	6	11	20	12	M6×0.75
LG30 LH	45	60	120.2	40	60	M8×12	92	8	8	11	6	11	21.1	12	M6×0.75
LG35 H	55	70	111.2	50	50	M8×14	80.2	11	9.5	15	7.5	15	21.6	12	M6×0.75
LG35 LH	55	70	136.6	50	72	M8×14	105.6	11	9.5	15	7.5	15	23.3	12	M6×0.75
LG45 H	70	86	137.8	60	60	M10×20	102.2	16	11	20	8.5	20	27.6	13.5	PT 1/8
LG45 LH	70	86	169.5	60	80	M10×20	133.9	16	11	20	8.5	20	33.5	13.5	PT 1/8
LG55 H	80	100	166	75	75	M12×18	126	17	13	22	9	20.5	33.5	13.5	PT 1/8
LG55 LH	80	100	204	75	95	M12×18	164	17	13	22	9	20.5	42.5	13.5	PT 1/8

Dimensions of LG···H / LH



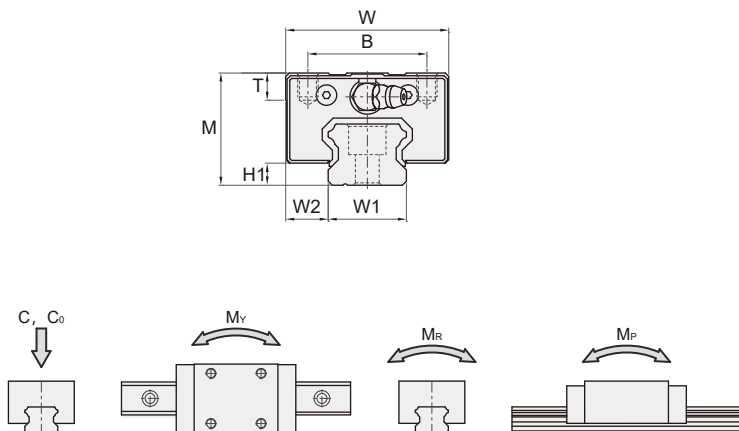
Unit (mm)

Model No.	Rail dimension					Basic load rating		Static moment rating						Weight	
	Width	Height	Pitch	Mounting bolt hole	Dynamic	Static	M _P (KN·m)		M _V (KN·m)		M _R	Carriage	Rail		
	W1						W2	M1	F	D×h×d				C KN	C ₀ KN
LG15 H	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	
LG15 LH	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	
LG20 H	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	
LG20 LH	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	
LG25 H	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	
LG25 LH	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	
LG30 H	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	
LG30 LH	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	
LG35 H	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	
LG35 LH	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	
LG45 H	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	
LG45 LH	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	
LG55 H	53	23.5	44	120	23×20×16	130	184	2.08	12.35	2.08	12.35	5.12	6.18	15.08	
LG55 LH	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 hloes for M3 bolt (6×4.5×3.5) and M4 bolt (7.5×5.3×4.5) are available for LG15 rail.
The codes of rail type are LG15R for M4 bolt, and LG15U for M3 bolt.

2.Rail mounting hloes for M6 bolt (11×9×7) and M8 bolt (14×12×9) are available for LG30 rail.
The codes of rail type are LG30R for M8 bolt, and LG30U for M6 bolt.

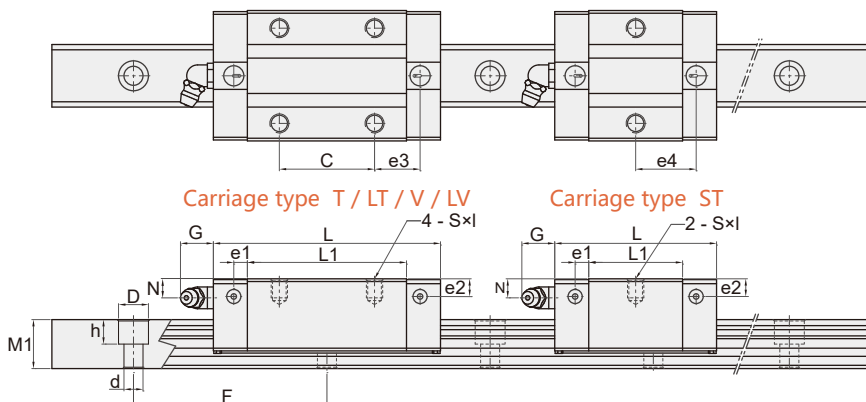
Dimensions of LG...ST / T / LT / V / LV



Unit (mm)

Model No.	External dimension			Carriage dimension												
	Height	Width	Length	B	C	Mounting hole $S \times \ell$	L1	T	H1	N	e1	e2	e3	e4	G	Grease nipple
	M	W	L													
LG15 ST	24	34	40.7	26	-	M4×5	22	6	4.5	5	3.3	4	-	14.8	5	M4×0.7
LG15 T	24	34	58.2	26	26	M4×5	39.5	6	4.5	5	3.3	4	10.6	-	5	M4×0.7
LG15 LT	24	34	72.6	26	34	M4×5	53.6	6	4.5	5	3.3	4	13.7	-	5	M4×0.7
LG20 ST	28	42	47.4	32	-	M5×6	24.9	6	4.6	6.5	4.5	5	-	17	12	M6×0.75
LG20 T	28	42	75	32	32	M5×6	52.5	6	4.6	6.5	4.5	5	14.8	-	12	M6×0.75
LG25 ST	33	48	59.5	35	-	M6×7	34.5	8	6	7	5	6.5	-	22.3	12	M6×0.75
LG25 T	33	48	83.8	35	35	M6×7	58.8	8	6	7	5	6.5	16.8	-	12	M6×0.75
LG25 V	36	48	83.8	35	35	M6×9	58.8	8	6	10	5	9.5	16.8	-	12	M6×0.75
LG25 LV	36	48	102.8	35	50	M6×9	77.8	8	6	10	5	9.5	16.8	-	12	M6×0.75
LG30 T	42	60	98	40	40	M8×10	69.8	8	8	8	6	8	20	-	12	M6×0.75
LG30 LT	42	60	120.2	40	60	M8×10	92	8	8	8	6	8	21.1	-	12	M6×0.75
LG35 T	48	70	111.2	50	50	M8×12	80.2	10	9.5	8	7.5	8	21.6	-	12	M6×0.75
LG35 LT	48	70	136.6	50	72	M8×12	105.6	10	9.5	8	7.5	8	23.3	-	12	M6×0.75
LG45 T	60	86	137.8	60	60	M10×17	102.2	16	11	10	8.5	10	27.6	-	13.5	PT 1/8
LG45 LT	60	86	169.5	60	80	M10×17	133.9	16	11	10	8.5	10	33.5	-	13.5	PT 1/8
LG55 T	70	100	166	75	75	M12×18	126	17	13	12	9	10.5	33.5	-	13.5	PT 1/8
LG55 LT	70	100	204	75	95	M12×18	164	17	13	12	9	10.5	42.5	-	13.5	PT 1/8

Dimensions of LG···ST / T / LT / V / LV



Unit (mm)

Model No.	Rail dimension					Basic load rating		Static moment rating				Weight		
	Width		Height	Pitch	Mounting bolt hole	Dynamic	Static	M _P (KN·m)		M _V (KN·m)		M _R KN·m	Carriage Kg	Rail Kg/m
	W1	W2						Single Carriage	Double Carriages	Single Carriage	Double Carriages			
LG15 ST	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
LG15 T	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
LG15 LT	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
LG20 ST	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
LG20 T	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
LG25 ST	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
LG25 T	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
LG25 V	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
LG25 LV	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
LG30 T	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
LG30 LT	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
LG35 T	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
LG35 LT	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
LG45 T	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
LG45 LT	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
LG55 T	53	23.5	44	120	23×20×16	130	184	2.08	12.35	2.08	12.35	5.12	5.20	15.08
LG55 LT	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 LG15 rail.

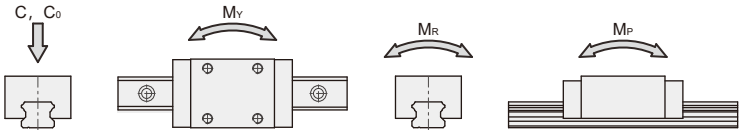
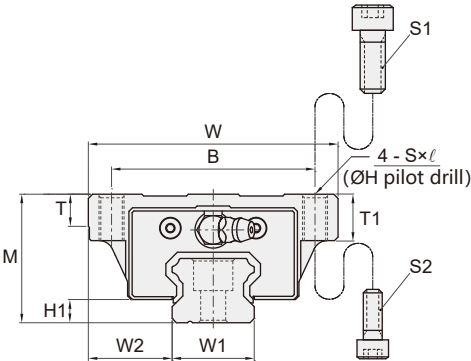
The codes of rail type are LG15R for M4 bolt, and LG15U for M3 bolt.

