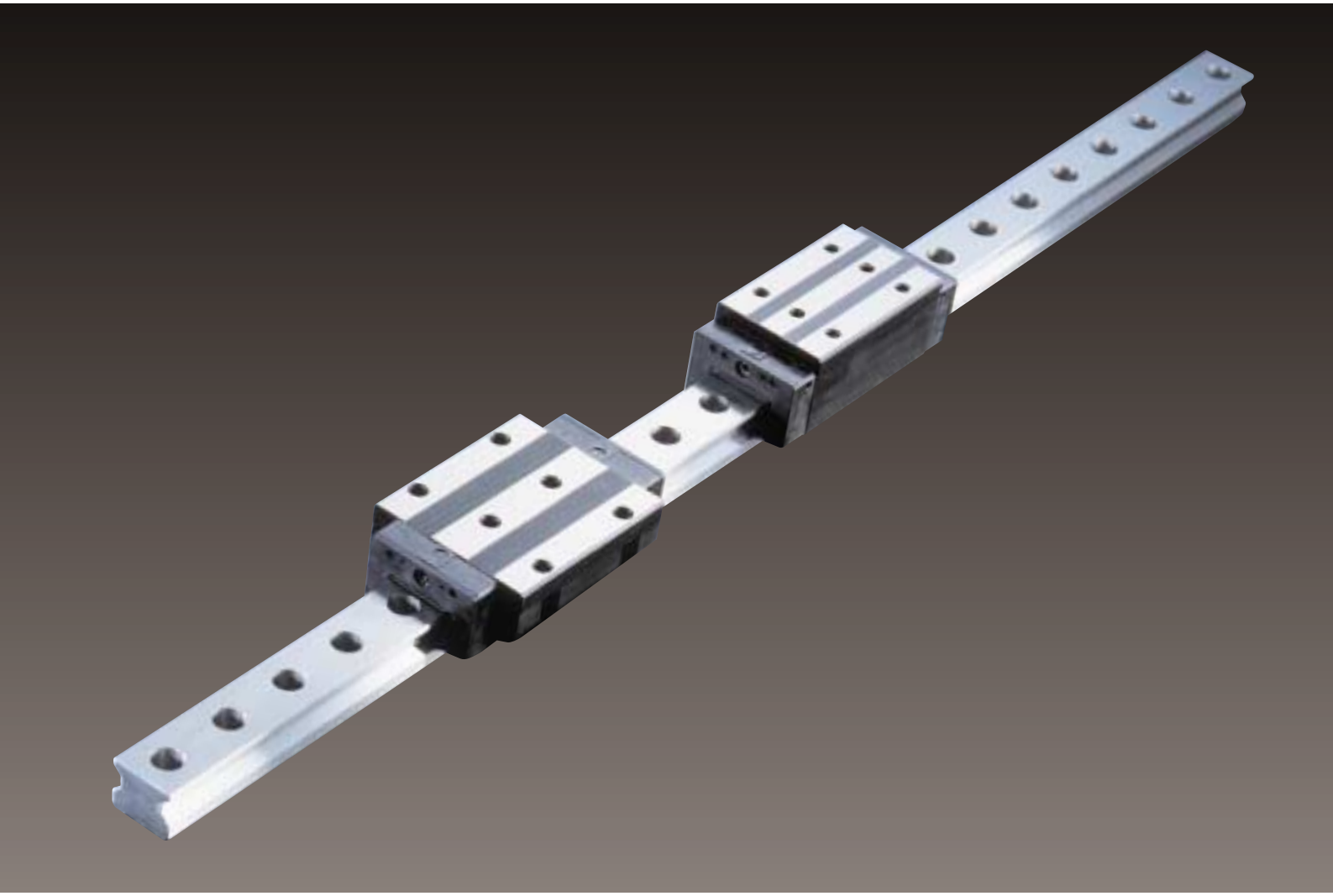
THK
The Mark of Linear Motion

Caged Roller

Advantages of Caged Roller Technology

Ultra-High Rigidity, Heavy Load
Low Friction
Global Standard Dimensions
(Mounting Compatibility)
Long-Term, Maintenance-Free Operation

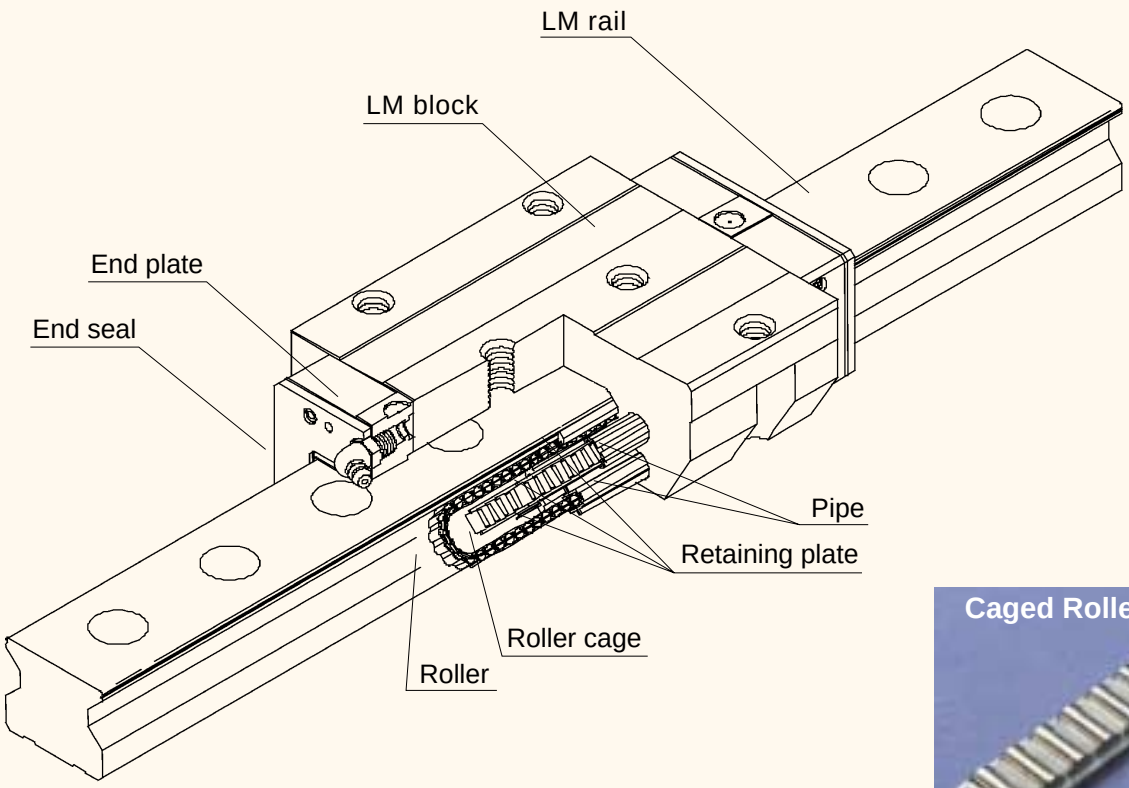
SRG

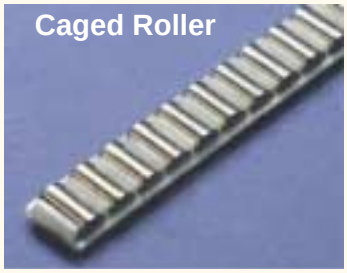


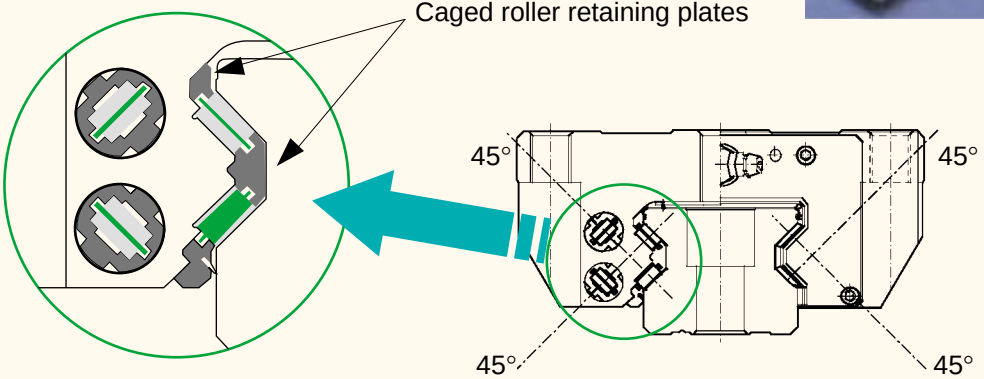
THK CO., LTD.
TOKYO, JAPAN

CATALOG No.270-3E

LM Guide with Caged Roller Technology SRG





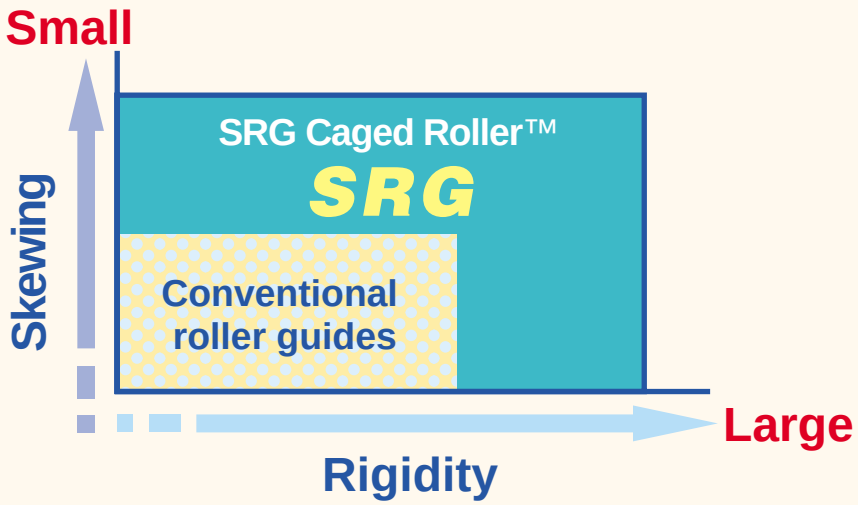


Enlarged view of circulating path Cross-sectional view

Figure 1 Structure of Type SRG

The ultra-high rigid LM Guide with Caged Roller™ technology for low-friction, smooth motion and long-term, maintenance-free operation.

