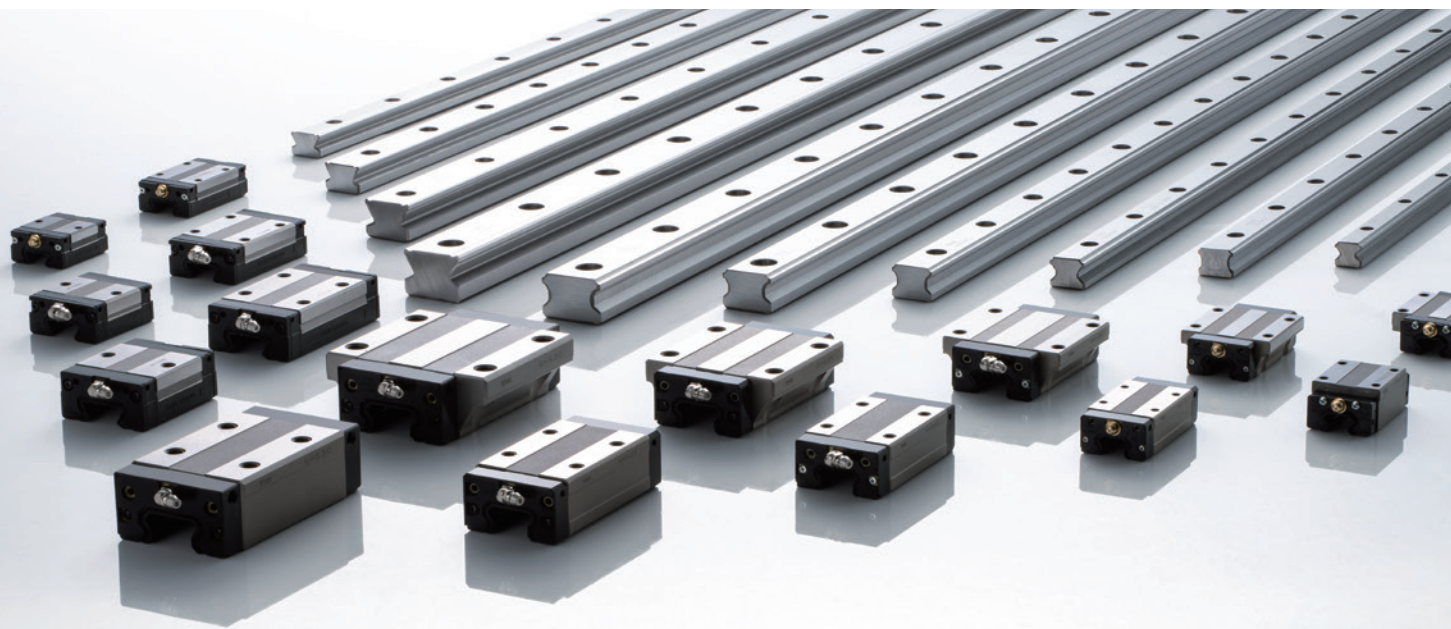


Quick Ship Program

Linear Motion Guide Interchangeable Series



LINEAR MOTION GUIDES

Rails & Blocks Stocked Individually for Easy/Fast Interchangeability

THK's original technology is behind the smooth and silent movement of the "Linear Motion System."

The rotating movement of "rolling" uses bearings that have been used in products for over 100 years.

However, the world's first "rolling" in linear movement was achieved in 1972 when THK developed the "Linear Motion System."

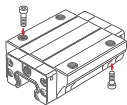
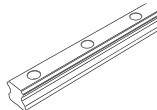
Since then, all THK technologies have been employed for the only purpose of providing smoothness and accuracy to "movement" of all mechanisms.

CAGED BALL TYPE

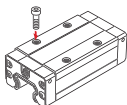
Long-Term Maintenance Free

SHS

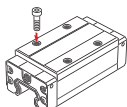
Global Standard Size /
Long-Term Maintenance Free



C/LC: The flange of the LM Block has tapped holes. Can be mounted from the top or bottom.



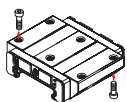
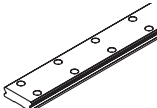
V/LV: With this type, the LM block has smaller width (W) and tapped holes.



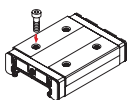
R/LR: It succeeds the height dimension of full-ball type LM guide HSR-R.

SHW

Wide Rail /
Long-Term Maintenance Free



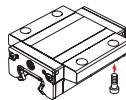
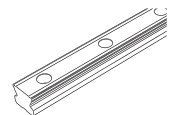
CAN: The flange of the LM block has tapped holes. Can be mounted from the top or bottom.



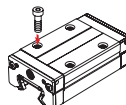
CRN: With this type, the LM block has smaller width (W) and tapped holes.

SSR

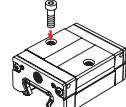
Radial Type /
Long-Term Maintenance Free



XTB: LM block can be mounted from the bottom, therefore this type is optimal for applications where through holes for mounting bolts cannot be drilled on the table.



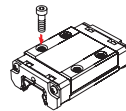
XW: With this type, the LM block has a smaller width (W) and tapped holes.



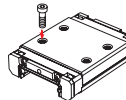
XV: This type has the same cross-sectional shape as SSR-XW but has a shorter overall LM Block length (L).

SRS

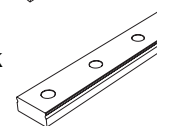
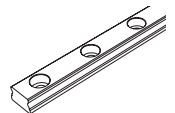
Miniature Type /
Long-Term Maintenance Free



M/N: Standard type of SRS



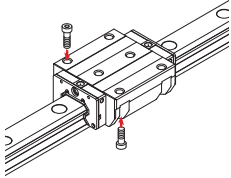
WM/WN: Longer overall LM Block length, greater width for larger rated load and permissible load.



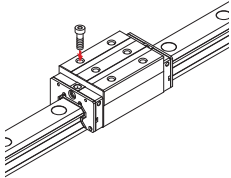
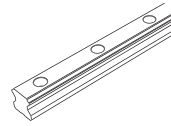
FULL ROLLER TYPE

Ultra-High Rigidity and Ultra-High Loads

HRX



C/LC: The flange of the LM Block has tapped holes. Can be mounted from the top or bottom.

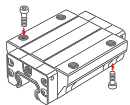


R/LR: Having a smaller LM block width and tapped holes, this model is optimal for compact design.

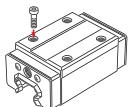
FULL BALL TYPE

HSR

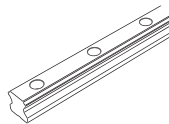
Global Standard Size



C/LC: The flange of the LM Block has tapped holes. Can be mounted from the top or bottom.

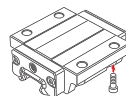


R/LR: Having a smaller LM block width (W) and tapped holes, this model is optimal for compact design.

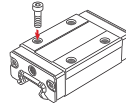


SR

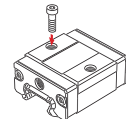
Radial Type



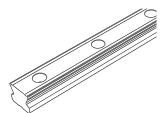
TB: The LM block has the same height as model SR-W and can be mounted from the bottom.



W: With this type, the LM block has a smaller width (W) and tapped holes.

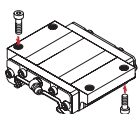


V: A space-saving type whose LM block has the same cross-sectional shape as model SR-W, but has a smaller overall LM block length (L).

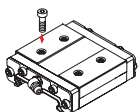


HRW

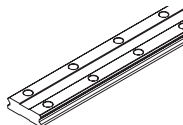
Wide Rail



CA: The flange of the LM block has tapped holes. Can be mounted from the top or bottom.

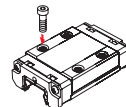


CR: With this type, the LM block has smaller width (W) and tapped holes.

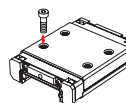


SRS-G

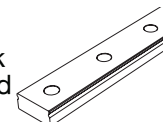
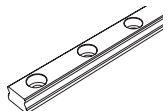
Miniature Type



GM/GN: Standard type of SRS



WM/WN: Longer overall LM block length, greater width for larger rated load and permissible moment.



Ball Type – Calculating the Static Safety Factor and Nominal Life

Static Safety Factor

To calculate a load applied to the LM Guide, you must first obtain the average load required to determine the service life and the maximum load needed to determine the static safety factor. In particular, if the system starts and stops frequently, if a cutting load acts on the system, or if a large moment or torque caused by an overhanging load is applied, it may experience an unexpectedly large load. When selecting a model number, make sure that the desired model is capable of supporting the required maximum load (whether stationary or in motion). The reference values for the static safety factor are shown in the table to the right.

$$f_s = \frac{C_0}{P_{\max}} \dots ?$$

f_s : Static safety factor
 C_0 : Standard static load (N)
 P_{\max} : Maximum load (N)

Reference Values for the Static Safety Factor (f_s)

Machine type	Load conditions	Lower limit of f_s
General industrial machinery	Without vibration or impacts	1.0 to 3.5
	With vibration or impacts	2.0 to 5.0
Machine tool	Without vibration or impacts	1.0 to 4.0
	With vibration or impacts	2.5 to 7.0

* The standard value of the static safety factor may vary depending on usage conditions such as the environment, lubrication status, mounting accuracy, and/or rigidity.

Service Life

Nominal Life

The nominal life (L) means the total travel distance that 90% of a group of units can achieve without flaking (scale like pieces on the metal surface peeling off) after individually running under the same conditions. The nominal life of Model HDR is obtained using equation (2).

$$L = \left(\frac{f_H \cdot f_T \cdot f_C}{f_W} \cdot \frac{C}{P_C} \right)^3 \times 50 \dots (2)$$

L: Nominal life (km)
 C : Basic dynamic load rating (N)
 P_C : Calculated load (N)

f_H : Hardness factor (see general catalog)
 f_T : Temperature factor (see general catalog)
 f_C : Contact factor (see general catalog)
 f_W : Load factor (see general catalog)

* The basic dynamic load rating (C) indicates the load for which the nominal life (L) is 50 km when a group of identical LM Guides independently operate under that load when it is applied with a constant direction and magnitude.