2.Rail mounting hloes for M6 bolt (11×9×7) and M8 bolt (14×12×9) are available for LG30 rail.

The codes of rail type are LG30R for M8 bolt, and LG30U for M6 bolt.

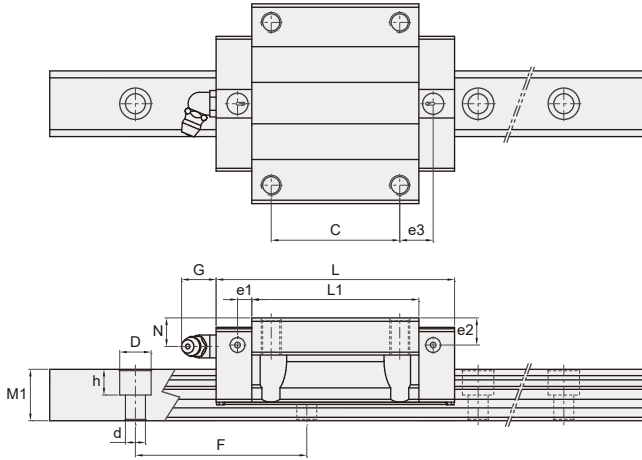
Dimensions of LG...TC

Model No.	Bolt Size		Pilot drill
	S1	S2	
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



Unit (mm)																
Model No.	External dimension			Carriage dimension												
	Height	Width	Length	B	C	Mounting hole S×ℓ	L1	T	T1	H1	N	e1	e2	e3	G	Grease nipple
	M	W	L													
LG15 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
LG20 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
LG25 TC	33	73	83.8	60	35	M8×10	58.8	6	10	6	7	5	9.5	11.8	12	M6×0.75
LG30 TC	42	90	98	72	40	M10×15	69.8	12	15.2	8	8	6	8	14	12	M6×0.75
LG35 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

Dimensions of LG···TC



Unit (mm)

Model No.	Rail dimension					Basic load rating		Static moment rating				Weight		
	Width		Height	Pitch	Mounting bolt hole	Dynamic	Static	M _P (KN·m)		M _V (KN·m)		M _R (KN·m)	Carriage	Rail
	W1		W2	M1	F	D×h×d	C KN	C ₀ KN	Single Carriage	Double Carriages	Single Carriage		Double Carriages	Kg
LG15 TC	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
LG20 TC	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
LG25 TC	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
LG30 TC	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
LG35 TC	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

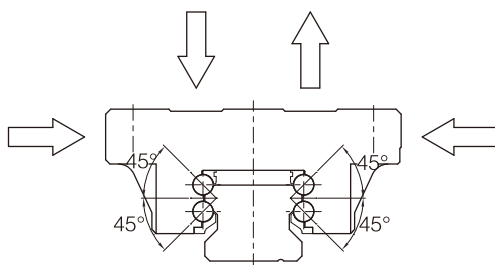
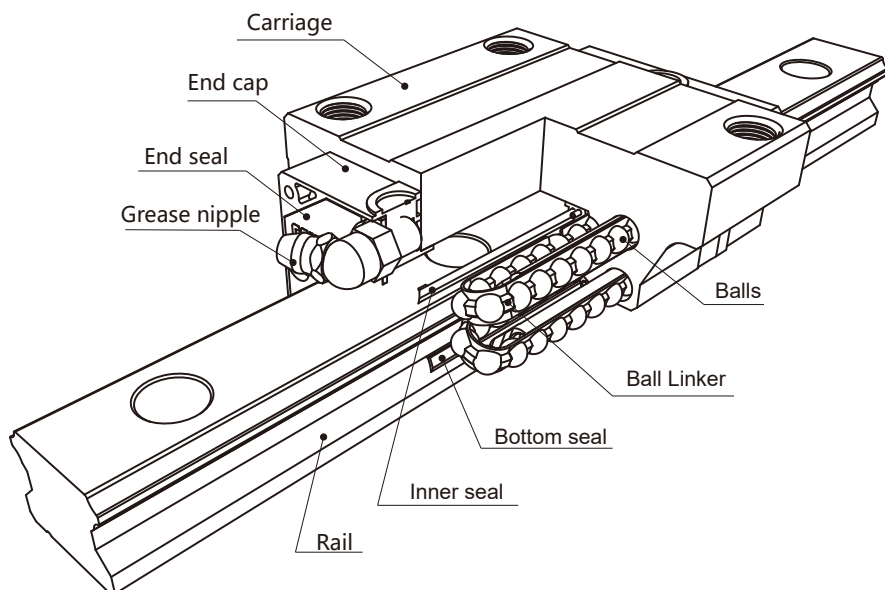
*1.Rail mounting hloes for M3 bolt (6×4.5×3.5) and M4 bolt (7.5×5.3×4.5) are available for LG15 rail.

The codes of rail type are LG15R for M4 bolt, and LG15U for M3 bolt.

2.Rail mounting hloes for M6 bolt (11×9×7) and M8 bolt (14×12×9) are available for LG30 rail.

The codes of rail type are LG30R for M8 bolt, and LG30U for M6 bolt.

LGQ 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

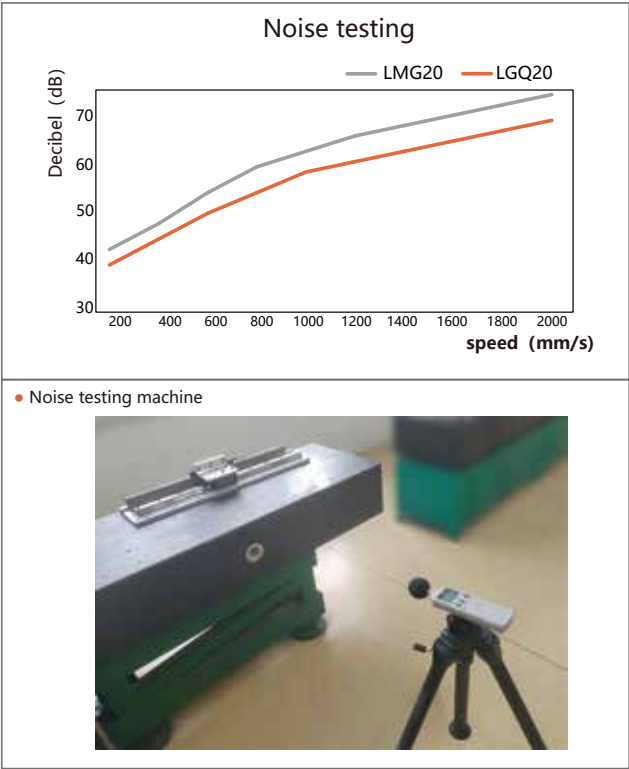
Semiconductor Manufacturing Equipment

Other (Injection Molding Machine ...)

Characteristics

The LGQ series uses a Ball Linker to eliminate the sharp sound (high audio sound) caused by the collision between the balls. Through experimental measurements, it has been found that under different speed conditions, the overall sound of the LGQ series is effectively reduced by 5-7 decibels compared to the LG series.

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



Specifications

(1) Non-Interchangeable type

	LGQ	20	C	2	SS	P1		+R	1000	-20	/20	P		II
Series: LGQ														
Size: 15, 20, 25														
Carriage type														
(1) Heavy load														
C: Flange type, mounting either from top or bottom														
H: Square high type														
T: Square compact type														
(2) Ultra heavy load														
LC: Flange type, mounting either from top or bottom														
LH: Square high type														
(3) Medium load														
ST: Square compact type														
Number of carriages per rail: 1, 2, 3 ...														
Dust protection option: No symbol, UU, SS, VV, ZZ, DD, KK														
Preload: Z0 (Light preload) , Z1 (Medium preload) , Z2 (Heavy preload)														
Code of special carriage: A, B ... (Standard rail is no symbol)														
Rail type: R, U* (Counter-bore type) , T (Tapped hole type)														
Rail length (mm)														
Rail hole pitch from start side														
Rail hole pitch to the end side														
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 LGQ15, detail information please see the specification table for the corresponding model number.