Conventional Roller Guide *vs*. LM Guide with Caged Roller SRG



The roller cage prevents the tendency of skewing, while the use of rollers for the rolling elements allows for ultra-high rigidity. However, machining accuracy must be at the highest accuracy prior to installation.

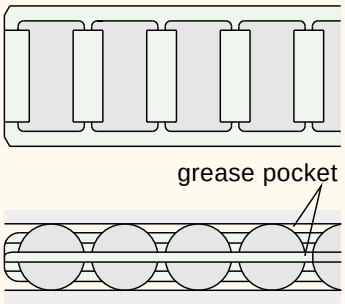
Features of SRG

Prevents roller skewing

The use of a roller cage allows the rollers to circulate while uniformly aligned, preventing skewing when entering block load area, and reducing variation in rolling resistance to obtain stable and smooth movement.

Long-Term, Maintenance-Free Operation

The use of a roller cage eliminates friction between rollers, and retains lubricant in the grease pockets between adjacent rollers, ensuring the required amount of lubricating oil is supplied to the curved contact surfaces of the spacers and rollers of the circulating path to realize long-term maintenance-free operation.



Ultra-High Rigidity

Ultra-high rigidity is achieved by using rollers having a low degree of elastic deformation for the rolling elements and an optimized roller diameter (øDa) and length (L). Also, each row of rollers is arranged at a 45°contact angle so that an equal load rating is applied in four directions (radial, reverse radial, and lateral directions).

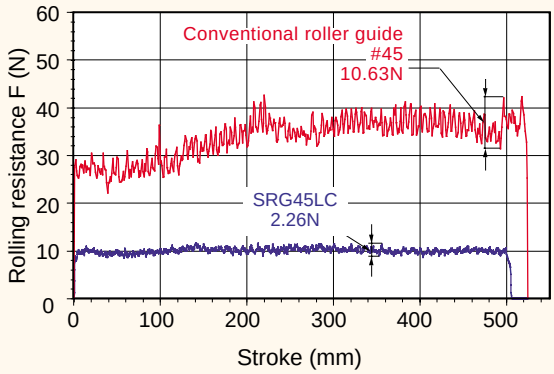
Global Standard Dimensions (Compatibility)

The dimensional design complies with the Type HSR developed by THK as the pioneer of linear motion systems and has become the global standard.

Performance (Test Data)

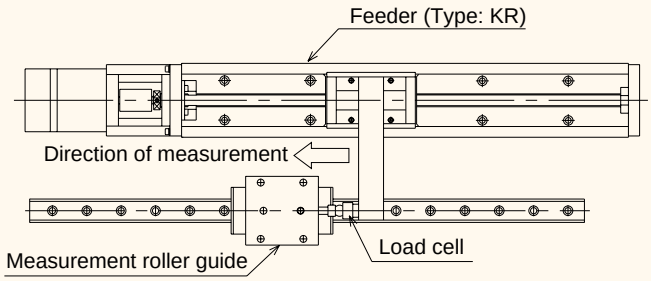
■ Sliding Properties Evaluation Data

Since the cage uniformly aligns the rollers while circulating, stable movement is obtained. Variations in rolling resistance are small resulting in light and smooth movement which prevents skewing.



Results of rolling resistance variation

Conditions
Feeding speed: 10mm/s
Load : Without load (1 block)



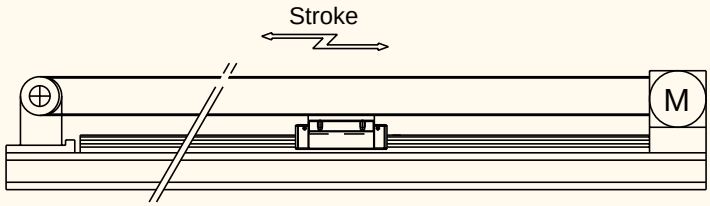
Rolling resistance measuring device

■ High-speed Durability Evaluation Data

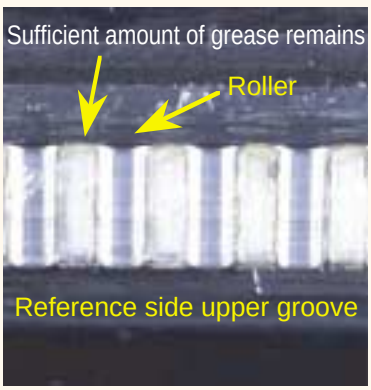
The use of a roller cage leads to high grease retention, and thus long-term maintenance-free operation.

Test sample : SRG45LCC0

Conditions : Pre-load : C0 clearance
Speed : 180 m/min
Acceleration : 1.5 G
Stroke : 2300 mm
Lubrication : Initial sealing of THK grease only



Grease is free of discoloration



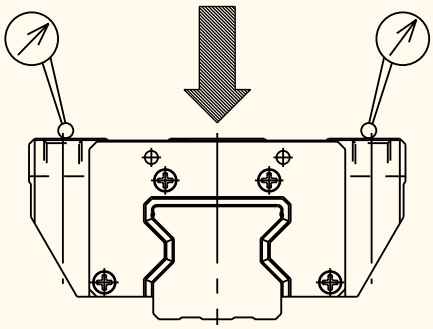
Test results
No abnormalities during running distance of 15,000 km.

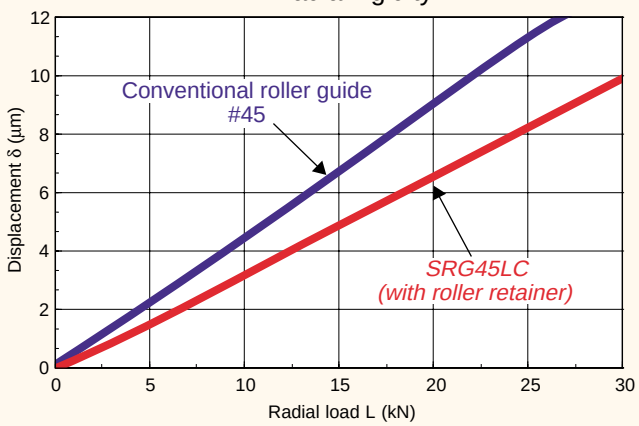
Rigidity Data

■ High Rigidity Evaluation Data

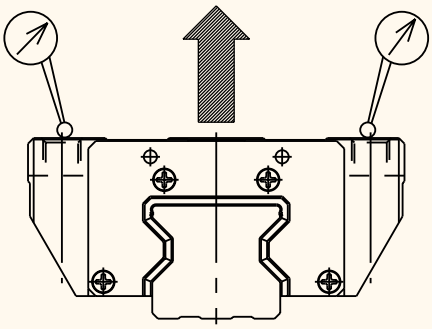
SRG : C0 preload
Conventional Roller Guide: C0 preload equivalent