Service Life

Once the nominal life (L) has been obtained, the service life can be obtained using equation (3) if the stroke length and the number of cycles are constant.

$$L_h = \frac{L \times 10^6}{2 \times \ell_s \times n_1 \times 60} \dots (3)$$

L_h : Service life (h)
 ℓ_s : Stroke length (mm)
 n_1 : Number of reciprocations per minute (min^{-1})

Equivalent Load P_E

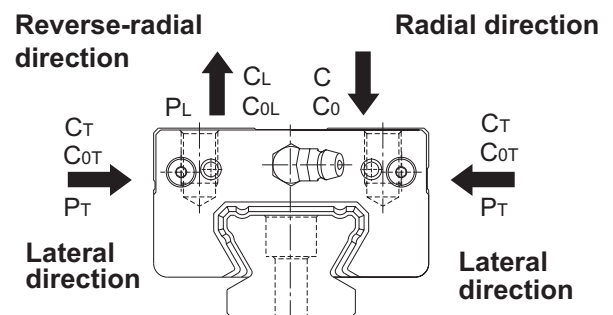
The LM Guide can bear loads and moments in all directions, including a radial load (PR), reverse radial load (PL) and lateral loads (PT), simultaneously. When two or more loads (e.g., radial load and lateral load) are simultaneously applied to the LM Guide, the service life and the static safety factor are calculated using equivalent load values obtained by converting all the loads into radial load or reverse radial load.

[Equivalent Load Equation]

When the LM block of the LM Guide receives loads simultaneously in the radial and lateral directions, or the reverse radial and lateral directions, the equivalent load is obtained from the equation below.

$$P_E = X \cdot P_{R(L)} + Y \cdot P_T$$

P_E : Equivalent load (N)
 - Radial direction
 - Reverse radial direction
 P_L : Reverse radial load (N)
 P_T : Lateral Load (N)
 X, Y : Equivalent factor (see each product page)



Equivalent of Load of the LM Guide

Roller Type – Calculating the Static Safety Factor and Nominal Life

Static Safety Factor

To calculate a load applied to the LM Guide, you must first obtain the average load required to determine the service life and the maximum load needed to determine the static safety factor. In particular, if the system starts and stops frequently, if a cutting load acts on the system, or if a large moment or torque caused by an overhanging load is applied, it may experience an unexpectedly large load. When selecting a model number, make sure that the desired model is capable of supporting the required maximum load (whether stationary or in motion). The reference values for the static safety factor are shown in the table to the right.

$$f_s = \frac{C_0}{P_{\max}} \quad \dots (1)$$

f_s : Static safety factor
 C_0 : Basic static load rating (N)
 P_{\max} : Maximum applied load (N)

Reference Values for the Static Safety Factor (f_s)

Machine type	Load conditions	Lower limit of f_s
General industrial machinery	Without vibration or impacts	3.0 to 6.0
	With vibration or impacts	4.0 to 7.0
Machine tool	Without vibration or impacts	3.0 to 6.0
	With vibration or impacts	6.0 to 10.0

* The standard value of the static safety factor may vary depending on usage conditions such as the environment, lubrication status, mounting accuracy, and/or rigidity.

Nominal Life and Service Life Time

Calculating the Nominal Life

The nominal life (L_{10}) is obtained from the following formulas using the basic dynamic load rating (C) and the calculated load acting on the LM Guide (P_c). For this calculation, the basic dynamic load is to be based on a nominal life of 50 km in case of an LM Guide with balls, or 100 km in case of an LM Guide with rollers.

- LM Guide with balls (Using a basic dynamic load rating based on a nominal life of 50 km)

$$L_{10} = \left(\frac{C}{P_c} \right)^3 \times 50 \quad \dots (2)$$

L_{10} : Nominal life (km)
 C : Basic dynamic load rating (N)
 P_c : Calculated load (N)

- LM Guide with rollers (Using a basic dynamic load rating based on a nominal life of 100 km)

$$L_{10} = \left(\frac{C}{P_c} \right)^{\frac{10}{3}} \times 100 \quad \dots (3)$$

L_{10} : Nominal life (km)
 C : Basic dynamic load rating (N)
 P_c : Calculated load (N)

*These nominal life formulas may not apply if the length of the stroke is less than or equal to twice the length of the LM block.

When comparing the nominal life (L_{10}), you must take into account whether the basic dynamic load rating was dened based on 50 km or 100 km. Convert the basic dynamic load rating based on ISO 14728-1 as necessary.

ISO-regulated basic dynamic load rating conversion formulas:

- LM Guide with balls

$$C_{100} = \frac{C_{50}}{1.26}$$

- LM Guide with rollers

$$C_{100} = \frac{C_{50}}{1.23}$$

C_{50} : Basic dynamic load based on a nominal life of 50 km
 C_{100} : Basic dynamic load based on a nominal life of 100 km

Calculating the Modified Nominal Life

During use, an LM Guide may be subjected to vibrations and shocks as well as fluctuating loads, which are difficult to detect. In addition, the surface hardness of the raceways, the operating temperature, and having LM blocks arranged directly behind one another will have a decisive impact on the service life.

Taking these factors into account, the modified nominal life (L_{10m}) can be calculated according to the following formulas (4) and (5).

- Modified factor α

$$\alpha = \frac{f_H \cdot f_T \cdot f_C}{f_W}$$

α : Modified factor
 f_H : Hardness factor (See the general catalog for details)
 f_T : Temperature factor (See the general catalog for details)
 f_C : Contact factor (See the general catalog for details)
 f_W : Load factor (See the general catalog for details)

- Modified nominal life L_{10m}

- LM Guide with balls

$$L_{10m} = \left(\alpha \times \frac{C}{P_c} \right)^3 \times 50 \quad \dots (4)$$

- LM Guide with rollers

$$L_{10m} = \left(\alpha \times \frac{C}{P_c} \right)^{\frac{10}{3}} \times 100 \quad \dots (5)$$

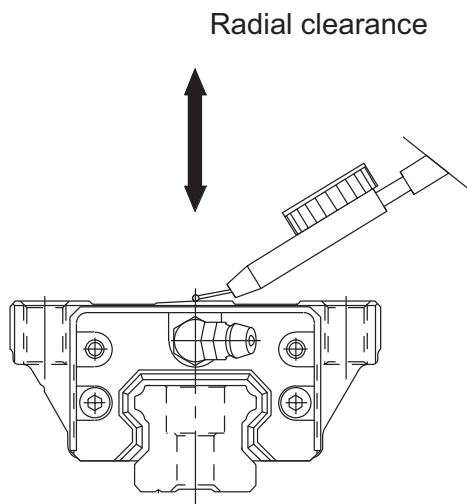
L_{10m} : Modified nominal life (km)
 C : Basic dynamic load rating (N)
 P_c : Calculated load (N)

Once the nominal life (L_{10}) has been obtained, the service life time can be obtained using the following formula if the stroke length and the number of cycles are constant.

$$L_h = \frac{L_{10} \times 10^6}{2 \times \ell_s \times n_1 \times 60}$$

L_h : Service life time (h)
 ℓ_s : Stroke length (mm)
 n_1 : Cycles per minute (min^{-1})

RADIAL CLEARANCE STANDARD:



*Please contact THK for higher preload type.

[Model SHS]

Unit: μm

MODEL NO.	NORMAL	LIGHT PRELOAD
	NO SYMBOL	C1
15	-5 to 0	-12 to -5
20	-6 to 0	-12 to -6
25	-8 to 0	-14 to -8
30	-9 to 0	-17 to -9
35	-11 to 0	-19 to -11
45	-12 to 0	-22 to -12
55	-15 to 0	-28 to -16
65	-18 to 0	-34 to -22

[Model SSR]

Unit: μm

MODEL NO.	NORMAL	LIGHT PRELOAD
	NO SYMBOL	C1
15	-4 to +2	-10 to -4
20	-5 to +2	-12 to -5
25	-6 to +3	-15 to -6
30	-7 to +4	-18 to -7
35	-8 to +4	-20 to -8

[Model SHW]

Unit: μm

MODEL NO.	NORMAL	LIGHT PRELOAD
	NO SYMBOL	C1
21	-4 to +2	-8 to -4
27	-5 to +2	-11 to -5
35	-8 to +4	-18 to -8

[Model SRS]

Unit: μm

MODEL NO.	NORMAL
	NO SYMBOL
7	-2 to +2
9	-2 to +2
12	-3 to +3
15	-5 to +5

[Model HSR]

Unit: μm

MODEL NO.	NORMAL	LIGHT PRELOAD
	NO SYMBOL	C1
15	-4 to +2	-12 to -4
20	-5 to +2	-14 to -5
25	-6 to +3	-16 to -6
30	-7 to +4	-19 to -7
35	-8 to +4	-22 to -8
45	-10 to +5	-25 to -10
55	-12 to +5	-29 to -12
65	-14 to +7	-32 to -14

[Model SR]

Unit: μm

MODEL NO.	NORMAL	LIGHT PRELOAD
	NO SYMBOL	C1
15	-4 to +2	-10 to -4
20	-5 to +2	-12 to -5
25	-6 to +3	-15 to -6
30	-7 to +4	-18 to -7
35	-8 to +4	-20 to -8
45	-10 to +5	-24 to -10
55	-12 to +5	-28 to -12

[Model HRW]

Unit: μm

MODEL NO.	NORMAL	LIGHT PRELOAD
	NO SYMBOL	C1
17	-3 to +2	-7 to -3
21	-4 to +2	-8 to -4
27	-5 to +2	-11 to -5
35	-8 to +4	-18 to -8
50	-10 to +5	-24 to -10

*C1 is not available for quick ship HSR-YR blocks

[Model SRS-G] Unit: μm

MODEL NO.	NORMAL
	NO SYMBOL
9	-2 to +2
12	-3 to +3
15	-5 to +5

[Model HRX]

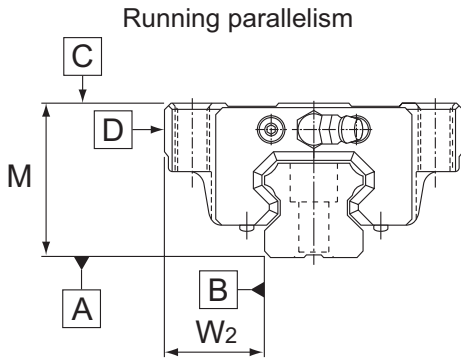
Unit: μm

MODEL NO.	MEDIUM PRELOAD
	C0
25	-2 to -1
30	-2 to -1
35	-2 to -1
45	-3 to -2
55	-3 to -2
65	-4 to -2

ACCURACY STANDARD:

[Model SHS, SSR, SHW, HSR, SR, HRW] [Model SRS, SRS-G]

[Model HRX]



*Please contact THK for other accuracy or longer rail length.