Specifications

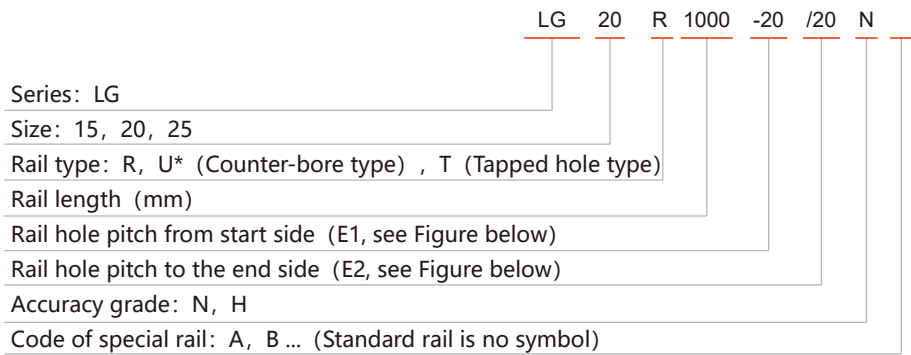
(2) Interchangeable type

• Code of Carriage

	LGQ	20	C	SS	P0	N
Series: LGQ						
Size: 15, 20, 25						
Carriage type						
(1) Heavy load						
C: Flange type, mounting either from top or bottom						
H: Square high type						
T: Square compact type						
(2) Ultra heavy load						
LC: Flange type, mounting either from top or bottom						
LH: Square high type						
(3) Medium load						
ST: Square compact type						
Dust protection option: No symbol, UU, SS, VV						
Preload: Z0 (Light preload)						
Accuracy grade: N, H						
Code of special carriage: A, B ... (Standard carriage is no symbol)						

Specifications

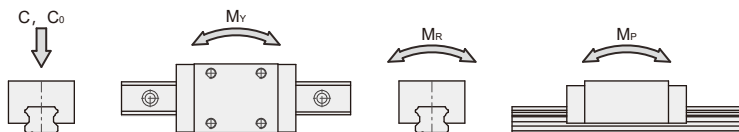
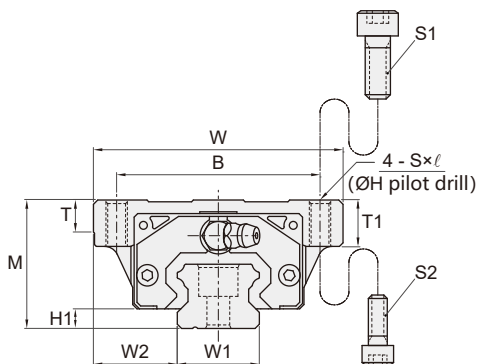
● Code of Rail



*U type rail is only applicable for LG15, detail information please see the specification table for the corresponding model number.

Dimensions of LGQ...C / LC

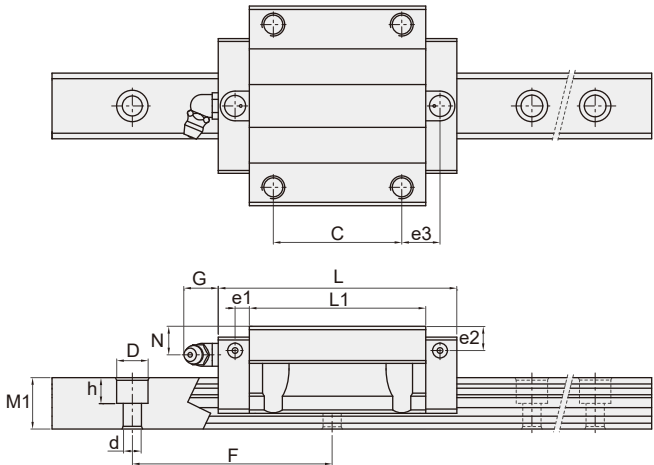
Model No.	Bolt Size		Pilot drill
	S1	S2	H
LGQ15	M5	-	-
LGQ20	M6	M5	5.3
LGQ25	M8	M6	6.9



Unit (mm)

Model No.	External dimension			Carriage dimension													Grease nipple
	Height	Width	Length	B	C	Mounting hole S×ℓ	L1	T	T1	H1	N	e1	e2	e3	G		
	M	W	L														
LGQ15 C	24	47	61.2	38	30	M5×8	43.8	5.5	8	4	5	3.3	4	10.9	5	M4×0.7	
LGQ20 C	30	63	76.1	53	40	M6×10	53.7	7	10.2	4.6	8.5	4.5	7	13.4	12	M6×0.75	
LGQ20 LC	30	63	91.1	53	40	M6×10	68.5	7	10.2	4.6	8.5	4.5	7	18.8	12	M6×0.75	
LGQ25 C	36	70	84.7	57	45	M8×13	62.7	9	13	5.5	10	5	9.5	13.9	12	M6×0.75	
LGQ25 LC	36	70	104.2	57	45	M8×13	83	9	13	5.5	10	5	9.5	23.7	12	M6×0.75	

Dimensions of LGQ...C / LC

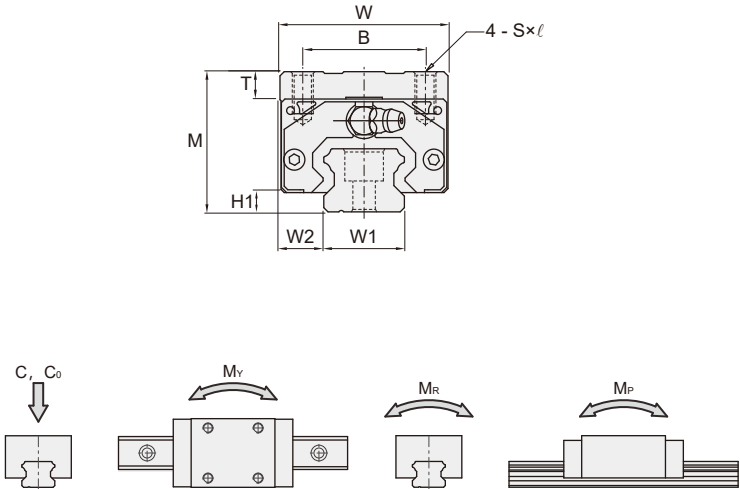


Unit (mm)

Model No.	Rail dimension					Basic load rating		Static moment rating				Weight		
	Width		Height	Pitch	Mounting bolt hole	Dynamic	Static	M _P (KN·m)		M _V (KN·m)		M _R KN·m	Carriage Kg	Rail Kg/m
	W1	W2	M1	F	D×h×d	C KN	C ₀ KN	Single Carriage	Double Carriages	Single Carriage	Double Carriages			
LGQ15 C	15	16	13	60	7.5×5.3×4.5*	11.8	18.9	0.13	0.76	0.13	0.76	0.15	0.18	1.29
LGQ20 C	20	21.5	15	60	9.5×8.5×6	20	32	0.30	1.68	0.30	1.68	0.33	0.40	1.92
LGQ20 LC	20	21.5	15	60	9.5×8.5×6	23.2	39.3	0.44	2.36	0.44	2.36	0.41	0.51	1.92
LGQ25 C	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
LGQ25 LC	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

*1.Rail mounting hloes for M3 bolt (6×4.5×3.5) and M4 bolt (7.5×5.3×4.5) are available for LG15 rail.
The codes of rail type are LG15R for M4 bolt, and LMG15U for M3 bolt.

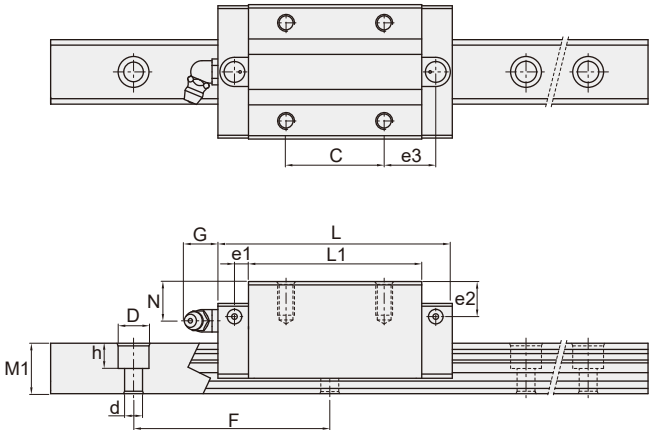
Dimensions of LGQ...H / LH



Unit (mm)

Model No.	External dimension			Carriage dimension											
	Height	Width	Length	B	C	Mounting hole S×ℓ	L1	T	H1	N	e1	e2	e3	G	Grease nipple
	M	W	L												
LGQ15 H	28	34	61.2	26	26	M4×7	43.8	6	4	9	3.3	8	12.9	5	M4×0.7
LGQ20 H	30	44	76.1	32	36	M5×8	53.7	6	4.6	8.5	4.5	7	13.4	12	M6×0.75
LGQ20 LH	30	44	91.1	32	50	M5×8	68.5	6	4.6	8.5	4.5	7	13.8	12	M6×0.75
LGQ25 H	40	48	84.7	35	35	M6×12	62.7	8	5.5	14	5	13.5	18.9	12	M6×0.75
LGQ25 LH	40	48	104.2	35	50	M6×12	83	8	5.5	14	5	13.5	21.5	12	M6×0.75