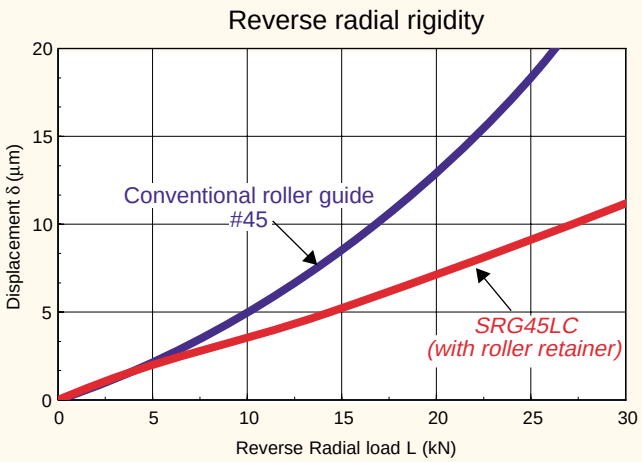
Radial rigidity



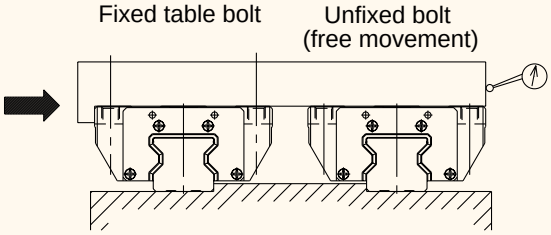


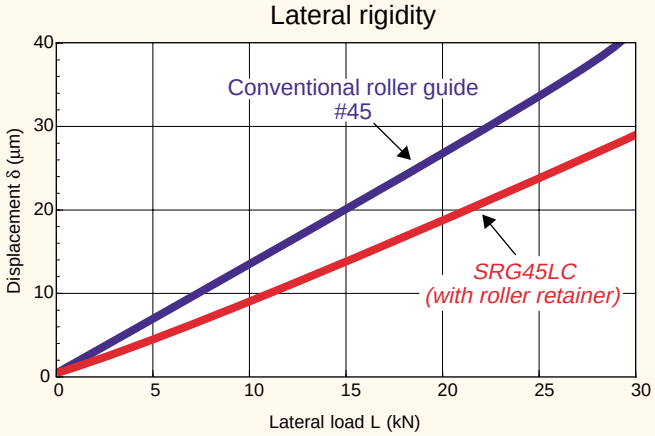
Reverse radial rigidity





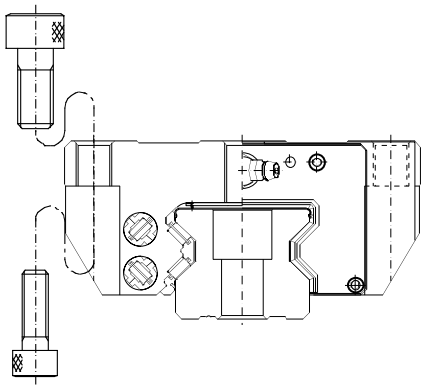
Lateral rigidity





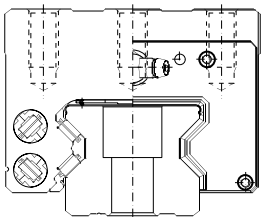
Types and features

SRG-C/LC



The flanges of the LM block are tapped, making this type suitable for build-up systems having easy assembly. In addition, since the inside of the tap can be used as a through hole for installation from the bottom, this can be used even when through holes for mounting bolts cannot be drilled in the table.

SRG-R/LR(LV)



The narrow block width and tapped mounting holes make this type suitable for build-up systems. Use where table space is limited due to width. Type LV and Type LC are the same height.

Option

The entry of foreign matter, dust and other contaminants into linear motion systems may lead to abnormal friction and damage to the rolling grooves, rollers and circulating section, resulting in a shorter service life. Therefore, it is necessary to take effective countermeasures in accordance with the environment of use. THK offers a wide range of accessories that provide support for using these systems in a variety of environments. Specify desired accessories at the time of ordering a system. Ordering accessories after purchasing a system requires the system to be returned.

Contamination protection system

1. Seals

End Seals

End seals are attached to both end faces of the LM block to prevent foreign matter and moisture adhereing to the surfaces of the LM rail from entering the LM block. In addition, end seals are also available as standard parts as means of preventing a loss of lubricant inside the LM block.

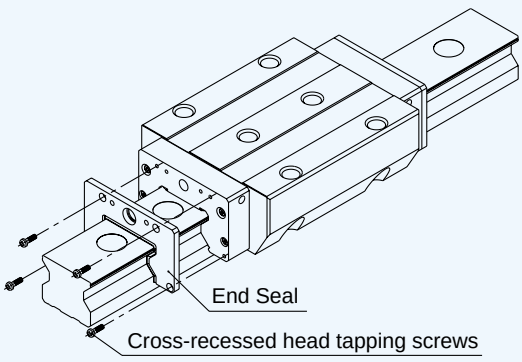


Figure 2

Side Seals

Side seals prevent foreign matter and moisture from entering through the bottom and sides of the LM block, while also being effective in preventing leakage of lubricant from the bottom of the LM block.

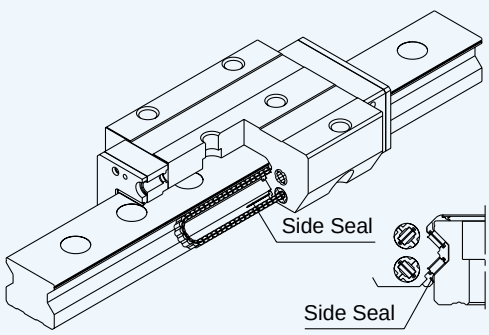


Figure 3

Double Seals

These optional seals are available for the purpose of enhancing protection. Foreign matter that by passes the first end seal is prevented from entering the LM block as a result of being trapped by the second end seal.

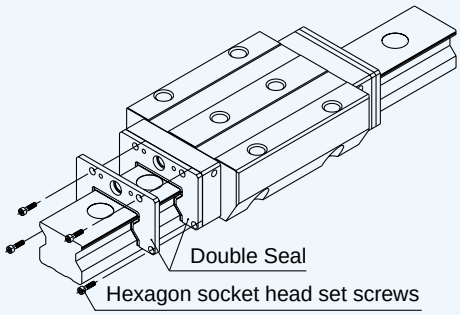


Figure 4

Inner Seals

These seals prevent tiny fragments of foreign matter and dust that were unable to be trapped by the end seals and have entered the LM block from further entering the ball rolling section, and are also effective in retaining lubricant in the ball rolling section.

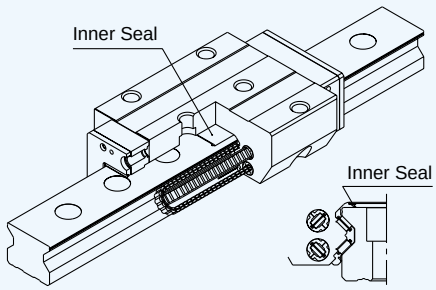


Figure 5

2. Scrapers

Metal Scrapers (Non-Contact)

These scrapers are used for the purpose of removing relatively large or hard particles of foreign matter such as chips, spatter and dust that have adhered to the LM rail.

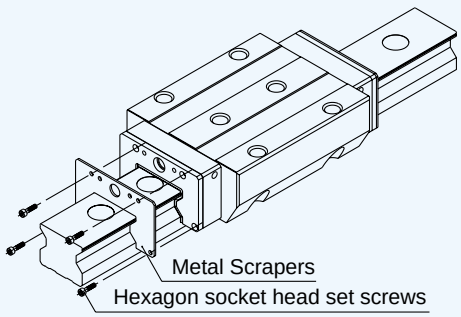


Figure 6

LaCS (Laminated contact scrapers)

Unlike a metal scraper, this contact scraper contacts the LM rail over a surface. The surface-to-surface contact protects the rail from microscopic foreign matter far more effectively than conventional metal scrapers can. The contact scraper is thus a highly effective anti-dust accessory.

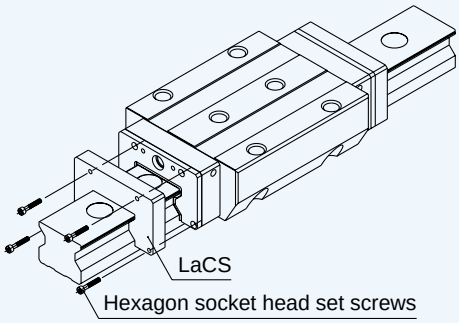


Figure 7

Symbols for contamination protection system

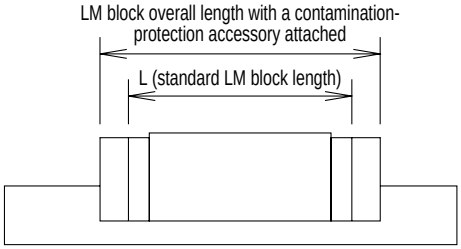
Where a contamination-protection accessory is required, specify the corresponding symbol shown in Table 7. Attaching a contamination-protection accessory to an LM block changes the block overall length depending on the block type (see Table 1).

Symbol	Protection system
UU	With end seal (on both ends)
SS	With end seals, side seals and inner seals
ZZ	With end seals, side seals and inner seals and metal scrapers
DD	With dobul seals, side seals and inner seals
KK	With dobul seals, side seals and inner seals and metal scrapers
ZZHH	With end seals, side seals and inner seals metal scrapers and LaCS
KKHH	With dobul seals, side seals inner seals metal scrapers and LaCS

Table 1. Type SRG: LM Block Overall Length with a Contamination-protection Accessory Attached

Unit: mm

Model No.		Without accessory	UU	SS	DD	ZZ	KK	ZZHH	KKHH
SRG 25	C/R	90.5	95.5	95.5	100.5	101.9	106.9	119.5	124.5
	LC/LR	110	115	115	120	121.4	126.4	139	144
SRG 30	C/R	104	111	111	118	117.4	124.4	135	142
	LC/LR	128	135	135	142	141.4	148.4	159	166
SRG 35	C/R	117.2	125	125	132.8	133.4	141.4	151	159
	LC/LR	147.2	155	155	162.8	163.4	171.2	181	188.8
SRG 45	C/R	145.8	155	155	164.2	164.2	173.4	185.5	194.5
	LC/LR	180.8	190	190	199.2	199.2	208.4	220.2	229.4
SRG 55	C/R	175.8	185	185	194.2	194.2	203.4	215.5	224.5
	LC/LR	225.8	235	235	244.2	244.2	253.4	265.2	274.4
SRG 65	LC/LV	291.8	303	303	314.2	314.2	325.4	338.6	349.8



Seal resistance

Regarding type SRG with "SS" seals (end seals and side seals), Table 2 shows the values of maximum seal resistance for one LM block.