Table 1

Unit: μm

LM RAIL LENGTH (MM)		RUNNING PARALLELISM VALUES
ABOVE	OR LESS	NORMAL GRADE
—	200	5
200	250	6
250	315	7
315	400	8
400	500	9
500	630	11
630	800	12
800	1000	13
1000	1250	15
1250	1600	16
1600	2000	18
2000	2500	20
2500	3000	21

Table 2

Unit: μm

LM RAIL LENGTH (MM)		RUNNING PARALLELISM VALUES
ABOVE	OR LESS	NORMAL GRADE
—	40	8
40	70	10
70	100	11
100	130	12
130	160	13
160	190	14
190	220	15
220	250	16
250	310	17
310	370	18
370	400	19
400	460	20
460	520	21
520	640	22
640	820	23
820	970	24
970	1000	25

Table 3

Unit: μm

LM RAIL LENGTH (MM)		RUNNING PARALLELISM VALUES
ABOVE	OR LESS	NORMAL GRADE
—	125	3
125	200	3.5
200	250	4
250	315	4.5
315	400	5
400	500	6
500	630	7
630	800	8.5
800	1000	9
1000	1250	11
1250	1600	12
1600	2000	13
2000	2500	14
2500	3000	16

[Model SHS, SSR, SHW, HSR, SR, HRW]

Unit: mm

ACCURACY STANDARDS	NORMAL GRADE - NO SYMBOL			
ITEM	SIZE			
	15, 17, 20, 21	25, 27, 30, 35	45, 55	65
Dimensional tolerance in height M	± 0.07	± 0.08	± 0.08	± 0.08
Dimensional tolerance in width W_2	± 0.06	± 0.07	± 0.07	± 0.08
Running parallelism of surface C against surface A	as shown table 1			
Running parallelism of surface D against surface B	as shown table 1			

[Model HRX]

Unit: mm

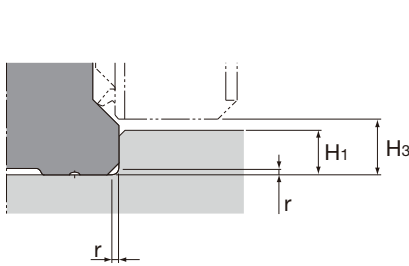
ACCURACY STANDARDS	HIGH GRADE - SYMBOL H	
ITEM	SIZE	
	25, 30, 35	45, 55, 65
Dimensional tolerance in height M	± 0.04	± 0.04
Dimensional tolerance in width W_2	± 0.03	± 0.04
Running parallelism of surface C against surface A	as shown table 3	
Running parallelism of surface D against surface B	as shown table 3	

[Model SRS, SRS-G]

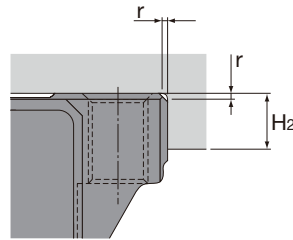
Unit: mm

ACCURACY STANDARDS	NORMAL GRADE - NO SYMBOL
ITEM	SIZE
	7, 9, 12, 15
Dimensional tolerance in height M	± 0.04
Dimensional tolerance in width W_2	± 0.04
Running parallelism of surface C against surface A	as shown table 2
Running parallelism of surface D against surface B	as shown table 2

Shoulder Height of the Mounting Base and the Corner Radius



Shoulder for the LM Rail



Shoulder for the LM Block

[Model SHS]

Unit: mm

MODEL NO.	Corner Radius r (max)	Shoulder Height for LM rail H1	Shoulder Height for LM block H2	H3
15	0.5	2.5	4	3
20	0.5	3.5	5	4.6
25	1	5	5	5.8
30	1	5	5	7
35	1	6	6	7.5
45	1	7.5	8	8.9
55	1.5	10	10	12.7
65	1.5	15	10	19

[Model HSR]

Unit: mm

MODEL NO.	Corner Radius r (max)	Shoulder Height for LM rail H1	Shoulder Height for LM block H2	H3
15	0.5	3	4	4.7
20	0.5	3.5	5	4
25	1	5	5	5.5
30	1	5	5	7
35	1	6	6	7.5
45	1	8	8	10
55	1.5	10	10	13
65	1.5	10	10	14

[Model SR]

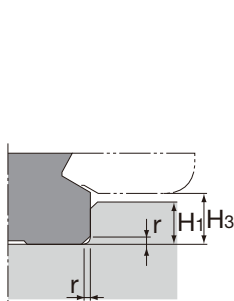
Unit: mm

MODEL NO.	Corner Radius r (max)	Shoulder Height for LM rail H1	Shoulder Height for LM block H2	H3
15	0.5	3.8	4	5.8
20	0.5	5	5	6
25	1	5.5	5	7
30	1	8	6	9.5
35	1	9	6	11.5
45	1	10	8	12.5
55	1.5	11	8	13.5

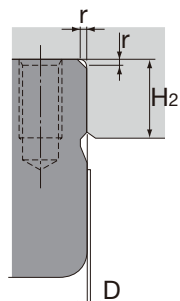
[Model SHW/HRW]

Unit: mm

MODEL NO.	Corner Radius r (max)	Shoulder Height for LM rail H1	Shoulder Height for LM block H2	H3
17	0.4	2	4	2.5
21	0.4	2.5	5	3
27	0.4	2.5	5	3
35	0.8	3.5	5	4
50	0.8	3	6	3.4



Shoulder for the LM Rail

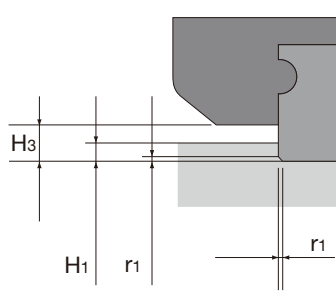


Shoulder for the LM Block

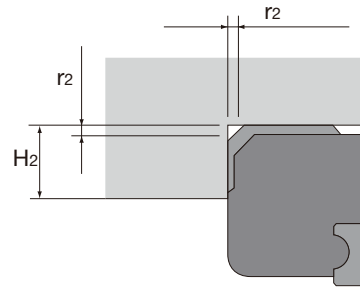
[Model SSR]

Unit: mm

MODEL NO.	Corner Radius r (max)	Shoulder Height for LM rail H1	Shoulder Height for LM block H2	H3	D
15	0.5	3.8	5.5	4.5	0.3
20	0.5	5	7.5	6	0.3
25	1	5.5	8	6.8	0.4
30	1	8	11.5	9.5	0.4
35	1	9	16	12	0.4



LM Rail Section

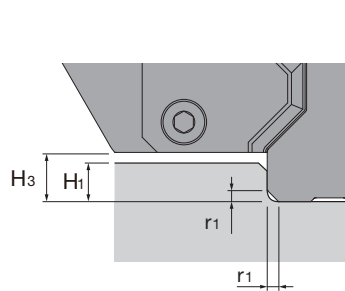


LM Block Section

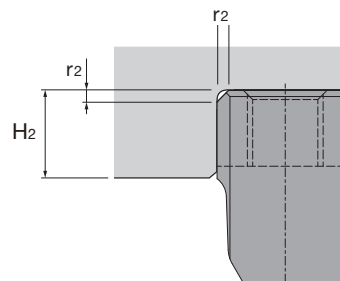
[Model SRS]

Unit: mm

MODEL NO.	Corner Radius for LM Rail r1 (max)	Corner Radius for LM Block r2 (max)	Shoulder Height for LM rail H1	Shoulder Height for LM block H2	H3
7	0.1	0.2	0.9	3.3	1.3
7W	0.1	0.1	1.4	3.8	1.8
9	0.1	0.3	1.1	4.5	1.5
9W	0.1	0.5	2.5	4.9	2.9
12	0.3	0.2	1.5	5.7	2.1
12W	0.3	0.3	2.5	5.7	3
15	0.3	0.4	2.2	6.5	2.7
15W	0.3	0.3	2.2	6.5	2.7



Shoulder for the LM Rail



Shoulder for the LM Block

[Model HRX]

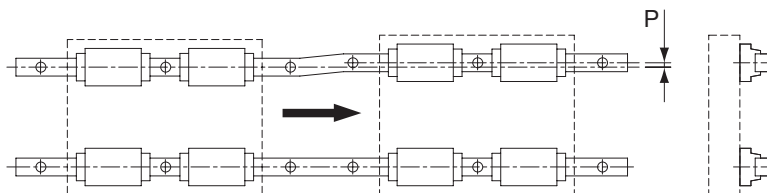
Unit: mm

MODEL NO.	Corner Radius for LM Rail r1 (max)	Corner Radius for LM Block r2 (max)	Shoulder Height for LM rail H1	Shoulder Height for LM block H2	H3
25	1	1	4	5	5
30	1	1	4	5	5
35	1	1	5.5	6	6.5
45	1.5	1.5	6.5	8	8.5
55	1.5	1.5	9	10	11
65	1.5	2	9.5	10	12

Error Allowance in the Mounting Surface

Error Allowance in Parallelism Between Two Rails

Misalignment of the mounting surface can impact the product life of an LM Guide. The table below shows the approximate value (P) of the error allowance in parallelism between two rails under normal use for each model number.