Dimensions of LGQ...H/ LH

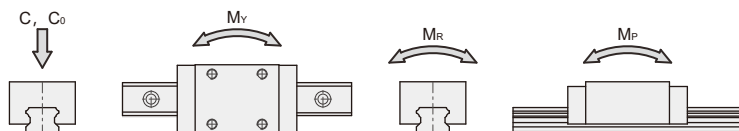
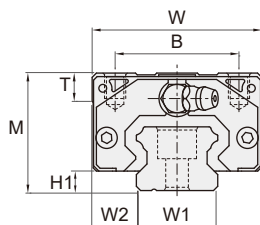


Unit (mm)

Model No.	Rail dimension					Basic load rating		Static moment rating						Weight	
	Width		Height	Pitch	Mounting bolt hole	Dynamic	Static	M _x (KN·m)		M _y (KN·m)		M _r KN·m	Carriage Kg	Rail Kg/m	
	W1	W2	M1	F	D×h×d	C KN	C ₀ KN	Single Carriage	Double Carriages	Single Carriage	Double Carriages				
LGQ15 H	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	0.18	1.29	
LGQ20 H	20	12	15	60	9.5×8.5×6	20	32	0.30	1.68	0.30	1.68	0.33	0.31	1.92	
LGQ20 LH	20	12	15	60	9.5×8.5×6	23.2	39.3	0.44	2.36	0.44	2.36	0.41	0.39	1.92	
LGQ25 H	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	
LGQ25 LH	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	

*1.Rail mounting hloes for M3 bolt (6×4.5×3.5) and M4 bolt (7.5×5.3×4.5) are available for LG15 rail.
The codes of rail type are LG15R for M4 bolt, and LG15U for M3 bolt.

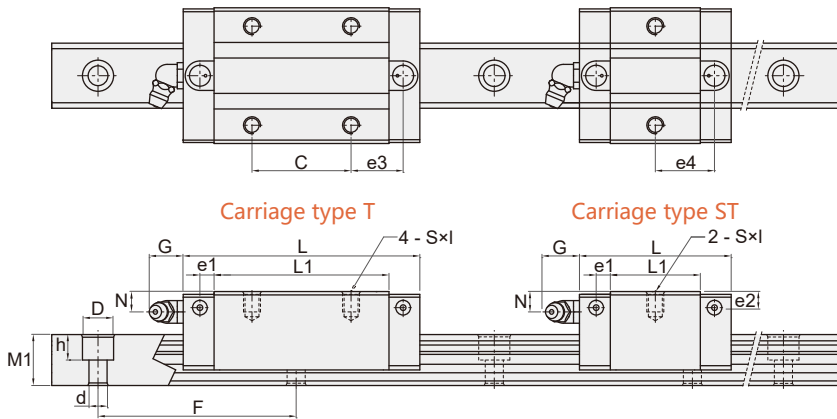
Dimensions of LGQ...ST / T



Unit (mm)

Model No.	External dimension			Carriage dimension												
	Height	Width	Length	B	C	Mounting hole S×ℓ	L1	T	H1	N	e1	e2	e3	e4	G	Grease nipple
	M	W	L													
LGQ15 T	24	34	61.2	26	26	M4×5	43.8	6	4	5	3.3	4	12.9	-	5	M4×0.7
LGQ20 ST	28	42	50.9	32	-	M5×6	28.3	6	4.6	6.5	4.5	5	-	18.7	12	M6×0.75
LGQ20 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
LGQ25 T	33	48	84.7	35	35	M6×7	62.7	6	5.5	7	5	6.5	18.9	-	12	M6×0.75

Dimensions of LGQ...ST / T



Unit (mm)

Model No.	Rail dimension					Basic load rating		Static moment rating				Weight		
	Width		Height	Pitch	Mounting bolt hole	Dynamic	Static	M_P (KN·m)		M_V (KN·m)		M_R KN·m	Carriage Kg	Rail Kg/m
	W1	W2	M1	F	D×h×d	C KN	C ₀ KN	Single Carriage	Double Carriages	Single Carriage	Double Carriages			
LGQ15 T	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
LGQ20 ST	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
LGQ20 T	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
LGQ25 T	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 LG15 rail.
The codes of rail type are LG15R for M4 bolt, and LG15U 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.

Oil lubrication

The recommended viscosity of oil is 30~150 cst, and the recommended feeding rate per hour. The installation other than horizontal may caused the oil unable to reach raceway area, so please specify the installed direction of your linear guideway applied.

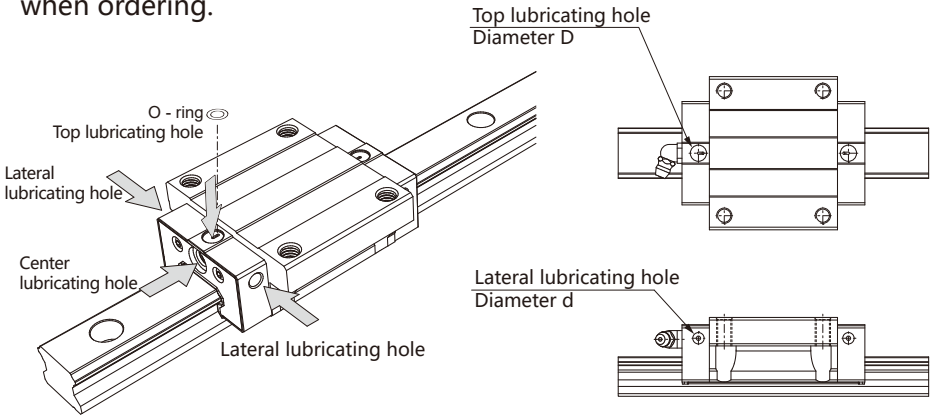
Note:

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

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)

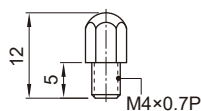
Model No.	Center Lubricating	Lateral Lubricating			Top Lubricating		
	Grease Nipple	Diameter ϕ	Grease Nipple	Drilling size	Diameter D	O - ring	Drilling size
LG/GQ 15	M4×0.7P	3.3	M4×0.7P	1.5	5.8	P2	1
LG/GQ 20	M6×0.75P	5.2	M6×0.75P	2	7.4	P4	
LG/GQ 25					10.2	P7	
LG 30							
LG 35	PT1/8				1.5		
LG 45							
LG 55							