Table 2 Seal resistance Unit: N

Model number	Resistance
SRG 25	19
SRG 30	24
SRG 35	30
SRG 45	30
SRG 55	35
SRG 65	40

Note: The resistance values show the maximum seal resistance generated by one LM block with sealed grease.

3. Plate Covers

Covering the mounting holes of the LM rail with a suitable stainless steel plate (SUS304) improves the performance of the end seals and prevents foreign matter and moisture from entering through the top of the LM rail.

Note:
- If a plate cover is to be fitted, it should be specified at the time of ordering, as it requires different shaped seals and the removal of the rail at the time of fitting. Also, a jig is required for removal and installation of the rail.
- If the rail length specification exceeds the maximum length manufactured, more than one rail and plate cover will be joined together. Ensure the joint is level.
  For details, please contact THK .

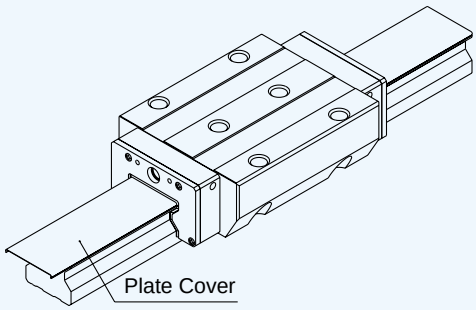


Figure 8

4. C cap for LM rail mounting hole

When chips or foreign material enter the LM rail mounting holes of the LM Guide, they may enter the LM block. Contaminants can be prevented from entering the LM block by covering those LM rail mounting holes with special caps and ensuring that the caps are flush with the top surface of the LM rail.
The special cap type C for LM rail mounting holes is made of a special synthetic resin with a high degree of oil-proofing and wear resistance for excellent durability. Special caps for hexagon socket head set screws M8-M16 are kept in stock as standard equipment. When it is necessary to order special caps, specify them using the nominal numbers in the dimension table.
To insert a special cap in a mounting hole, apply a flat metal piece to the cap, as shown in Figure 9, and then gently tap the metal until the cap becomes flush with the top of the LM rail.

Table 3 Main dimensions of C cap

Applicable No	C cap	Screw	Main dimensions (mm)	
			D	H
SRG25	C6	M6	11.4	2.7
SRG30	C8	M8	14.4	3.7
SRG35	C8	M8	14.4	3.7
SRG45	C12	M12	20.5	4.7
SRG55	C14	M14	23.5	5.7
SRG65	C16	M16	26.5	5.7

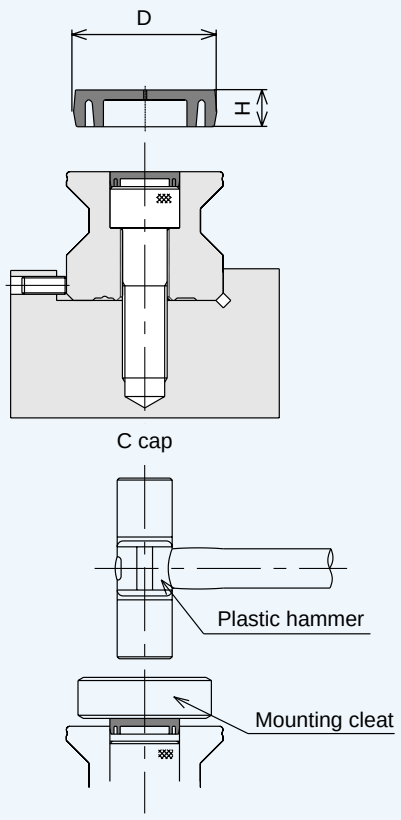
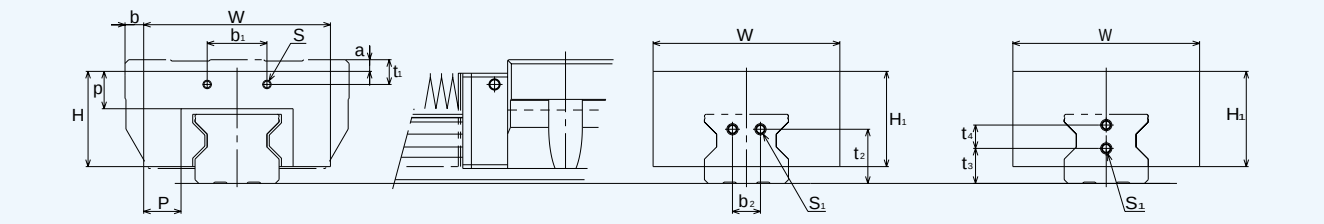


Figure 9

5. Bellows

Dimensions of type JSRG bellows for LM Guide type SRG are indicated below. Please specify the product according to the model numbers.



Model number	Main dimensions (mm)												Screw size	Mounting bolts	a		b		A	Applicable Model No.
							t1												(L max / L min)	
	W	H	H1	P	p	b1	C type	R type	b2	t2	t3	t4	S	S1	C type	R type	C type	R type		
JSRG25	78	38	38	23	18	27.6	3.9	7.9	–	–	10	8	M2	M3 × 6L	-6.5	-2.5	4	15	6	SRG25
JSRG30	84	42	42	22	19	37.4	10.4	13.4	–	–	11	10	M3	M4 × 8L	-5	-2	3	12	7	SRG30
JSRG35	88	42	42	22	15	35	5	12	13	23	–	–	M3	M4 × 4L	0	7	6	-9	5	SRG35
JSRG45	100	51	51	20	20	32	7	17	15	29	–	–	M3	M5 × 4L	0	10	10	-7	7	SRG45
JSRG55	108	57	57	20	20	36	10	20	25	35	–	–	M3	M5 × 4L	3	13	16	-4	7	SRG55
JSRG65	132	75.5	75.5	28.5	25	46	9	9	28	42	–	–	M4	M6 × 5L	3	3	19	-3	9	SRG65

Model number coding

JSRG35 – 60/420

- JSRG35 – Model number
- 60/420 – Extended length (Bellows dimensions / Folded length)

6. Lubricator QZ™

THK has developed the lubricator QZ containing a fiber net (encased element) with high oil content in order to meet the requirement for long-term maintenance-free technology in LM Guide lubrication.

- **Maintenance intervals can be greatly extended.**
  Normally in LM systems, a (very) small amount of oil is lost as the machine runs. By mounting the lubricator QZ on the LM block, lost oil is automatically replaced, greatly extending maintenance intervals.
- **Lubricator QZ is environmentally conscious.**
  Because the lubricator QZ uses a high-density fiber net to supply the appropriate amount of oil to the appropriate positions, there is no excess oil, making it an environmentally conscious design.
- **The best oil for each application can be used.**
  Lubricator QZ permits the use of the most suitable oil for LM Guide.