[Model SHS/HSR]

Unit: μm

MODEL NO.	NORMAL CLEARANCE	CLEARANCE C1
15	25	18
20	25	20
25	30	22
30	40	30
35	50	35
45	60	40
55	70	50
65	80	60

[Model SSR/SR]

Unit: μm

MODEL NO.	NORMAL CLEARANCE	CLEARANCE C1
15	35	25
20	40	30
25	50	35
30	60	40
35	70	50
45	80	60
55	100	70

[Model SHW/HRW]

Unit: μm

MODEL NO.	NORMAL CLEARANCE	CLEARANCE C1
17	20	15
21	25	18
27	25	20
35	30	22
50	40	30

[Model SRS/SRS-G]

Unit: μm

MODEL NO.	NORMAL CLEARANCE
7	3
9	4
12	9
15	10

[Model HRX]

Unit: μm

MODEL NO.	NORMAL CLEARANCE
25	7
30	8
35	9
45	11
55	13
65	17

Error Allowance in Parallelism Between Two Rails

The flatness of the LM Guide mounting surface may affect the service life. The reference tolerance values for the mounting surface flatness of models SRS/SRS-G (general use) are indicated here. Note that the service life of models not shown here may also be affected if the mounting surface is not flat.

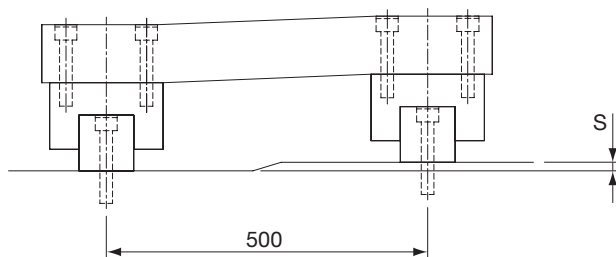
[Model SRS/SRS-G]

Unit: μm

MODEL NO.	FLATNESS ERROR
7	0.025/200
9	0.035/200
12	0.050/200
15	0.060/200

■ Error Allowance in Vertical Level Between Two Rails

The table below shows the value (S) of the error allowance in the vertical level between two rails spaced 500 mm apart, which is proportional to the distance between the rails.



[Model SHS/HSR]

Unit: μm

MODEL NO.	NORMAL CLEARANCE	CLEARANCE C1
15	130	85
20	130	85
25	130	85
30	170	110
35	210	150
45	250	170
55	300	210
65	350	250

[Model SSR/SR]

Unit: μm

MODEL NO.	NORMAL CLEARANCE	CLEARANCE C1
15	180	100
20	180	100
25	200	120
30	240	150
35	300	210
45	360	240
55	420	300

[Model SHW/HRW]

Unit: μm

MODEL NO.	NORMAL CLEARANCE	CLEARANCE C1
17	65	20
21	130	85
27	130	85
35	130	85
50	170	110

[Model SRS/SRS-G]

Unit: μm

MODEL NO.	NORMAL CLEARANCE
7	25
9	35
12	50
15	60

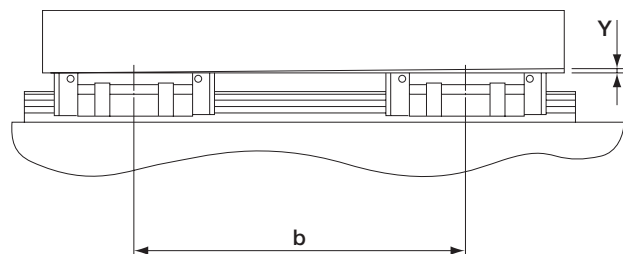
[Model HRX]

Unit: μm

MODEL NO.	NORMAL CLEARANCE
25	70
30	70
35	70
45	70
55	70
65	70

■ Error Allowance in Level in the Axial Direction

The table below shows the value (Y) of the error allowance in vertical level of the block span (b), which is proportional to the block span (b).



[Model HRX]

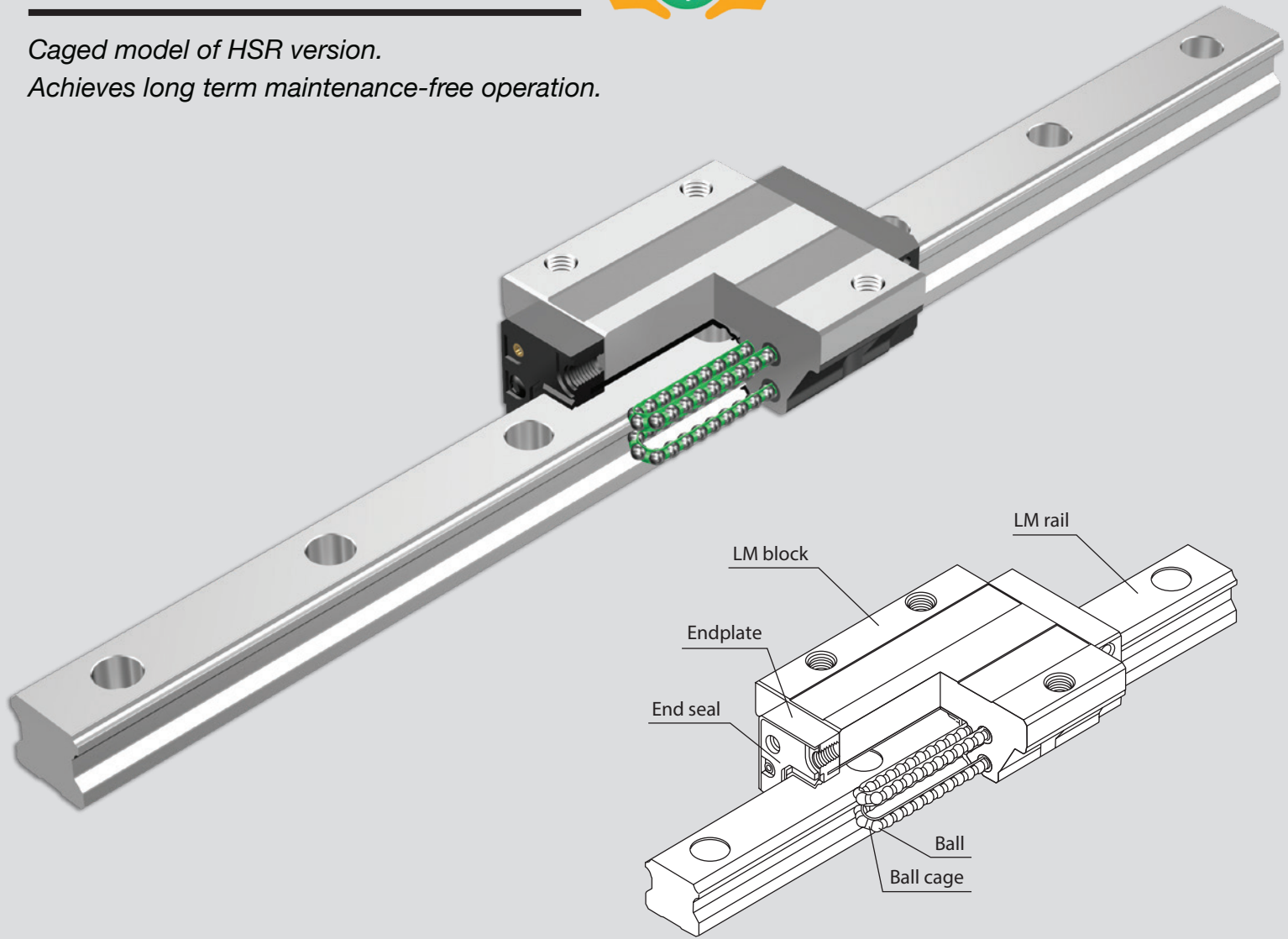
Unit: mm

ERROR ALLOWANCE IN THE MOUNTING SURFACE (Y)
0.00004b



Caged model of HSR version.

Achieves long term maintenance-free operation.

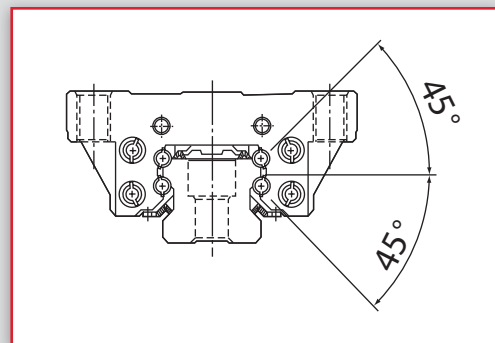


Structure:

Balls roll in four rows of raceways precision-ground on an LM rail and an LM block, and endplates incorporated in the LM block allow the balls to circulate to realize infinite motion. The use of a ball cage allows lines of evenly spaced balls, thus to eliminate friction between the balls.

Since the balls are held, they do not fall off even if the LM block is pulled out from LM rail. (Ball may fall depending on the handling. Use dummy rail when removing the LM block.)

[Cross Section]

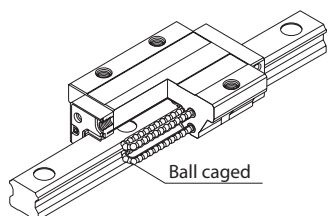


Features:

1. Caged Ball:

The ball cage drastically improves the performance of the LM guide. The effects of the ball cage are:

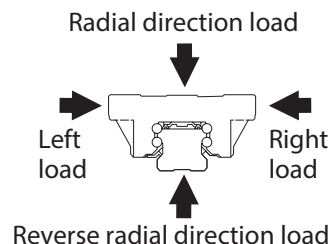
- Long service life and long-term maintenance-free operation
- Low noise, acceptable running sound and high-speed
- Smoother running
- Low dust generation



2. 4-Way Equal Load:

Each row of balls is placed at a contact angle of 45° so that the rated loads applied to the LM block are uniform in the four directions (radial, reverse radial and lateral directions).