Lubrication

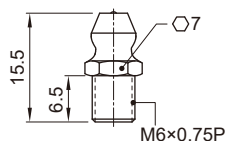
Grease nipples and oil piping joint

(1) Grease nipples

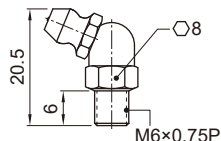
GS - M4



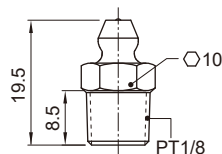
GS - M6



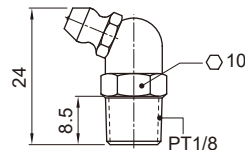
GC - M6



GS - 7



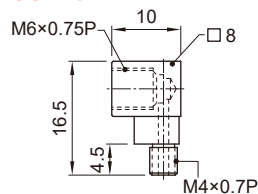
GC - 7



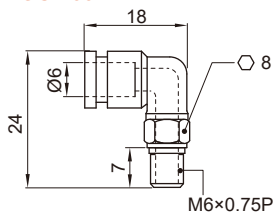
(2) Oil piping joint

● OC Type

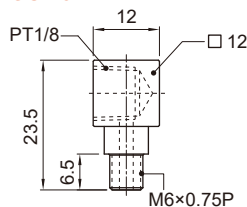
OC - 46



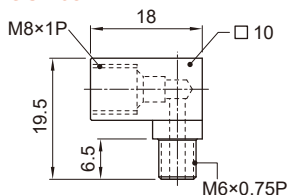
OC - 66



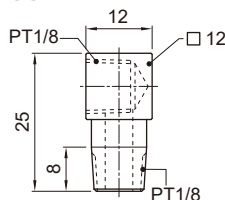
OC - 67



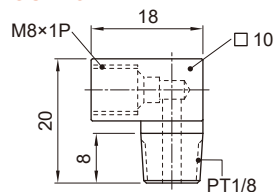
OC - 68



OC - 77



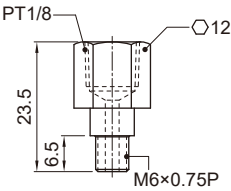
OC - 78



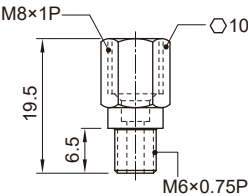
Lubrication

● OS Type

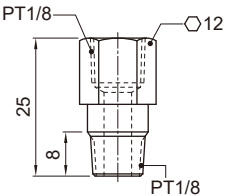
OS - 67



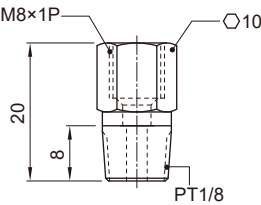
OS - 68



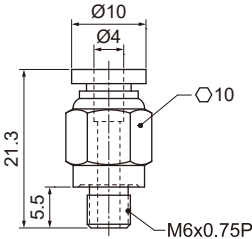
OS - 77



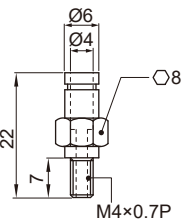
OS - 78



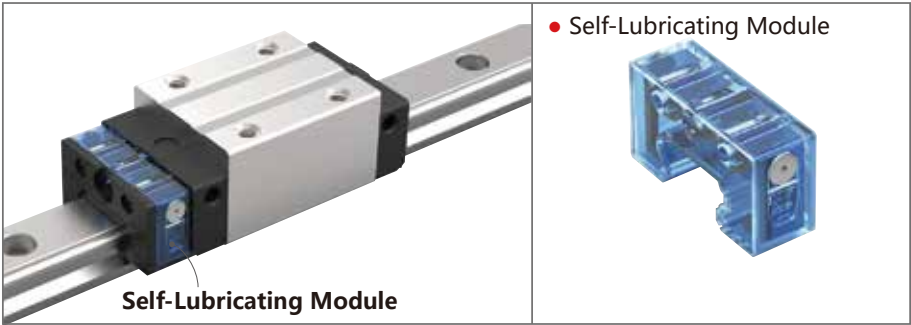
OS - 64 (Fast joint)



OS - 44 (Fast joint)



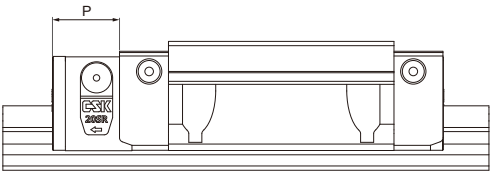
Model No.	Grease Nipples		Oil Piping Joint
	Standard	Option	Option
LG/GQ 15	GS - M4	-	OC - 46, OS - 44
LG/GQ 20	GC - M6	GS - M6	OC - 66, OC - 67, OC - 68, OS - 67, OS - 68, OS - 64
LG/GQ 25			
LG 30			
LG 35			
LG 45	GC - 7	GS - 7	OC - 77, OC - 78, OS - 77, OS - 78
LG 55			



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



Extended size of Carriage

Model No.	P
LG 15	12.6
LG 20	15.6
LG 25	15.6
LG 30	15.6
LGQ 15	15.6
LGQ 20	18.6
LGQ 25	18.6

Applications

Automation equipment
Electronic machinery

Industrial machinery

Other
E-mail info@simkawa.com

Specifications

(1) Non-Interchangeable type

LG/GQ20C2SSP1 **SR**R1000-20/20PII

Self-Lubricating Module: **SR**

(2) Interchangeable type

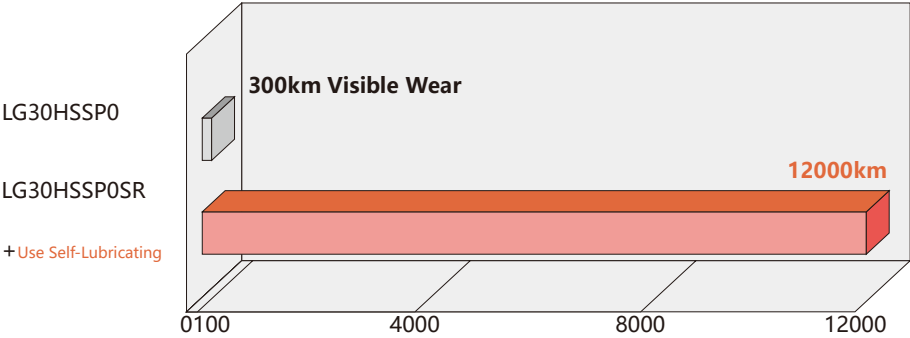
LG/GQ20CSSP0 **SR**N

Self-Lubricating Module: **SR**

Test conditions

Model No.	Test conditions
Size	LG30H2SSP0SR+R1200-40/40NII
Speed	60m/min
stroke	1000mm
Payload	300kgf

Test conditions



Model No.	Need to replenish lubricating oil (km)
LG/GQ 15 SR	4000
LG/GQ 20 SR	6000
LG/GQ 25 SR	9000
LG 30 SR	12000



Properties

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

Description

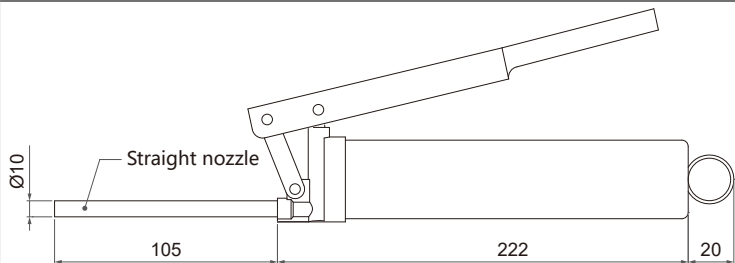
GS2 is an adhesive, lithium soap based lubricating grease designed for long-term application.
Suitable for high speed operation.

Advantages

- Suitable for life-time lubricatio
 - 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

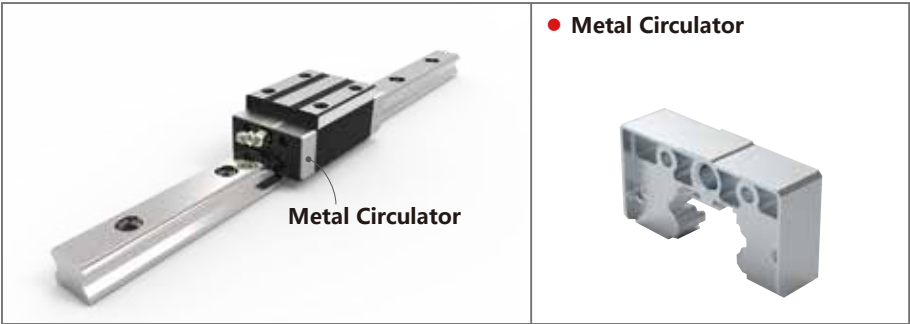
LG80 : Grease gun for GS2.

Model No.	
	
Dimension	
Specifications	1.Discharge pressure: 300kg/cm² 2.Weight (excluding the grease) : 0.5kg 3.Grease: 80g in a bellows tube

Linear Guideway - Options
Metal Circulator - M series



SIMKAWA



Specifications

	LG	20	C	M	2	SS	P1	+R	1000	-20	/20	P	II
Series: 15, 20, 25, 30, 35, 45													
Metal Circulator: M													

Characteristics

- Enhanced the strength of the Metal Circulator
- 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

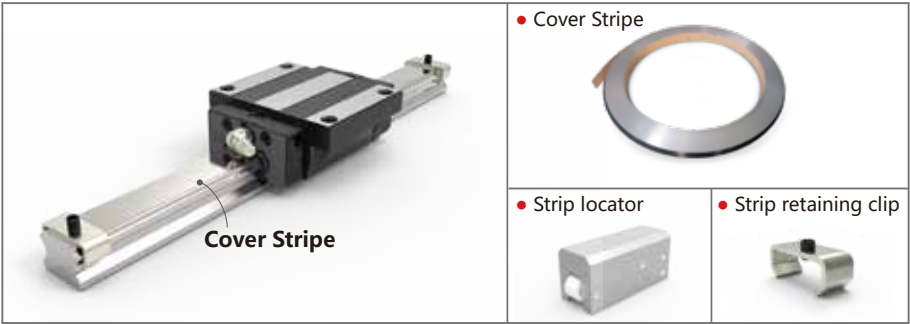
Applications

Heat treatment equipment
Automation equipment in high temperature environment
Equipment with low dust emission requirements
Other

Linear Guideway - Options
Cover Stripe of Rail - CS series



SIMKAWA



Advantages

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

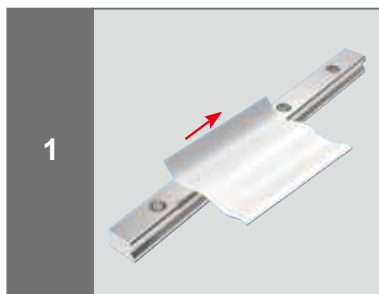
Specifications

	LG/GQ	20	CS	50
Series: LG/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

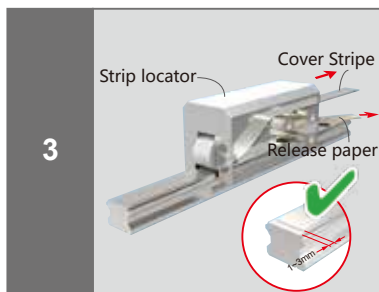


Clean rail surface before installation.