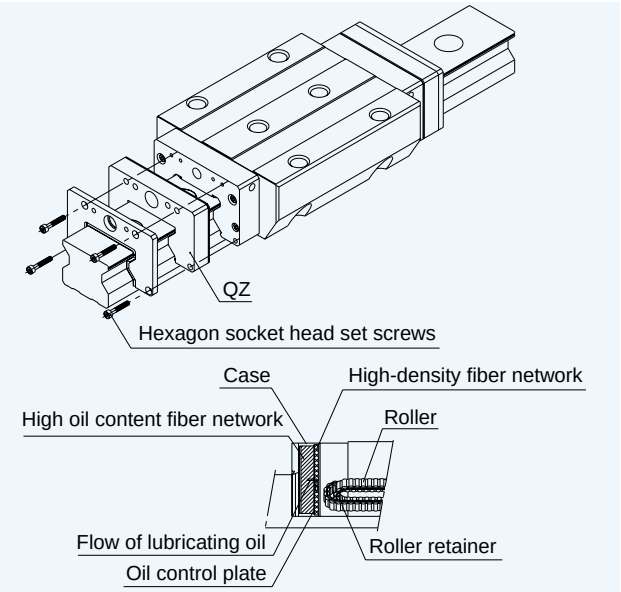


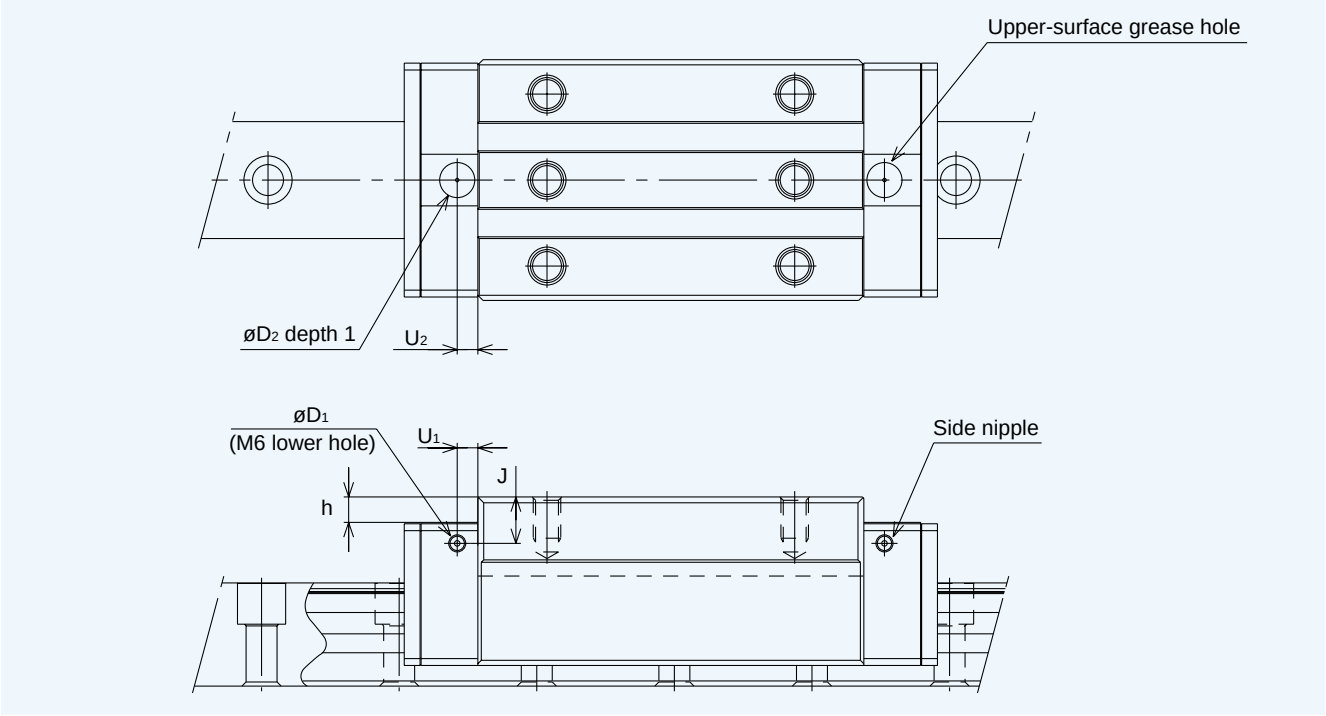
Figure 10

Table4 Type SRG Total length of increased parts of block resulting from Lubricator QZ™ Unit: mm

Model number		QZUU	QZSS	QZDD	QZZZ	QZKK	QZZZHH	QZKKHH
SRG 25	C/R	125.5	125.5	130.5	131.9	136.9	149.5	154.5
	LC/LR	145	145	150	151.4	156.4	169	174
SRG 30	C/R	141	141	148	147.4	154.4	165	172
	LC/LR	165	165	172	171.4	178.4	189	196
SRG 35	C/R	155	155	162.8	163.4	171.2	181	189
	LC/LR	185	185	192.8	193.4	201.2	211	218.8
SRG 45	C/R	185	185	194.2	194.2	203.4	215.5	224.5
	LC/LR	220	220	229.2	229.2	238.4	250.2	259.4
SRG 55	C/R	225	225	234.2	234.2	243.4	255.5	264.5
	LC/LR	275	275	284.2	284.2	293.4	305.2	314.4
SRG 65	LC/LV	343	343	354.2	354.2	365.4	378.6	389.8

7. Grease Holes

Grease can be applied to the Type SRG from the side or above. For systems with normal specifications, the grease holes are sealed to prevent foreign matter entering. Furthermore, for the Type LR, an adapter is required for the upper-surface grease holes. To obtain an adapter, contact THK.



Model number	Lower hole for side nipple			Applicable nipple	Upper-surface grease hole			
	U1	J	D1		D2	(O-ring)	h	U2
SRG25C SRG25LC	6	6.3	5.2	M6F	10.2	(P7)	0.5	6
SRG30C SRG30LC	6	5.8	5.2	M6F	10.2	(P7)	0.4	6
SRG35C SRG35LC	6	6.0	5.2	M6F	10.2	(P7)	0.4	6
SRG45C SRG45LC	7	7.0	5.2	M6F	10.2	(P7)	0.4	7
SRG55C SRG55LC	9	8.5	5.2	M6F	10.2	(P7)	0.4	11
SRG65LC	9	13.5	5.2	M6F	10.2	(P7)	0.4	10

Model number	Lower hole for side nipple			Applicable nipple	Upper-surface grease hole			
	U1	J	D1		D2	(O-ring)	h	U2
SRG25R SRG25LR	6	10.3	5.2	M6F	10.2	(P7)	4.5	6
SRG30R SRG30LR	6	8.8	5.2	M6F	10.2	(P7)	3.4	6
SRG35R SRG35LR	6	13.0	5.2	M6F	10.2	(P7)	7.4	6
SRG45R SRG45LR	7	17.0	5.2	M6F	10.2	(P7)	10.4	7
SRG55R SRG55LR	9	18.5	5.2	M6F	10.2	(P7)	10.4	11
SRG65LV	9	13.5	5.2	M6F	10.2	(P7)	0.4	10

Load ratings and life

Type SRG can support loads in the radial, reverse radial and lateral directions.
The basic load ratings listed in the dimension tables show the load ratings in the radial direction.

Life calculation

The following equation gives the life of type SRG.

$$L=\left(\frac{f_t \cdot f_c}{f_w}\cdot\frac{C}{P_c}\right)^{\frac{10}{3}}\times 100$$

L : Rated life (km)
(Total distance of travel reached without flaking by 90% of a group of the same linear motion system that are operated independently under the same conditions)
C : Basic dynamic load rating (N)
P_C : Design load (N)
f_t : Temperature factor (See general catalogue)
f_C : Contact factor (See general catalogue)
f_W : Load factor (See general catalogue)

Given rated life(L) calculated by the above equation and assuming that the length of stroke and the reciprocating rate are constant, the life in terms of time can be calculated by using the following equation.

$$Lh=\frac{L\times 10^3}{2\times \ell_s \times n_1 \times 60}$$

Lh : Life in terms of time (hr)
ℓs : Stroke length (m)
n_1 : Number of reciprocating motions per minute (min^{-1})

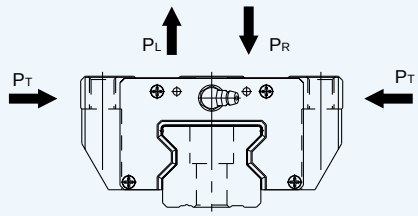


Figure 11

Load ratings

Type SRG can support loads in the radial, reverse radial, and lateral directions. The basic load ratings (radial, reverse radial, and lateral directions) are equal, and they are listed in the dimension tables.

Equivalent load

When the LM block of type SRG is subjected to load of each direction simultaneously, the equivalent load can be calculated by using the following equation.

$P_E=P_R(P_L)+P_T$

P_E : Equivalent load (N)
- Radial
- Reverse radial
- Lateral

P_R : Radial load (N)
P_L : Reverse radial load (N)
P_T : Lateral load (N)

Notes on use

Shoulder height and bottom corner of installation surfaces

For installation, recommended shoulder height is listed in Table 5. Also, bottom corner of shoulder should have relief or radius less than r in Table 5.

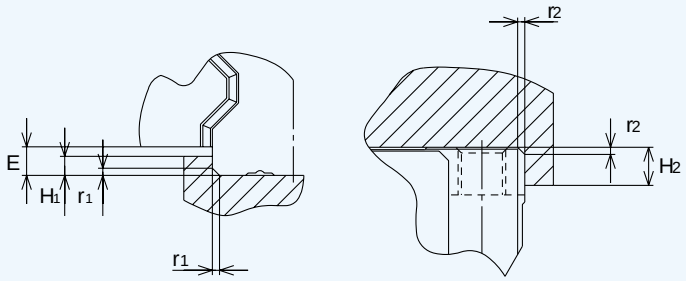


Table 5 Heights and radius of bottom corner Unit: mm

Model number	Radius of bottom corner (Accommodating LM rail) r_1(maximum)	Accommodating LM rail (Accommodating LM block) r_2(maximum)	Shoulder height (Accommodating LM rail) H_1	Shoulder height (Accommodating LM block) H_2	E
SRG 25	1	1	4	5	4.5
SRG 30	1	1	4.5	5	5
SRG 35	1	1	5	6	6
SRG 45	1.5	1.5	6	8	8
SRG 55	1.5	1.5	8	10	10
SRG 65	1.5	2	9	10	11.5

Accuracy of Mounting Surface

The table below gives tolerance values for mounting surfaces that will not affect rolling resistance or service life under normal use.