Therefore it can be used in any direction and used for a wide range of applications.



3. Low Center of Gravity, High Rigidity:

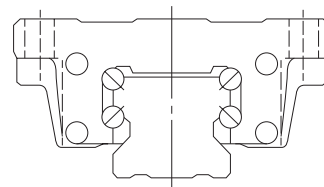
As a result of downsizing the LM rail section, the center of gravity is lowered and the rigidity is increased.

5. Global Standard LM Guide:

SHS is designed to have dimensions almost the same as that of LM Guide model HSR, which THK as a pioneer of the linear motion system has developed for the first time in the world and is practically a global standard size (ISO12090).

4. Self-Aligning Capability:

The self-aligning capability through face-to-face configuration of THK's unique circular-arc grooves (DF Structure) enables a mounting error to be absorbed even under a preload, thus to achieve highly accurate, smooth straight motion.



LM guide (DF structure) of the four-row circular-arc groove, two point contact structure.

6. Stainless Steel Option

Stainless steel option (LM Block & Rail), which is highly resistant to corrosion, is also available for quick ship. Stainless steel option is available for size 15 – 25 only.

[Rated Loads of Model SHS in All Directions]


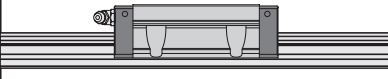


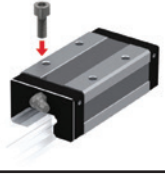

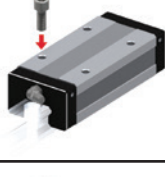
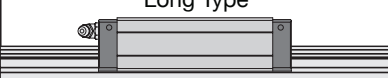


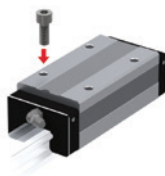
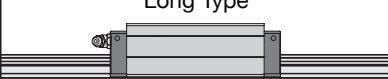
DIRECTION	BASIC DYNAMIC LOAD RATING	BASIC STATIC LOAD RATING
RADIAL DIRECTION	C	C_0
REVERSE RADIAL DIRECTION	$C_L=C$	$C_{0L}=C_0$
LATERAL DIRECTION	$C_T=C$	$C_{0T}=C_0$

[Equivalent Factor of Model SHS]

PE	X	Y
EQUIVALENT IN RADIAL DIRECTION	1.000	1.000
EQUIVALENT IN REVERSE RADIAL DIRECTION	1.000	1.000

MODEL AND TYPES OF LM BLOCK:

The applicable model and LM block types are as follows.

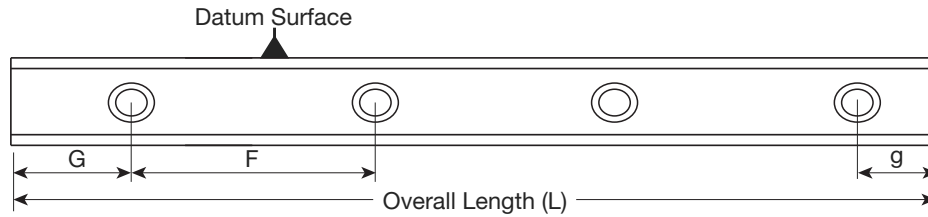
MODEL	TYPE	FEATURES
SHS-C 	 <p>Standard Type</p>	<ul style="list-style-type: none"> • The flange of its LM block has tapped holes. • The LM blocks can be mounted from the top and the bottom. • Upward mounting is used when any through holes cannot be made on the table and the tap machining is required for the table. • This is suitable for design compact in the height direction.
SHS-LC 	 <p>Long Type</p>	<ul style="list-style-type: none"> • The LM block has the same cross-sectional shape as model SHS-C, but has a longer overall LM block length and a greater rated load.
SHS-V 	 <p>Standard Type</p>	<ul style="list-style-type: none"> • With this type, the LM block has a smaller width and tapped holes. Suitable for places where the space for table width is limited. • This is suitable for design compact in the height direction.
SHS-LV 	 <p>Long Type</p>	<ul style="list-style-type: none"> • The LM block has the same cross-sectional shape as model SHS-V, but has a longer overall LM block length and a greater rated load.
SHS-R 	 <p>Standard Type</p>	<ul style="list-style-type: none"> • With this type, the LM block has a smaller width and tapped holes. Suitable for places where space for table width is limited. • It succeeds the height dimension of full-ball type LM Guide HSR.
SHS-LR 	 <p>Long Type</p>	<ul style="list-style-type: none"> • The LM block has the same cross-sectional shape as model SHS-R, but has a longer overall LM block length and a greater rated load.

⊙ = Interchangeable Series Available for both Standard & Stainless Steel Option

● = Interchangeable Series Available for Standard

MODEL	SIZE							
	15	20	25	30	35	45	55	65
SHS-C	⊙	⊙	⊙	●	●	●	●	●
SHS-LC	⊙	⊙	⊙	●	●	●	●	●
SHS-V	⊙	⊙	⊙	●	●	●	●	●
SHS-LV	⊙	⊙	⊙	●	●	●	●	●
SHS-R	⊙	-	⊙	●	●	●	●	-
SHS-LR	-	-	⊙	●	●	●	●	-

STANDARD / MAXIMUM LENGTH OF LM RAIL:



Unit = mm

MODEL NO.	SHS 15	SHS 20	SHS 25	SHS 30	SHS 35	SHS 45	SHS 55	SHS 65
LM RAIL STANDARD LENGTH (L ₀)	160	220	220	280	280	570	780	1270
	220	280	280	360	360	675	900	1570
	280	340	340	440	440	780	1020	2020
	340	400	400	520	520	885	1140	2620
	400	460	460	600	600	990	1260	
	460	520	520	680	680	1095	1380	
	520	580	580	760	760	1200	1500	
	580	640	640	840	840	1305	1620	
	640	700	700	920	920	1410	1740	
	700	760	760	1000	1000	1515	1860	
	760	820	820	1080	1080	1620	1980	
	820	940	940	1160	1160	1725	2100	
	940	1000	1000	1240	1240	1830	2220	
	1000	1060	1060	1320	1320	1935	2340	
	1060	1120	1120	1400	1400	2040	2460	
	1120	1180	1180	1480	1480	2145	2580	
	1180	1240	1240	1560	1560	2250	2700	
	1240	1360	1300	1640	1640	2355	2820	
	1360	1480	1360	1720	1720	2460	2940	
	1480	1600	1420	1800	1800	2565	3060	
	1600	1720	1480	1880	1880	2670		
		1840	1540	1960	1960	2775		
		1960	1600	2040	2040	2880		
		2080	1720	2200	2200	2985		
		2200	1840	2360	2360	3090		
			1960	2520	2520			
			2080	2680	2680			
			2200	2840	2840			
			2320	3000	3000			
			2440					
			2500					
STANDARD PITCH F	60	60	60	80	80	105	120	150
G/g	20	20	20	20	20	22.5	30	35
STANDARD MAX LENGTH	3000	★ 3000	★ 3000	★ 3000	★ 3000	★ 3090	★ 3060	★ 3000
CUSTOM ORDER MAX LENGTH		7000	7000	7000	7000	7000	7000	7000
STANDARD MAX LENGTH FOR STAINLESS	1240	1480	2020	-	-	-	-	-

★ 7m Single Rails Are Available in Stock!



MODEL NUMBER CODING:

BLOCK

 : Choose Quick-Ship Option
 : Standard/Only Quick Ship Option

Step 1		Step 2		Step 3		
MODEL NUMBER	BLOCK TYPE	BLOCK QUANTITY	SEAL TYPE	RADIAL CLEARANCE	SYMBOL FOR INTERCHANGEABLE BLOCK & RAIL	SAMPLE PART NUMBER
SHS25	LC	1	SS	C1	(GK)	SHS25LC1SSC1(GK) BLOCK
		Standard for interchangeable blocks = 1	Standard for SHS*: Contamination Protection Seal "SS"	Normal Clearance = No Symbol; Light Preload = C1		



RAIL

Step 1		Step 2		
MODEL NUMBER		OVERALL LENGTH (mm)*	SYMBOL FOR INTERCHANGEABLE BLOCK & RAIL	SAMPLE PART NUMBER
SHS25	-	440L	(GK)	SHS25-440L(GK) RAIL
		Add "L" to end of length		

RAIL - Bottom Tap Option

Step 1		Step 2			
MODEL NUMBER		OVERALL LENGTH (mm)*	SYMBOL FOR INTERCHANGEABLE BLOCK & RAIL	SYMBOL FOR INTERCHANGEABLE BLOCK & RAIL	SAMPLE PART NUMBER
SHS25	-	2200L	K	(GK)	SHS25-2200LK(GK) RAIL
Available for 15-35 for Quick Ship		Add "L" to end of length			

BLOCK - Stainless Steel Option

 : Choose Quick-Ship Option
 : Standard/Only Quick Ship Option

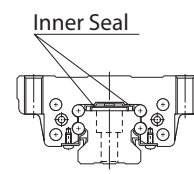
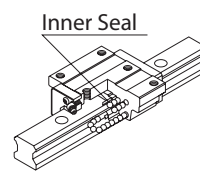
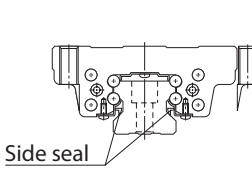
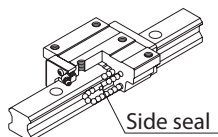
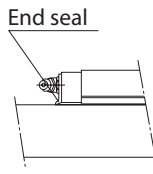
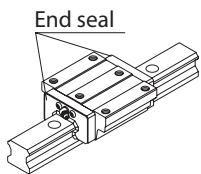
Step 1		Step 2				
MODEL NUMBER	BLOCK TYPE	BLOCK QUANTITY	SEAL TYPE	SYMBOL FOR STAINLESS STEEL	SYMBOL FOR INTERCHANGEABLE BLOCK & RAIL	SAMPLE PART NUMBER
SHS15	V	1	SS	M	(GK)	SHS15V1UUM(GK) BLOCK
<i>Available for 15 - 25</i>		<i>Standard for interchangeable blocks = 1</i>	UU	<i>SS or UU for Quick Ship SHS Stainless Steel</i>		