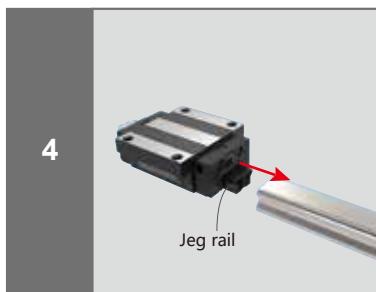
When cutting, make the cover stripe 1~3mm shorter than the guide rail.

⚠ The cover stripe cannot be bent.

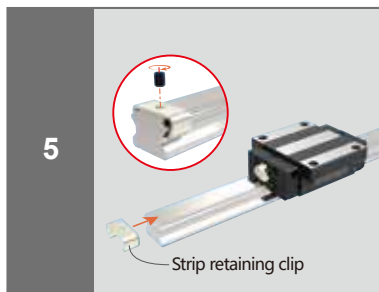


Use the strip locator to install the cover stripe.

⚠ The cover stripe cannot be bent.



Use Jeg rail mounting.



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



Complete

Linear Guideway - Surface Treatment

SIMKAWA

Industrial-grade black chrome coating 	Manganese phosphate coating 	Primary Chrome Coating 
---	---	--

Advantages

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

Applications

- Chemical industry • Automation • Experimental environment
- Humid environment

Specifications

LG/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.

SIMKAWA

Primary Chrome Coating



Salt-water spray
resistance 24h



Salt-water spray
resistance 72h



Industrial-grade
black chrome coating



Salt-water spray
resistance 24h



Salt-water spray
resistance 72h



Manganese phosphate
coating



Salt-water spray
resistance 24h



Salt-water spray
resistance 72h

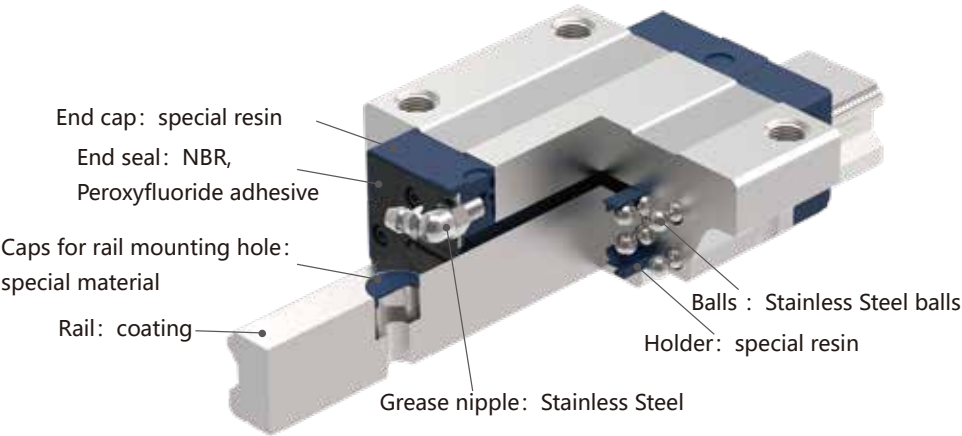


*Industrial grade low-temperature black chromium surface treatment, commonly known as cold electroplating.

Linear Guideway - Options
Anti electrolyte Corrosion



SIMKAWA



Specifications

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

Size: 15, 20, 25, 30

Anti electrolyte Corrosion: E

Linear Guideway - Options

Anti electrolyte Corrosion - E series ■ ■ ■

SIMKAWA

Characteristics

- For the lithium battery industry, this product does not contain copper, zinc, or nickel elements.
- Plastic accessories are made of special materials that can resist the corrosiveness of battery electrolytes.
- The lubricating oil nozzle is made of stainless steel material to prevent the generation of hazardous elements during the battery manufacturing process.
- Replacing steel balls with stainless steel balls enhances the corrosion resistance of their battery electrolyte.

Test conditions

	Standard Part	Anti Corrosion Part
Before testing		
Battery electrolyte immersion After 24 hours		

Miniature Linear Guideway

LMN/NW series



Characteristics

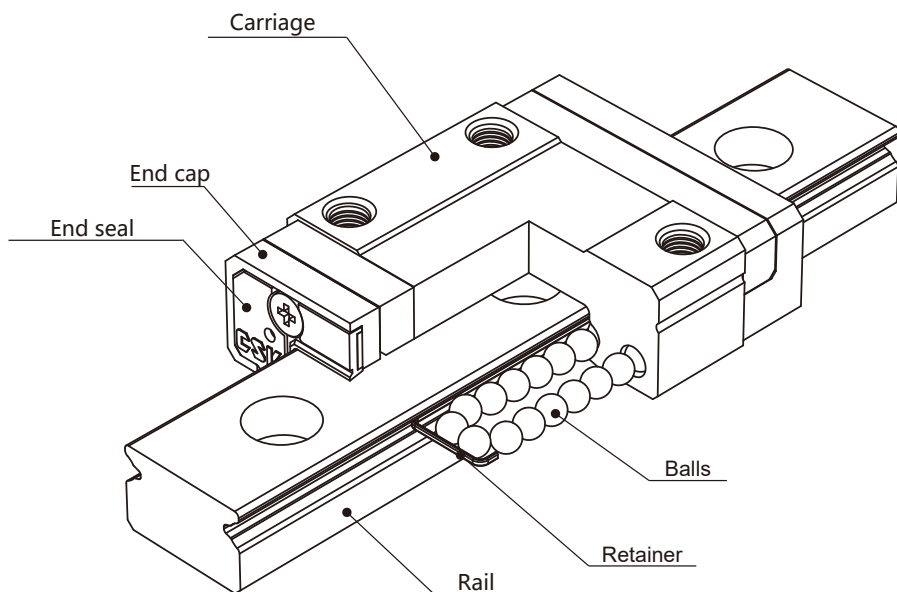
LMN/LMNW The linear guide rail adopts two rows of steel balls and a Gothic four point contact design, which can bear loads in all directions, making it highly efficient. Characteristics such as rigidity and high precision. Micro linear guide rails are suitable for spaces or parts that require small volume 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

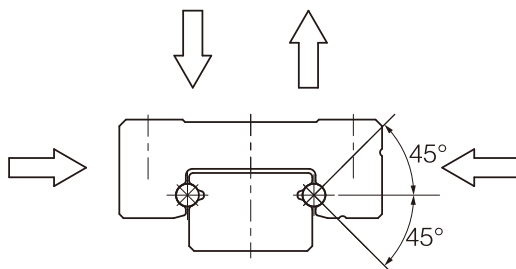
Applications

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

LMN

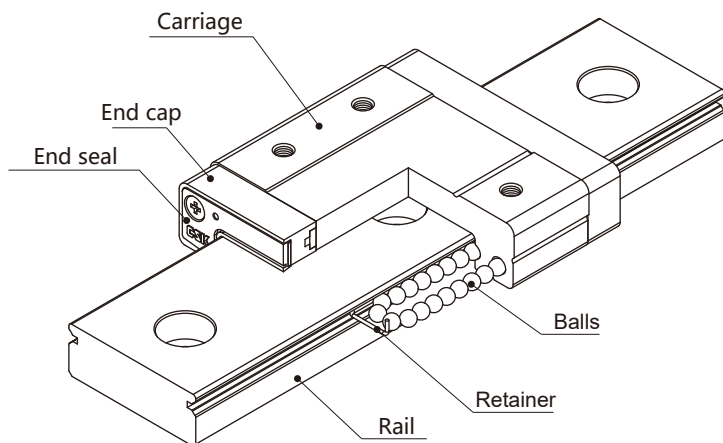


LMN5/7/9/12/15-T/LT

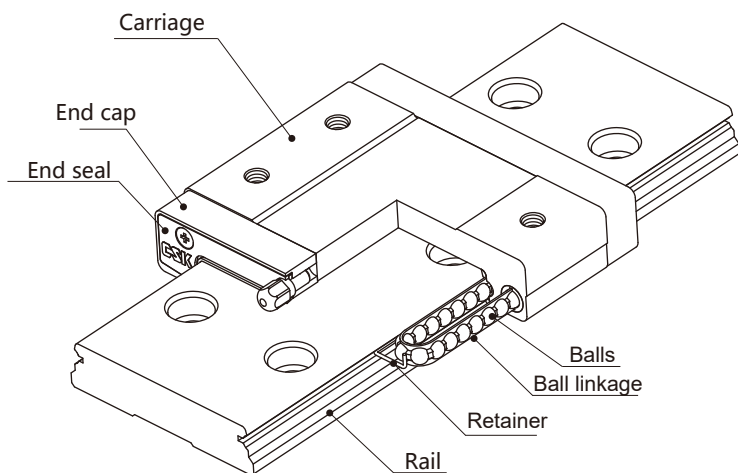


Note: For reference only.