Table 6 Difference in parallelism between axes (P)

Unit: mm

Model number \ Radial clearance	Normal	C1	C0
SRG 25	0.009	0.007	0.005
SRG 30	0.011	0.008	0.006
SRG 35	0.014	0.010	0.007
SRG 45	0.017	0.013	0.009
SRG 55	0.021	0.014	0.011
SRG 65	0.027	0.018	0.014

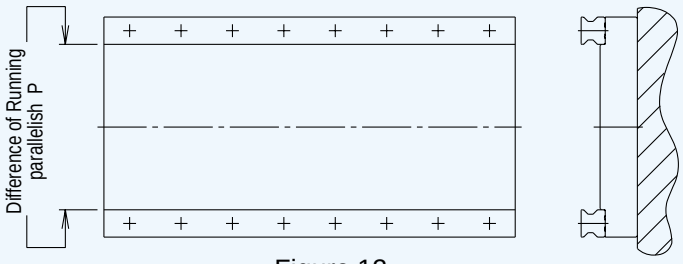


Figure 12

Table 7 Difference in level of axes (X)

Unit: mm

Radial clearance	Normal	C1	C0
Accuracy of mounting surface X	0.00030 a	0.00021 a	0.00011 a

$X=X_1+X_2$

X_1: Difference between levels of rail mounting surface
X_2: Difference between levels of block mounting surface

Example calculation

Rail span:

In the case of a = 500mm

Accuracy of mounting surface:

$x = 0.0003 \times 500 = 0.15$

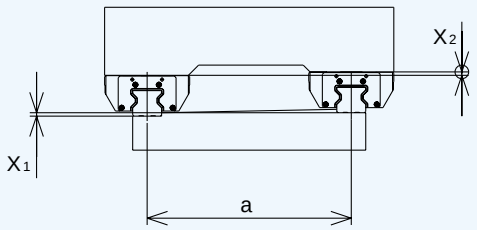


Figure 13

Table 8 Difference between direction levels of axes (Y)

Unit: mm

Accuracy of Mounting Surface (mm)	0.000036 b

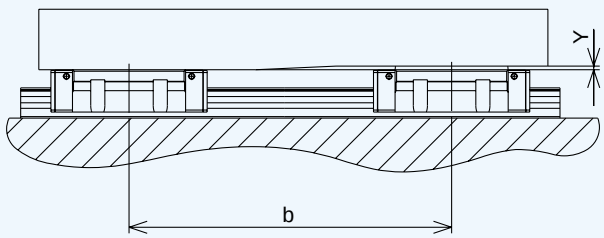


Figure 14

Accuracy standard

Table 9 shows the accuracy of type SRG. Accuracy is defined by the running parallelism and tolerances of height and width. When two or more LM blocks are installed on one rail or when two or more rails are specified as matched sets, accuracy is defined by the differences in height and width of the individual LM blocks.

Running parallelism For details, see general catalogue.
Difference in height M For details, see general catalogue.
Difference in width W2 For details, see general catalogue.

The accuracy of type SRG is classified into precision, super-precision and ultra-precision grades as shown in Table 9.

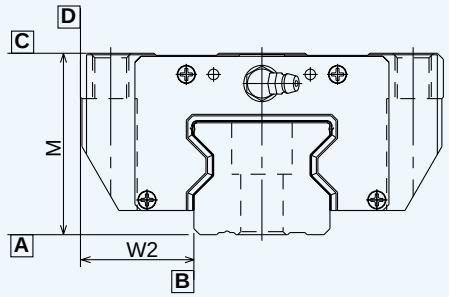


Figure 15

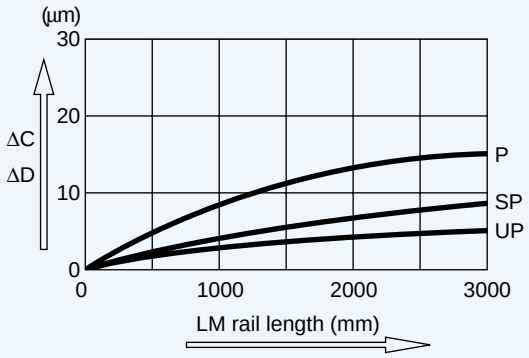


Figure 16 LM rail length and running parallelism

Table 9 Accuracy standard

Unit: mm

Model number	Accuracy grade	Precision	Super-Precision	Ultra-Precision
SRG 25 30 35	Item	P	SP	UP
	Tolerance of height M	0 −0.04	0 −0.02	0 −0.01
	Difference in height M	0.007	0.005	0.003
	Tolerance of width W_2	0 −0.04	0 −0.02	0 −0.01
	Difference of width W_2	0.007	0.005	0.003
	Running parallelish of LM block surface C with respect to surface A	⌀C (Refer to Figure 15,16)		
	Running parallelish of LM block surface D with respect to surface B	⌀D (Refer to Figure 15,16)		
SRG 45 55	Item	P	SP	UP
	Tolerance of height M	0 −0.05	0 −0.03	0 −0.02
	Difference in height M	0.007	0.005	0.003
	Tolerance of width W_2	0 −0.05	0 −0.03	0 −0.02
	Difference of width W_2	0.01	0.007	0.005
	Running parallelish of LM block surface C with respect to surface A	⌀C (Refer to Figure 15,16)		
	Running parallelish of LM block surface D with respect to surface B	⌀D (Refer to Figure 15,16)		
SRG 65	Item	P	SP	UP
	Tolerance of height M	0 −0.07	0 −0.05	0 −0.03
	Difference in height M	0.01	0.007	0.005
	Tolerance of width W_2	0 −0.07	0 −0.05	0 −0.03
	Difference of width W_2	0.015	0.01	0.007
	Running parallelish of LM block surface C with respect to surface A	⌀C (Refer to Figure 15,16)		
	Running parallelish of LM block surface D with respect to surface B	⌀D (Refer to Figure 15,16)		

Radial clearance

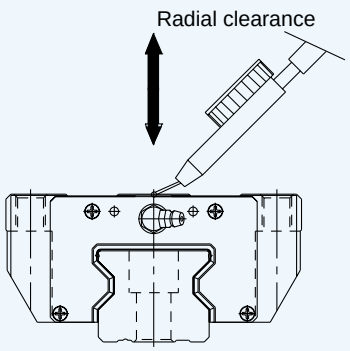


Figure 17

Table 10 lists the radial clearance of type SRG

Table 10 Radial clearance of type SRG

Unit: μm

Model number / Symbol	Normal	Light preload	Medium preload
	No Symbol	C1	C0
SRG 25	− 2 to − 1	− 3 to − 2	− 4 to − 3
SRG 30	− 2 to − 1	− 3 to − 2	− 4 to − 3
SRG 35	− 2 to − 1	− 3 to − 2	− 5 to − 3
SRG 45	− 2 to − 1	− 3 to − 2	− 5 to − 3
SRG 55	− 2 to − 1	− 4 to − 2	− 6 to − 4
SRG 65	− 3 to − 1	− 5 to − 3	− 8 to − 5

Note: No symbol is necessary for normal clearance. Add the corresponding symbols to the model number if C0 or C1 clearance is required. See the descriptions for the model number coding.

Standard and maximum lengths of LM rails

Table 11 lists the standard and maximum LM rail lengths of type SRG. If a rail longer than the corresponding maximum length is specified, the rail will be in two or more sections.
If a special length is required, G dimension listed in the table is recommended. If the G dimension is too long, it makes the rail ends insecure which may adversely affect accuracy.
When two or more rails are to be connected, be sure to inform of the overall LM rail length. The rails will be machined simultaneously in order to give precise joints.

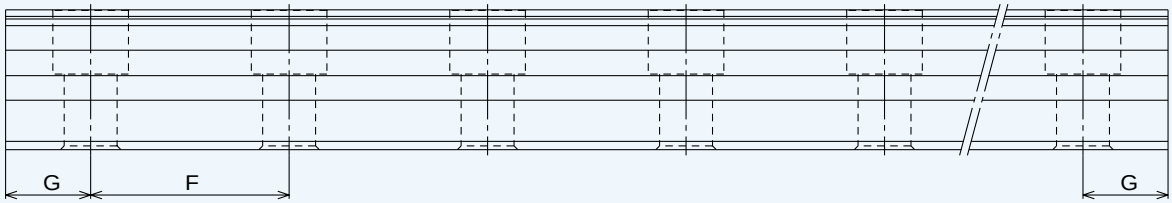


Figure 18

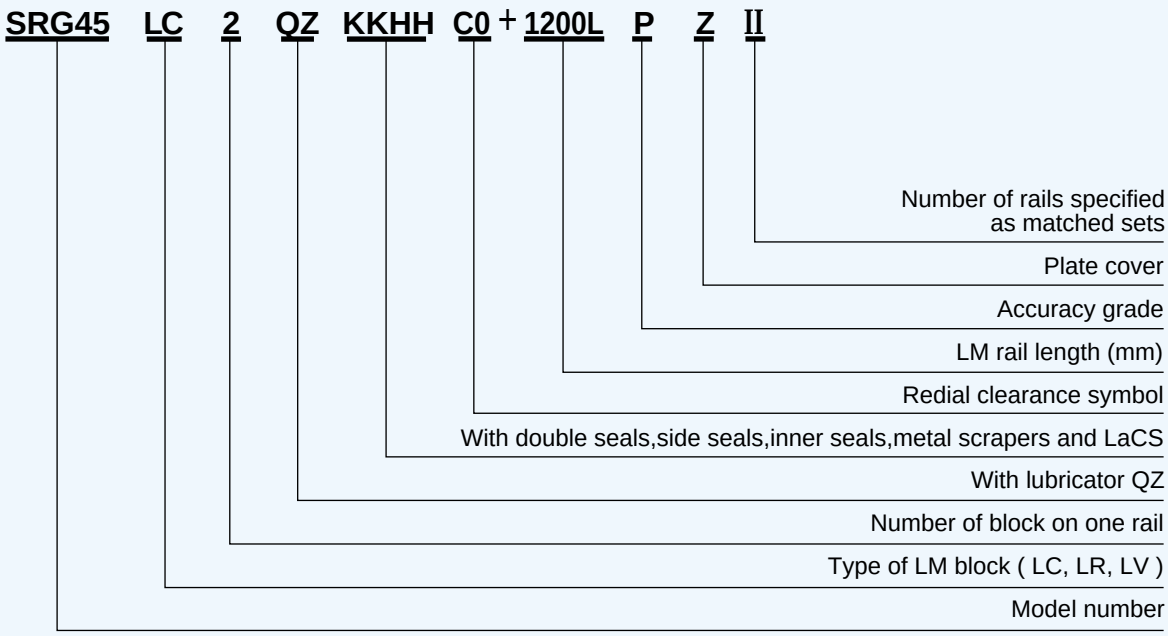
Table 11 Standard and maximum LM rail lengths of type SRG