RAIL - Stainless Steel Option

Step 1		Step 2				
MODEL NUMBER		OVERALL LENGTH (mm)*	SYMBOL FOR STAINLESS STEEL	SYMBOL FOR INTERCHANGEABLE BLOCK & RAIL		SAMPLE PART NUMBER
SHS15	-	1060L	M	(GK)		SHS15-1060LM(GK) RAIL
<i>Available for 15-25</i>		<i>Add "L" to end of length</i>				

*SS = End Seal + Side Seal + Inner Seal

UU = End Seal

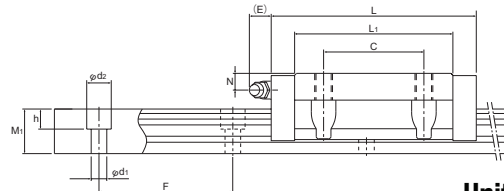
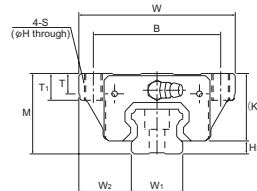
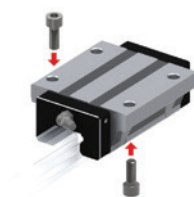


Please contact THK for other seal options.




* If you need a non-standard rail length, please let us know overall length with G/g dimensions. EX: SHS25-2340L(GK) RAIL (G=40/g=20).

Note: If you need jointed rails (two or more rails butted end to end), please let us know overall length with drawing. Part number will have "T" after overall length. EX: SHS35-3560LT(GK) RAIL

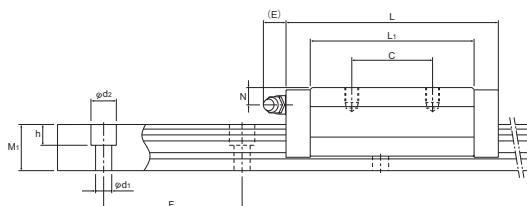
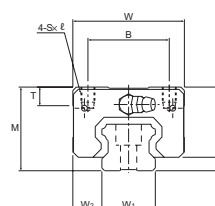
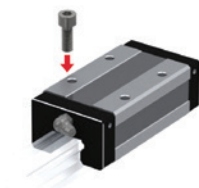
SHS-C, LC:






Unit = mm

MODEL NO.	OUTER DIMENSIONS			LM BLOCK DIMENSIONS											W ₂	H ₃	BASIC LOAD RATING		STATIC PERMISSIBLE MOMENT kN-M					MASS kg
	HEIGHT M	WIDTH W	LENGTH L	B	C	S	H	L ₁	T	T ₁	K	N	E	GREASE NIPPLE			C kN	C0 kN	MA 		MB 		MC 	
																			1 BLOCK	DOUBLE BLOCK	1 BLOCK	DOUBLE BLOCK	1 BLOCK	
SHS 15C SHS 15LC	24	47	64.4 79.4	38	30	M5	4.4	48 63	5.9	8	21	5.5	5.5	PB1021B	16	3	14.2 17.2	24.2 31.9	0.175 0.296	0.898 1.43	0.175 0.296	0.898 1.43	0.16 0.212	0.23 0.29
SHS 20C SHS 20LC	30	63	79 98	53	40	M6	5.4	59 78	7.2	10	25.4	6.5	12	B-M6F	21.5	4.6	22.3 28.1	38.4 50.3	0.334 0.568	1.75 2.8	0.334 0.568	1.75 2.8	0.361 0.473	0.46 0.61
SHS 25C SHS 25LC	36	70	92 109	57	45	M8	6.8	71 88	9.1	12	30.2	7.5	12	B-M6F	23.5	5.8	31.7 36.8	52.4 64.7	0.566 0.848	2.75 3.98	0.566 0.848	2.75 3.98	0.563 0.696	0.72 0.89
SHS 30C SHS 30LC	42	90	106 131	72	52	M10	8.5	80 105	11.5	15	35	8	12	B-M6F	31	7	44.8 54.2	66.6 88.8	0.786 1.36	4.08 6.6	0.786 1.36	4.08 6.6	0.865 1.15	1.34 1.66
SHS 35C SHS 35LC	48	100	122 152	82	62	M10	8.5	93 123	11.5	15	40.5	8	12	B-M6F	33	7.5	62.3 72.9	96.6 127	1.38 2.34	6.76 10.9	1.38 2.34	6.76 10.9	1.53 2.01	1.9 2.54
SHS 45C SHS 45LC	60	120	140 174	100	80	M12	10.5	106 140	14.1	18	51.1	10.5	16	B-R1/8 (B-PT1/8)	37.5	8.9	82.8 100	126 166	2.05 3.46	10.1 16.3	2.05 3.46	10.1 16.3	2.68 3.53	3.24 4.19
SHS 55C SHS 55LC	70	140	171 213	116	95	M14	12.5	131 173	16	21	57.3	11	16	B-R1/8 (B-PT1/8)	43.5	12.7	128 161	197 259	3.96 6.68	19.3 31.1	3.96 6.68	19.3 31.1	4.9 6.44	5.35 6.97
SHS 65C SHS 65LC	90	170	221 272	142	110	M16	14.5	175 226	18.8	24	71	19	16	B-R1/8 (B-PT1/8)	53.5	19	205 253	320 408	8.26 13.3	40.4 62.6	8.26 13.3	40.4 62.6	9.4 11.9	10.7 13.7

SHS-V, LV:



Unit = mm

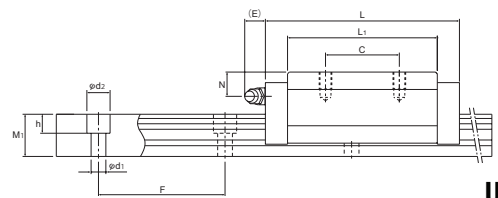
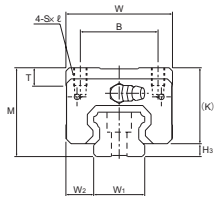
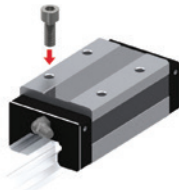
MODEL NO.	OUTER DIMENSIONS			LM BLOCK DIMENSIONS									W ₂	H ₃	BASIC LOAD RATING		STATIC PERMISSIBLE MOMENT kN-M					MASS kg
	HEIGHT M	WIDTH W	LENGTH L	B	C	S x ℓ	L ₁	T	K	N	E	GREASE NIPPLE			C kN	C0 kN	MA		MB		MC	
																						
																				1 BLOCK	DOUBLE BLOCK	
SHS 15V SHS 15LV	24	34	64.4 79.4	26	26 34	M4x4	48 63	5.9	21	5.5	5.5	PB1021B	9.5	3	14.2 17.2	24.2 31.9	0.175 0.296	0.898 1.43	0.175 0.296	0.898 1.43	0.16 0.212	0.19 0.22
SHS 20V SHS 20LV	30	44	79 98	32	36 50	M5x5	59 78	8	25.4	6.5	12	B-M6F	12	4.6	22.3 28.1	38.4 50.3	0.334 0.568	1.75 2.8	0.334 0.568	1.75 2.8	0.361 0.473	0.35 0.46
SHS 25V SHS 25LV	36	48	92 109	35	35 50	M6x6.5	71 88	8	30.2	7.5	12	B-M6F	12.5	5.8	31.7 36.8	52.4 64.7	0.566 0.848	2.75 3.98	0.566 0.848	2.75 3.98	0.563 0.696	0.54 0.67
SHS 30V SHS 30LV	42	60	106 131	40	40 60	M8x8	80 105	8	35	8	12	B-M6F	16	7	44.8 54.2	66.6 88.8	0.786 1.36	4.08 6.6	0.786 1.36	4.08 6.6	0.865 1.15	0.94 1.16
SHS 35V SHS 35LV	48	70	122 152	50	50 72	M8x10	93 123	14.7	40.5	8	12	B-M6F	18	7.5	62.3 72.9	96.6 127	1.38 2.34	6.76 10.9	1.38 2.34	6.76 10.9	1.53 2.01	1.4 1.84
SHS 45V SHS 45LV	60	86	140 174	60	60 80	M10x15	106 140	14.9	51.1	10.5	16	B-R1/8 (B-PT1/8)	20.5	8.9	82.8 100	126 166	2.05 3.46	10.1 16.3	2.05 3.46	10.1 16.3	2.68 3.53	2.54 3.19
SHS 55V SHS 55LV	70	100	171 213	75	75 95	M12x15	131 173	19.4	57.3	11	16	B-R1/8 (B-PT1/8)	23.5	12.7	128 161	197 259	3.96 6.68	19.3 31.1	3.96 6.68	19.3 31.1	4.9 6.44	4.05 5.23
SHS 65V SHS 65LV	90	126	221 272	76	70 120	M16x20	175 226	19.5	71	19	16	B-R1/8 (B-PT1/8)	31.5	19	205 253	320 408	8.26 13.3	40.4 62.6	8.26 13.3	40.4 62.6	9.4 11.9	8.41 10.7

Static Permissible Moment: Double Blocks - value with 2 blocks in close contact with each other.

Lubrication: Lithium soap base grease No. 2 (THK AFB-LF grease) is contained.

Lithium soap base grease (THK AFF grease - for clean room) is contained for quick ship SHS stainless version of UU seal option.