LMNW



LMNW7/9/12-T/LT



LMNW15-T/LT

Specifications

(1) Non-Interchangeable type

LMN 5 T 2 UU P0 +R 100 -5 /5 N M II

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

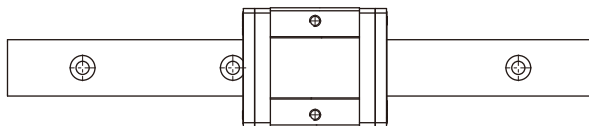
Material quality: no symbol, M (stainless steel)

Code of special rail: A, B ... (Standard rail is no symbol)

Number of rails per axis: No symbol, II, III, IV ...

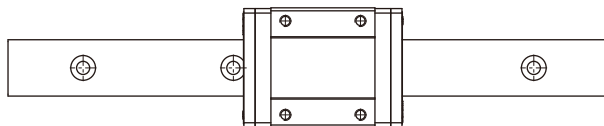
Specifications

Square compact type



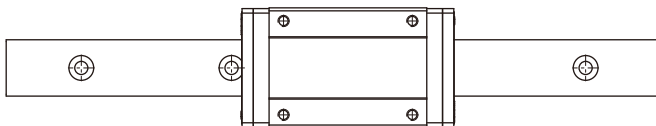
LMN/LMNW ... ST

Heavy load



LMN/LMNW ... T

Ultra heavy load



LMN/LMNW ... LT

Specifications

(2) Interchangeable type

- Code of Carriage

	LMN	5	T	UU	P0	N	M
Series: LMN/LMNW							
Size: 5, 7, 9, 12, 15							
Carriage type							
T: Heavy load							
LT: Ultra heavy load							
Dust protection option: UU							
Preload: P0 (Light preload)							
Accuracy grade: N, H							
Material quality: M (stainless steel)							
Code of special carriage: A, B ... (Standard rail is no symbol)							

- Code of Rail

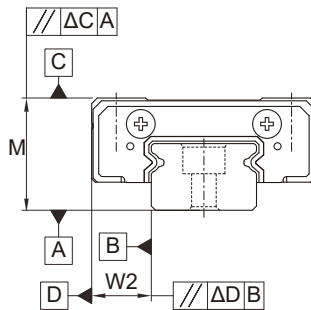
	LMN	5	R	100	-5	/5	N	M
Series: LMN/LMNW								
Size: 5, 7, 9, 12, 15								
Rail type: R								
Rail length (mm)								
Rail hole pitch from start side (E1, see Figure below)								
Rail hole pitch to the end side (E2, see Figure below)								
Accuracy grade: N, H								
Material quality: no symbol, M (stainless steel)								
Code of special rail: A, B ... (Standard rail is no symbol)								

Preload Grade

Preload grade	Code	Preload (μm)	Operating Condition
Clearance	PC	+3 ~ +8 (Preload 0)	- Starting frictional resistance is required. - Installation errors to be absorbed.
Light preload	P0	+0 ~ +2 (Preload 0)	- Minute vibration is applied. - Accurate motion is required. - Micromoment is applied.
Medium preload	P1	Preload 0.02C	- 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).

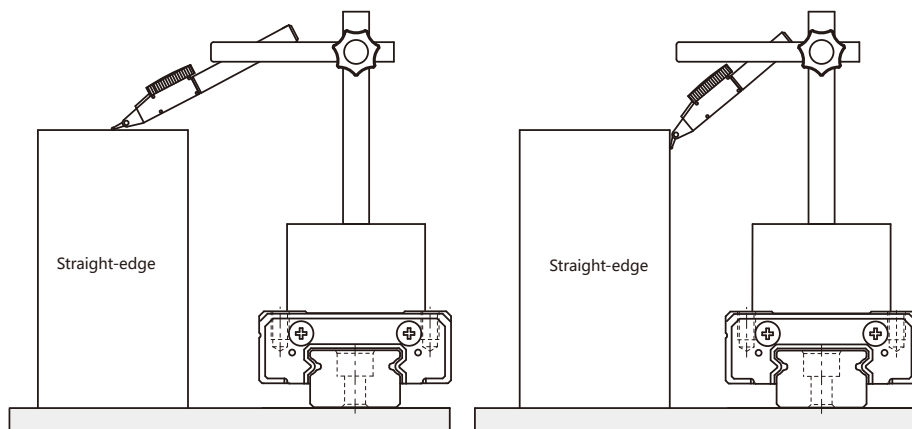


Unit (mm)

Model No.	Item	Accuracy Grade		
		Normal N	High H	Precision P
LMN 5 LMN/NW 7 LMN/NW 9 LMN/NW 12 LMN/NW 15	Tolerance for height M	±0.04	±0.02	±0.01
	Height difference (ΔM)	0.03	0.015	0.007
	Tolerance for distance W2	±0.04	±0.025	±0.015
	Difference in distance W2 (ΔW2)	0.03	0.02	0.01
	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.

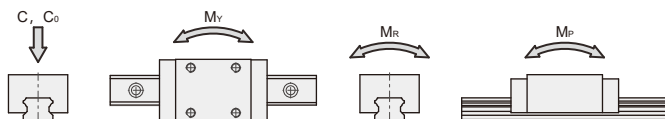
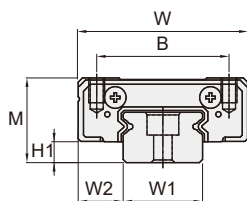


Measurement of running parallelism

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

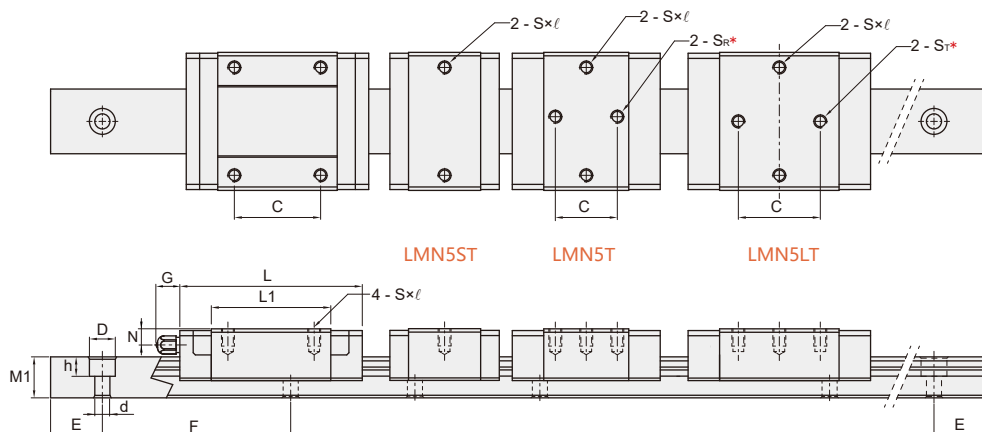
Dimensions of LMN...T / LT



Unit (mm)

Model No.	External dimension			Carriage dimension					Size (mm)	
	Height	Width	Length	B	C	Mounting hole S×ℓ	L1	H1	G	N
	M	W	L							
LMN5 ST	6	12	11.8	8	-	M2×1.5	6.7	1.2	-	-
LMN5 T	6	12	16.3	8	6	M2×1.5	9.7	1.2	-	-
LMN5 LT	6	12	19.3	8	7	M2×1.5	12.7	1.2	-	-
LMN7 T	8	17	23.4	12	8	M2×2.5	13.7	1.5	-	-
LMN7 LT	8	17	29.7	12	13	M2×2.5	20	1.5	-	-
LMN9 ST	10	20	21.9	15	-	M3×3.5	10.6	2	-	-
LMN9 T	10	20	29.9	15	10	M3×3.5	18.6	2	-	-
LMN9 LT	10	20	41	15	16	M3×3.5	29.7	2	-	-
LMN12T	13	27	34.4	20	15	M3×3.5	21.2	3	-	-
LMN12 LT	13	27	46.3	20	20	M3×3.5	33.1	3	-	-
LMN15T	16	32	42.3	25	20	M3×4	27.7	4	5.6	3.4
LMN15 LT	16	32	55.8	25	25	M3×4	41.2	4	5.6	3.4