Unit: mm

Model number	SRG 25	SRG 30	SRG 35	SRG 45	SRG 55	SRG 65
Standard LM rail length (L_0)	220	280	280	570	780	1270
	280	360	360	675	900	1570
	340	440	440	780	1020	2020
	400	520	520	885	1140	2620
	460	600	600	990	1260	
	520	680	680	1095	1380	
	580	760	760	1200	1500	
	640	840	840	1305	1620	
	700	920	920	1410	1740	
	760	1000	1000	1515	1860	
	820	1080	1080	1620	1980	
	940	1160	1160	1725	2100	
	1000	1240	1240	1830	2220	
	1060	1320	1320	1935	2340	
	1120	1400	1400	2040	2460	
	1180	1480	1480	2145	2580	
	1240	1560	1560	2250	2700	
	1300	1640	1640	2355	2820	
	1360	1720	1720	2460	2940	
	1420	1800	1800	2565	3060	
	1480	1880	1880	2670		
	1540	1960	1960	2775		
	1600	2040	2040	2880		
	1720	2200	2200	2985		
	1840	2360	2360	3090		
	1960	2520	2520			
	2080	2680	2680			
	2200	2840	2840			
	2320	3000	3000			
	2440					
F	30	40	40	52.5	60	75
G	20	20	20	22.5	30	35
Maximum length	3000	3000	3000	3090	3060	3000

Note: • Maximum length differs depending on accuracy grades. Please contact THK.
• If a single-piece LM rail exceeding the corresponding maximum length listed in Table 11 is desired, please contact THK.

Model number coding

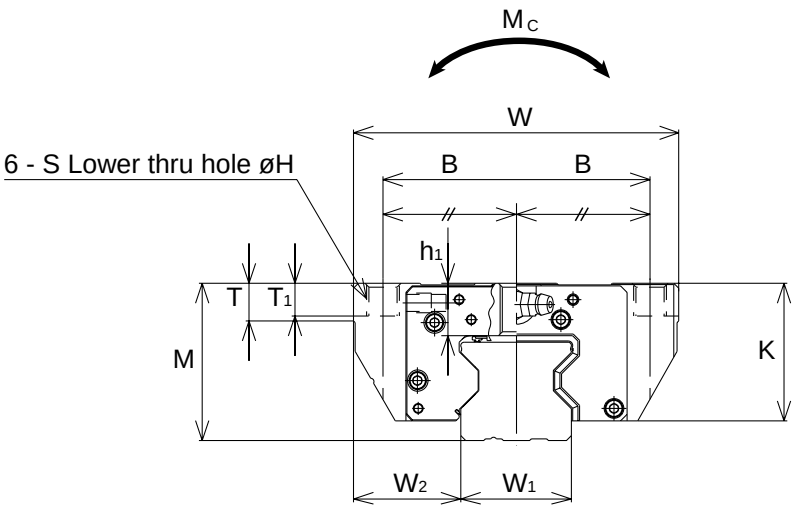


Note: • This model number is for one rail unit on a one set basis.
When two rails are to be specified as matched sets, at least two rail and block assemblies are necessary.
• Type SRG is equipped with SS (End seals + side seals + inner seals) as standard.

Flange Type

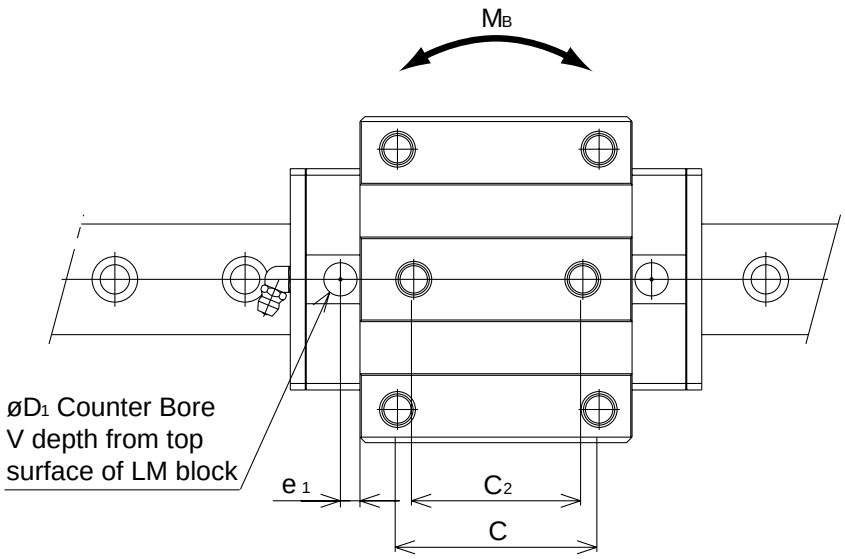
Type SRG-C (Heavy Load Type)

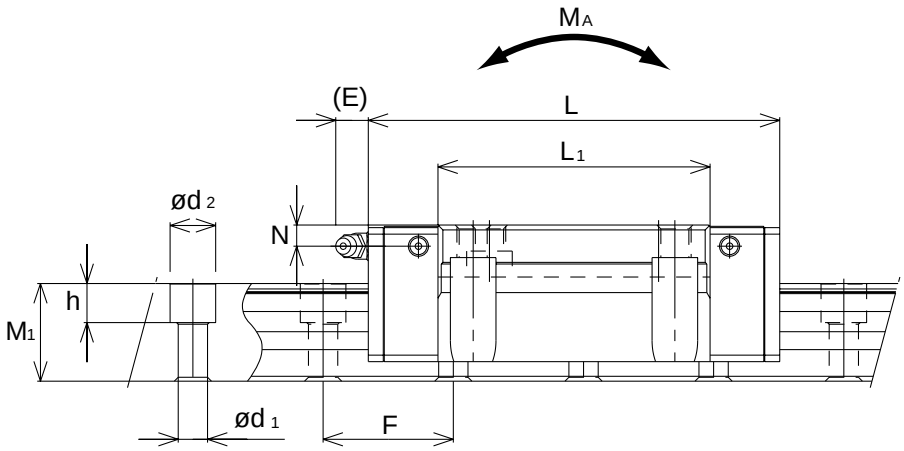
Type SRG-LC (Ultra-Heavy Load Type)



Model number	Outline dimensions			LM block dimensions (mm)												
	Height M	Width W	Length L	B	C	C_2	S	H	L_1	T	T_1	h_1	K	N	E	e_1
SRG25C	36	70	95.5	57	45	40	M8	6.8	65.5	9.5	10	11	31.5	5.5	12	6
SRG25LC			115						85.1							
SRG30C	42	90	111	72	52	44	M10	8.5	75	12	14	13.7	37	6.5	12	6
SRG30LC			135						99							
SRG35C	48	100	125	82	62	52	M10	8.5	82.2	11.5	10	15.4	42	6.5	12	6
SRG35LC			155						112.2							
SRG45C	60	120	155	100	80	60	M12	10.5	107	14.5	15	20.4	52	10	16	7
SRG45LC			190						142							
SRG55C	70	140	185	116	95	70	M14	12.5	129.2	17.5	18	24	60	12	16	11
SRG55LC			235						179.2							
SRG65LC	90	170	303	142	110	82	M16	14.5	229.8	19.5	20	32	78.5	17	16	10

Note: • See page 14 for the model number coding.
• See page 13, Table 11 for the standard LM rail lengths.