SHS-R, LR:



Unit = mm

MODEL NO.	OUTER DIMENSIONS			LM BLOCK DIMENSIONS									W ₂	H ₃	BASIC LOAD RATING		STATIC PERMISSIBLE MOMENT kN-M					MASS kg
	HEIGHT M	WIDTH W	LENGTH L	B	C	S x t	L ₁	T	K	N	E	GREASE NIPPLE			C kN	C ₀ kN	MA		MB		MC	
																	1 BLOCK	DOUBLE BLOCK	1 BLOCK	DOUBLE BLOCK	1 BLOCK	
SHS 15R	28	34	64.4	26	26	M4x5	48	5.9	25	9.5	5.5	PB1021B	9.5	3	14.2	24.2	0.175	0.898	0.175	0.898	0.16	0.22
SHS 25R	40	48	92	35	35	M6x8	71	8	34.2	11.5	12	B-M6F	12.5	5.8	31.7	52.4	0.566	2.75	0.566	2.75	0.563	0.66
SHS 25LR			109		50		88								36.8	64.7	0.848	3.98	0.848	3.98	0.696	0.8
SHS 30R	45	60	106	40	40	M8x10	80	8	38	11	12	B-M6F	16	7	44.8	66.6	0.786	4.08	0.786	4.08	0.865	1.04
SHS 30LR			131		60		105								54.2	88.8	1.36	6.6	1.36	6.6	1.15	1.36
SHS 35R	55	70	122	50	50	M8x12	93	14.7	47.5	15	12	B-M6F	18	7.5	62.3	96.6	1.38	6.76	1.38	6.76	1.53	1.8
SHS 35LR			152		72		123								72.9	127	2.34	10.9	2.34	10.9	2.01	2.34
SHS 45R	70	86	140	60	60	M10x17	106	14.9	61.1	20.5	16	B-R1/8	20.5	8.9	82.8	126	2.05	10.1	2.05	10.1	2.68	3.24
SHS 45LR			174		80		140					(B-PT1/8)			100	166	3.46	16.3	3.46	16.3	3.53	4.19
SHS 55R	80	100	171	75	75	M12x18	131	19.4	67.3	21	16	B-R1/8	23.5	12.7	128	197	3.96	19.3	3.96	19.3	4.9	5.05
SHS 55LR			213		95		173					(B-PT1/8)			161	259	6.68	31.1	6.68	31.1	6.44	6.57

Static Permissible Moment: Double Blocks - value with 2 blocks in close contact with each other.

Lubrication: Lithium soap base grease No. 2 (THK AFB-LF grease) is contained.

Lithium soap base grease (THK AFF grease - for clean room) is contained for quick ship SHS stainless version of UU seal option.

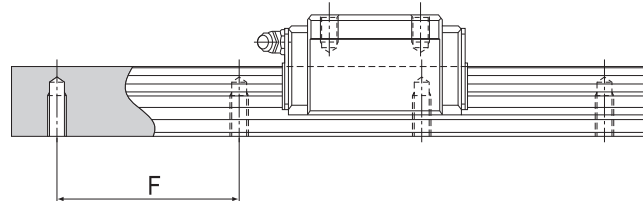
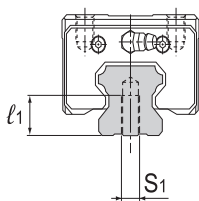
SHS LM RAIL:



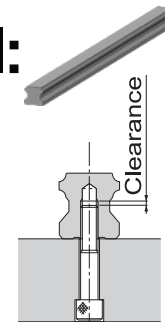
Unit = mm

MODEL NO.	LM RAIL DIMENSIONS				MASS kg/m
	WIDTH W1 0 -0.05	HEIGHT M1	PITCH F	d1 x d2 x h	
SHS 15	15	13	60	4.5 x 7.5 x 5.3	1.3
SHS 20	20	16.5	60	6 x 9.5 x 8.5	2.3
SHS 25	23	20	60	7 x 11 x 9	3.2
SHS 30	28	23	80	9 x 14 x 12	4.5
SHS 35	34	26	80	9 x 14 x 12	6.2
SHS 45	45	32	105	14 x 20 x 17	10.4
SHS 55	53	38	120	16 x 23 x 20	14.5
SHS 65	63	53	150	18 x 26 x 22	23.7

SHS LM RAIL - Bottom Tapped Rail:



Unit = mm



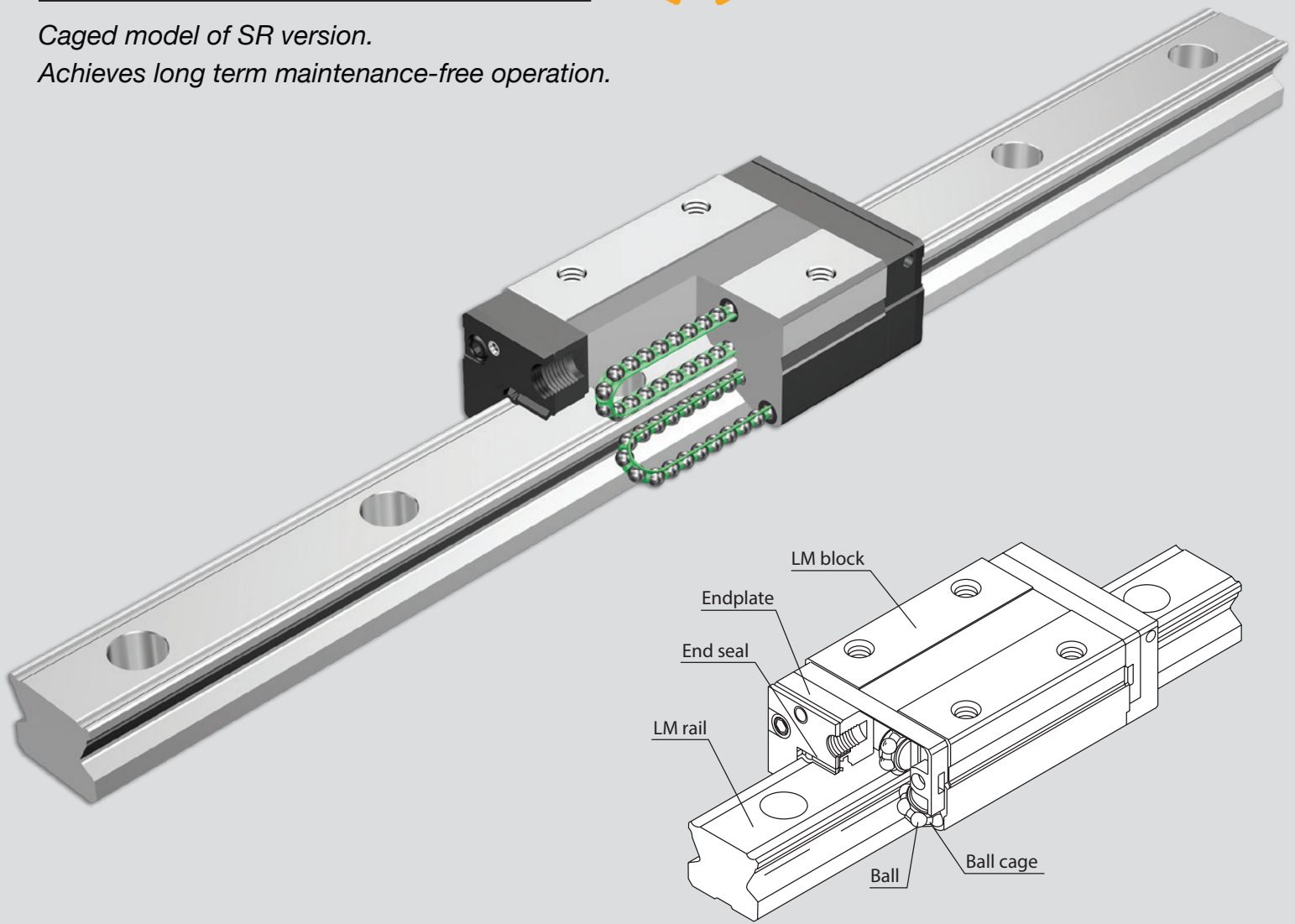
MODEL NO.	S ¹	EFFECTIVE TAP DEPTH l ₁
SHS 15	M5	8
SHS 20	M6	10
SHS 25	M6	12
SHS 30	M8	15
SHS 35	M8	17

SHS rails are also available with tapped mounting holes. Maintain 2 to 5 mm of clearance between bolt end and effective tap depth.



Caged model of SR version.

Achieves long term maintenance-free operation.



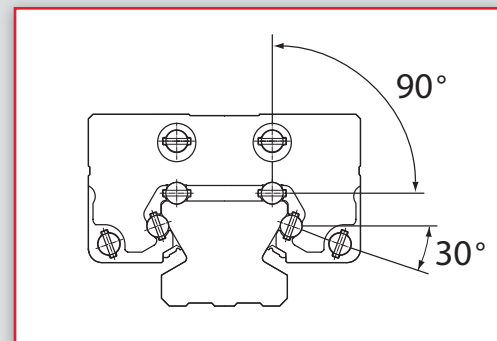
Structure:

Balls roll in four rows of raceways precision-ground on an LM rail and an LM block, and endplates incorporated in the LM block allow the balls to circulate to realize infinite motion. The use of a ball cage allows lines of evenly spaced balls, thus to eliminate friction between the balls.

Since the balls are held, they do not fall off even if the LM block is pulled out from the LM rail.

(Ball may fall depending on the handling. Use dummy rail when removing LM block.)