Dimensions of LMN...T / LT



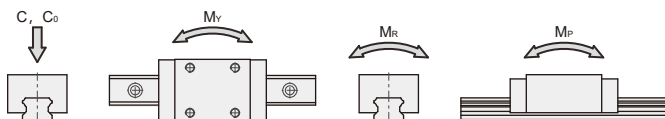
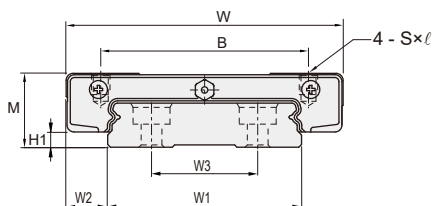
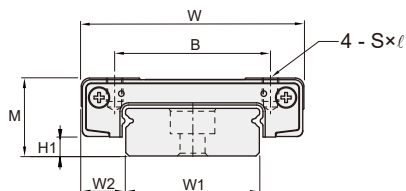
Unit (mm)

Model No.	Rail dimension						Basic load rating		Static moment rating			Weight	
	Width		Height	Pitch	End	Mounting bolt hole	Dynamic	Static	M _P N·m	M _V N·m	M _R N·m	Carriage g	Rail g/100mm
	W1	W2	M1	F	E	D×h×d	C KN	C ₀ KN					
LMN5 ST	5	3.5	3.6	15	5	3.6×0.8×2.4	0.38	0.5	0.6	0.6	0.8	2.5	13
LMN5 T	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	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	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	7	5	4.7	15	10	4.2×2.3×2.4	1.56	2.34	7	7	8.6	13	21
LMN9 ST	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	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	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	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	12	7.5	7.5	25	15	6×4.5×3.5	4.25	6.3	26.1	26.1	38	53	61
LMN15T	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	15	8.5	9.5	40	15	6×4.5×3.5	6.2	9.19	54.2	54.2	74.2	94	102

*S_T : M2.6 THRU.

*S_R : M2.0 THRU.

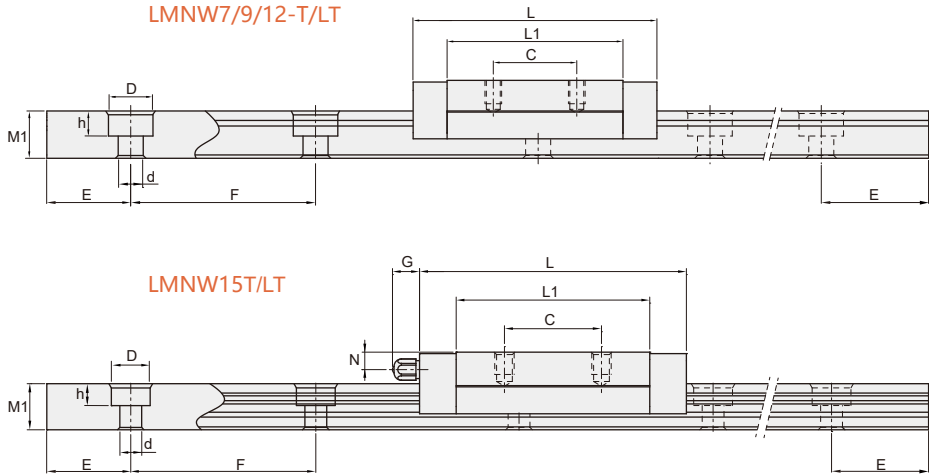
Dimensions of LMNW...T / LT



Unit (mm)

Model No.	External dimension			Carriage dimension						
	Height	Width	Length	B	C	Mounting hole S×ℓ	L1	H1	G	N
	M	W	L							
LMNW7 T	9	25	31.2	19	10	M3×3	21.5	2	-	-
LMNW7 LT	9	25	40.8	19	19	M3×3	31.1	2	-	-
LMNW9 T	12	30	38.5	21	12	M3×3	27.4	3	-	-
LMNW9 LT	12	30	50.4	23	24	M3×3	39.3	3	-	-
LMNW12T	14	40	43.8	28	15	M3×3.8	31.6	3.5	-	-
LMNW12 LT	14	40	58.1	28	28	M3×3.8	45.9	3.5	-	-
LMNW15T	16	60	55	45	20	M4×4.5	39.9	3.3	5.6	3.6
LMNW15 LT	16	60	72.6	45	35	M4×4.5	57.5	3.3	5.6	3.6

Dimensions of LMNW...T / LT



Unit (mm)

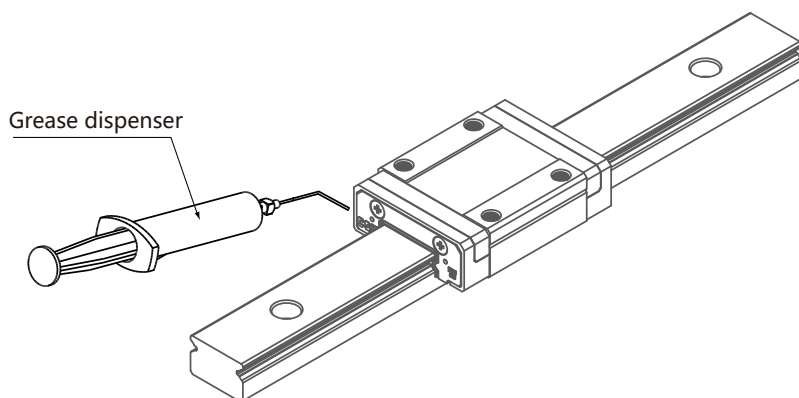
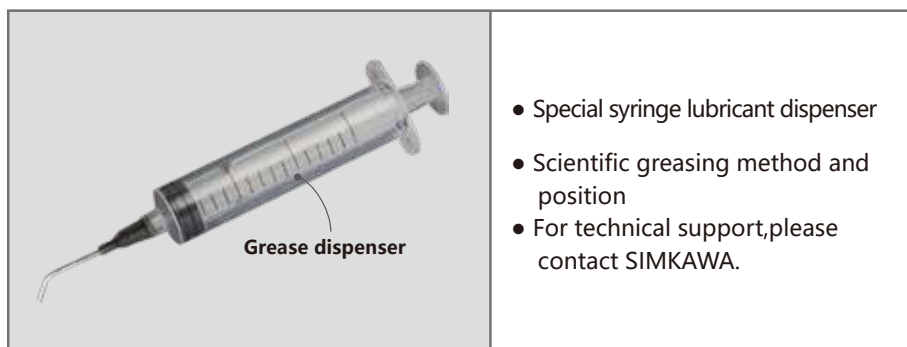
Model No.	Rail dimension							Basic load rating		Static moment rating			Weight	
	Width			Height	Pitch	End	Mounting bolt hole	Dynamic	Static	M _x N·m	M _y N·m	M _z N·m	Carriage g	Rail g/100mm
	W1	W2	W3	M1	F	E	D×h×d	C KN	C ₀ KN					
LMNW7 T	14	5.5	-	5.2	30	10	6×3.2×3.5	1.61	2.3	6.9	6.9	15.4	20	51
LMNW7 LT	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	18	6	-	7	30	10	6×4.5×3.5	2.52	3.7	15.3	15.3	33.4	40	91
LMNW9 LT	18	6	-	7	30	10	6×4.5×3.5	3.23	5.28	30.3	30.3	47.7	57	91
LMNW12T	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	24	8	-	8.5	40	15	8×4.5×4.5	5.27	8.55	53.9	53.9	110.8	103	149
LMNW15T	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	42	9	23	9.5	40	15	8×4.5×4.5	9.15	13.7	120.3	120.3	293.5	215	286

Lubrication

Lubrication position

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

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

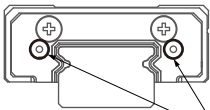


Lubrication

LMN12

LMNW9

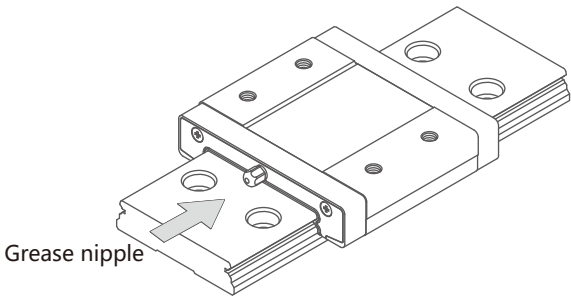
LMNW12



Grease injection into
lubrication hole

LMN15

LMNW15



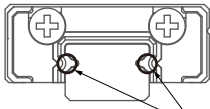
Grease nipple

LMN5

LMN7

LMN9

LMNW7



Grease injection into
the ball groove