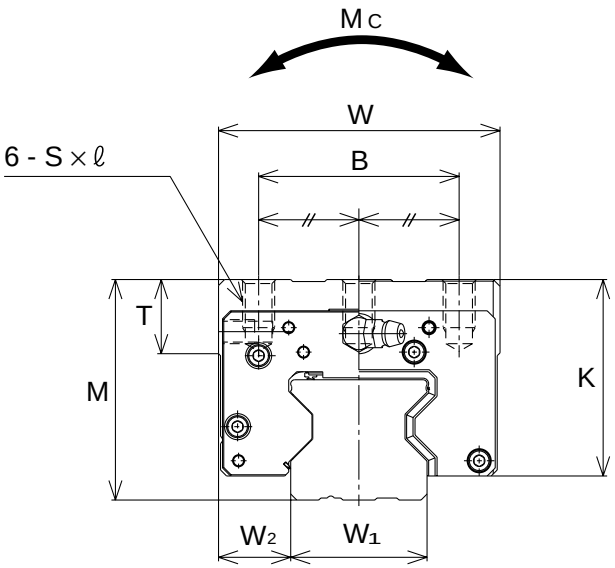




D1	V	Grease nipple	LM rail dimensions (mm) Width W1 0 -0.05	W2	Height M1	Pitch F	d1 × d2 × h	Basic load rating C kN	C0 kN	Static permissible moment MA kN–m	MB kN–m	MC kN–m	Mass LM block kg	LM rail kg/m
10.2	1.5	B-M6F	23	23.5	23	30	7 × 11 × 9	27.9 34.2	57.5 75	0.61 0.9	0.61 0.9	0.77 1.0	0.7 0.9	3.6
10.2	1.4	B-M6F	28	31	26	40	9 × 14 × 12	39.3 48.3	82.5 108	1.03 1.7	1.03 1.7	1.39 1.8	1.2 1.6	4.4
10.2	1.4	B-M6F	34	33	30	40	9 × 14 × 12	59.1 76	119 165	1.63 2.9	1.63 2.9	2.43 3.4	1.9 2.4	6.9
10.2	1.4	B-PT 1/8	45	37.5	37	52.5	14 × 20 × 17	91.9 115	192 256	3.34 5.7	3.34 5.7	5.22 7.0	3.7 4.5	11.6
10.2	1.4	B-PT 1/8	53	43.5	43	60	16 × 23 × 20	131 167	266 366	5.61 10.4	5.61 10.4	8.47 11.7	5.9 7.8	15.8
10.2	1.4	B-PT 1/8	63	53.5	54	75	18 × 26 × 22	278	599	21.8	21.8	22.8	16.4	23.7

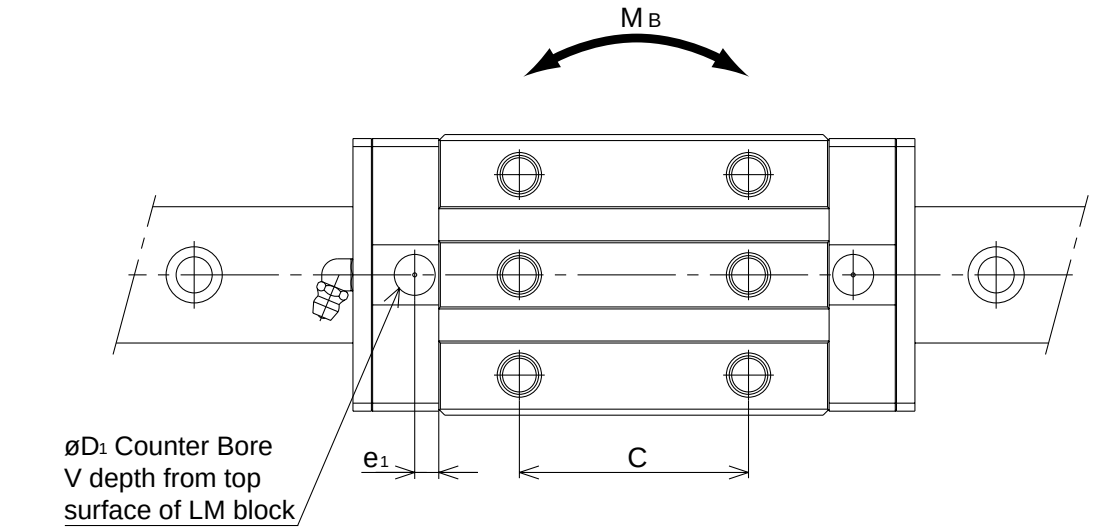
Thin and Compact Type

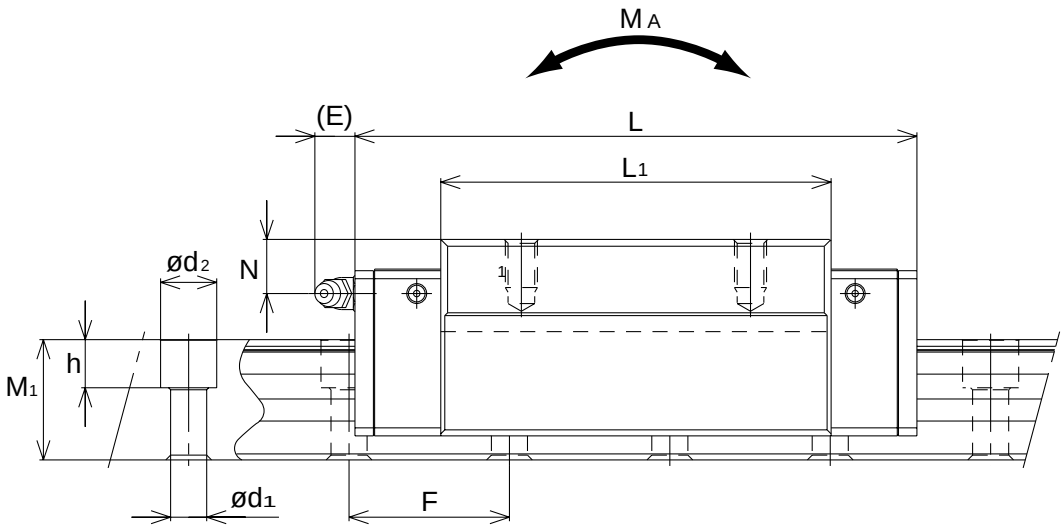
Type SRG-R (Heavy Load Type)
Type SRG-LR (Ultra-Heavy Load Type)
Type SRG-LV (Ultra-Heavy Load Type)



Model number	Outline dimensions (mm)			LM block dimensions (mm)										
	Height M	Width W	Length L	B	C	S × ℓ	L_1	T	K	N	E	e_1	D_1	V
SRG25R	40	48	95.5	35	35	M6 × 9	65.5	9.5	35.5	9.5	12	6	10.2	5.5
SRG25LR			115		50		85.1							
SRG30R	45	60	111	40	40	M8 × 10	75	12	40	9.5	12	6	10.2	4.4
SRG30LR			135		60		99							
SRG35R	55	70	125	50	50	M8 × 12	82.2	18.5	49	13.5	12	6	10.2	8.4
SRG35LR			155		72		112.2							
SRG45R	70	86	155	60	60	M10 × 20	107	24.5	62	20	16	7	10.2	11.4
SRG45LR			190		80		142							
SRG55R	80	100	185	75	75	M12 × 18	129.2	27.5	70	22	16	11	10.2	11.4
SRG55LR			235		95		179.2							
SRG65LV	90	126	303	76	120	M16 × 20	229.8	19.5	78.5	17	16	10	10.2	1.4

Note: • See page 14 for the model number coding.
• See page 13, Table 11 for the standard LM rail lengths.





Grease nipple	LM rail dimensions (mm) Width $W_1{}^{0}_{-0.05}$	W_2	Height M_1	Pitch F	$d_1 \times d_2 \times h$	Basic load rating C kN	C_0 kN	Static permissible moment M_A kN·m	M_B kN·m	M_C kN·m	Mass LM block kg	LM rail kg/m
B-M6F	23	12.5	23	30	7×11×9	27.9 34.2	57.5 75	0.61 0.9	0.61 0.9	0.77 1.0	0.6 0.8	3.6
B-M6F	28	16	26	40	9×14×12	39.3 48.3	82.5 108	1.03 1.7	1.03 1.7	1.39 1.8	0.9 1.2	4.4
B-M6F	34	18	30	40	9×14×12	59.1 76	119 165	1.63 2.9	1.63 2.9	2.43 3.4	1.6 2.1	6.9
B-PT 1/8	45	20.5	37	52.5	14×20×17	91.9 115	192 256	3.34 5.7	3.34 5.7	5.22 7.0	3.2 4.1	11.6
B-PT 1/8	53	23.5	43	60	16×23×20	131 167	266 366	5.61 10.4	5.61 10.4	8.47 11.7	5.0 6.9	15.8
B-PT 1/8	63	31.5	54	75	18×26×22	278	599	21.8	21.8	22.8	12.1	23.7

THK Caged Roller Guide

SRG

⚠ Notes on use

***Precautions in handling the LM block**

The LM block includes precision mold resin. When it is dropped or struck, it may be damaged. Please take great care in handling the LM block.

***Reinstalling the LM block**

When the LM block is removed from the LM rail and then reinstalled, please insert it very carefully and correctly.
**For reinstallation, we recommend that a special insertion jig be used. Please contact THK upon the use of jig.

***Coolant**

When the LM block is used in an environment in which some coolant may enter the LM block, some types of coolant may adversely affect the functions of the LM block. Please contact THK when selecting a coolant.

***Operating temperature range**

The LM block is made from special resin. Do not use it above 80˚C.

***Lubrication**

Ordinary grease may not be utilized when the system is used in a special environment such as an area subject to extremes of temperature or continuous vibration, a clean room, or a vacuum environment. If the system is to be used in a special environment, please contact THK.

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