[Cross Section]

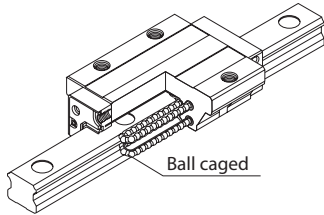


Features:

1. Caged Ball:

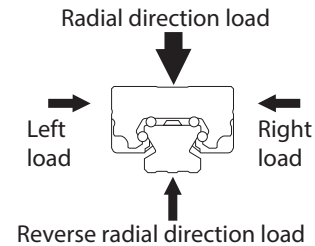
The ball cage drastically improves the performance of the LM guide. The effects of the ball cage are:

- Long service life and long-term maintenance-free operation
- Low noise, acceptable running sound and high-speed
- Smoother running
- Low dust generation



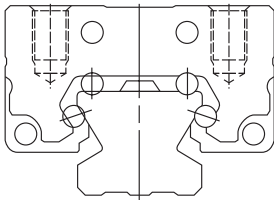
2. Compact & Efficient Design:

Since it is a compactly designed model that has a low sectional height and a ball contact structure in the radial direction, this model is suitable for horizontal guide units.



3. Self-Aligning Capability:

The self-aligning capability through face-to-face configuration of THK's unique circular-arc grooves (DF Structure) enables a mounting error to be absorbed even under a preload, thus to achieve highly accurate, smooth straight motion.



LM guide (DF structure) of the four-row circular-arc groove, two point contact structure.

4. Superb Planar Running Accuracy:

Use of a ball contact structure whose upper raceway is highly resistant to loads in the radial direction minimizes radial displacement under radial loads and provides stable, highly accurate motion.

5. Stainless Steel Option:

Stainless steel option (LM Block & Rail), which is highly resistant to corrosion, is also available for quick ship. Stainless steel option is available for only size 15 – 30 and XW & XV blocks.

[Rated Loads of Model SSR in All Directions]







DIRECTION	BASIC DYNAMIC LOAD RATING	BASIC STATIC LOAD RATING
RADIAL DIRECTION	C	C_0
REVERSE RADIAL DIRECTION	$C_L=0.50C_0$	$C_{0L}=0.50C_0$
LATERAL DIRECTION	$C_T=0.53C$	$C_{0T}=0.43C_0$

[Equivalent Factor of Model SSR]

PE	X	Y
EQUIVALENT IN RADIAL DIRECTION	--	--
EQUIVALENT IN REVERSE RADIAL DIRECTION	1.000	1.155

MODEL AND TYPES OF LM BLOCK:

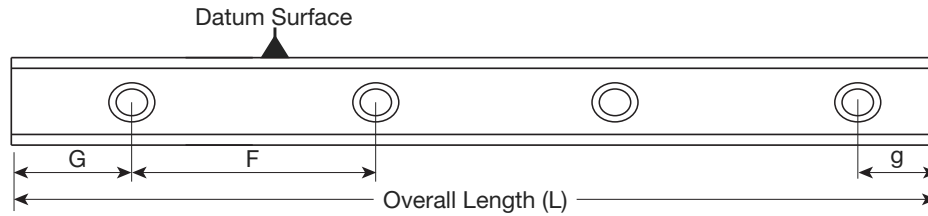
The applicable model and LM block types are as follows.

MODEL	TYPE	FEATURES
SSR-XW 	 <p>Standard Type</p>	<ul style="list-style-type: none"> • With this type, the LM block has a smaller width and tapped holes on the top face of the block. • This is suitable for design compact in the height and width dimensions.
SSR-XV 	 <p>Short Type</p>	<ul style="list-style-type: none"> • A space-saving type whose LM block has the same cross-sectional shape as model SSR-XW, but has a smaller overall LM block length.
SSR-XTB 	 <p>Standard Type</p>	<ul style="list-style-type: none"> • Since the LM block can be mounted from the bottom, this type is suitable for applications where through holes for mounting bolts cannot be drilled on the table.

◎ = Interchangeable Series Available for both Standard & Stainless Steel Option
 ● = Interchangeable Series Available

MODEL	SIZE				
	15	20	25	30	35
SSR-XW	◎	◎	◎	◎	●
SSR-XV	◎	◎	◎	-	-
SSR-XTB	●	●	●	-	-

STANDARD / MAXIMUM LENGTH OF LM RAIL:



Unit = mm

MODEL NO.	SSR 15	SSR 20	SSR 25	SSR 30	SSR 35
LM RAIL STANDARD LENGTH (L ₀)	160	220	220	280	280
	220	280	280	360	360
	280	340	340	440	440
	340	400	400	520	520
	400	460	460	600	600
	460	520	520	680	680
	520	580	580	760	760
	580	640	640	840	840
	640	700	700	920	920
	700	760	760	1000	1000
	760	820	820	1080	1080
	820	940	940	1160	1160
	940	1000	1000	1240	1240
	1000	1060	1060	1320	1320
	1060	1120	1120	1400	1400
	1120	1180	1240	1480	1480
	1180	1240	1300	1640	1640
	1240	1300	1360	1720	1720
	1300	1360	1420	1800	1800
	1360	1420	1480	1880	1880
	1420	1480	1540	1960	1960
	1480	1540	1600	2040	2040
	1540	1600	1660	2120	2120
	1600	1660	1720	2200	2200
		1720	1780	2280	2280
		1780	1840	2360	2360
		1840	1900	2440	2440
		1900	1960	2520	2520
		1960	2020	2600	2600
		2020	2080	2680	2680
		2080	2140	2760	2760
		2140	2200	2840	2840
		2200	2260	2920	2920
			2320		
			2380		
			2440		
			2500		
STANDARD PITCH F	60	60	60	80	80
G/g	20	20	20	20	20
STANDARD MAX LENGTH	3000	3000	3000	3000	3000
CUSTOM ORDER MAX LENGTH		7000	★ 7000	★ 7000	★ 7000
STANDARD MAX LENGTH FOR STAINLESS	1240	1480	2020	2520	-

★ 7m Single Rails Are Available in Stock!



MODEL NUMBER CODING:

BLOCK

 : Choose Quick-Skip Option
 : Standard/Only Quick Ship Option

Step 1		Step 2		Step 3		
MODEL NUMBER	BLOCK TYPE	BLOCK QUANTITY	SEAL TYPE	RADIAL CLEARANCE	SYMBOL FOR INTERCHANGEABLE BLOCK & RAIL	SAMPLE PART NUMBER
SSR20	XV	1	SS	C1	(GK)	SSR20XV1SSC1(GK) BLOCK
		<i>Standard for interchangeable blocks = 1</i>	<i>Standard for SSR*: Contamination Protection Seal "SS"</i>	<i>Normal Clearance = No Symbol; Light Preload = C1</i>		

RAIL

Step 1		Step 2		Step 3	
MODEL NUMBER		OVERALL LENGTH (mm)*	RAIL CODE	SYMBOL FOR INTERCHANGEABLE BLOCK & RAIL	SAMPLE PART NUMBER
SR25	-	1540L	Y	(GK)	SR25-1540LY(GK)RAIL
<i>*SSR blocks use SR Rails Model No. is SR for Rail Only</i>		<i>Add "L" to end of length</i>	<i>Size 20/30/35 = no symbol added Size 15/25 = Y</i>	SR20-640L(GK) RAIL	

RAIL - Bottom Tap Option

Step 1		Step 2			
MODEL NUMBER		OVERALL LENGTH (mm)*	SYMBOL FOR BOTTOM TAPPED RAIL	SYMBOL FOR INTERCHANGEABLE BLOCK & RAIL	SAMPLE PART NUMBER
SR25	-	640L	K	(GK)	SR25-640LK(GK)RAIL
<i>Available for 15 - 25 for Quick Ship</i>		<i>Add "L" to end of length</i>			

BLOCK - Stainless Steel Option

Step 1 Step 2

MODEL NUMBER	BLOCK TYPE	BLOCK QUANTITY	SEAL TYPE	RADIAL CLEARANCE	SYMBOL FOR INTERCHANGEABLE BLOCK & RAIL	SAMPLE PART NUMBER
SSR15	XW	1	SS	M	(GK)	SSR15XW1SSM(GK) BLOCK

*Available for
15 - 30
for Quick Ship*

*Standard for
interchangeable
blocks = 1*

*Standard for
Stainless Steel
SSR Quick Ship:
Contamination
Protection Seal
"SS"*

RAIL - Stainless Steel Option

Step 1 Step 2 Step 3

MODEL NUMBER		OVERALL LENGTH (mm)*	RAIL CODE	SYMBOL FOR STAINLESS STEEL	SYMBOL FOR INTERCHANGEABLE BLOCK & RAIL	SAMPLE PART NUMBER
SR15	-	1240L	Y	M	(GK)	SR15-1240LYM(GK) RAIL

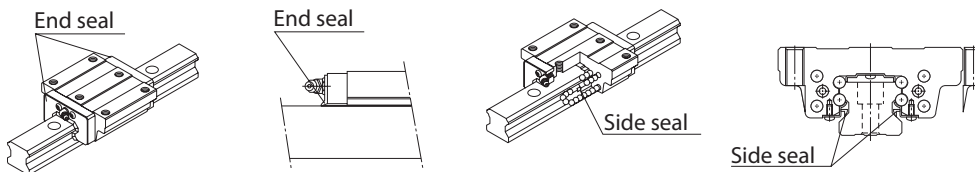
*Available for
15 - 30
for Quick Ship*

*Add "L" to end
of length*

*Size 20/30 =
no symbol
added
Size 15/25 = Y*

SR30-680LM(GK) RAIL

*SS = End Seal + Side Seal

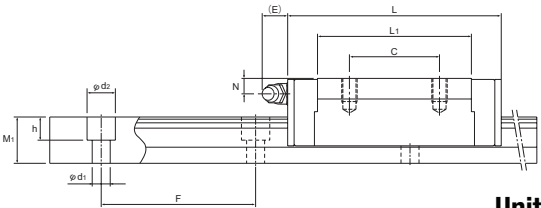
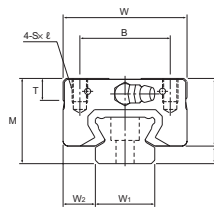


Please contact THK for other seal options.




* If you need a non-standard rail length, please let us know overall length with G/g dimensions. EX: SR30-500L(GK) RAIL (G=10/g=10).

Note: If you need jointed rails (two or more rails butted end to end), please let us know overall length with drawing. Part number will have "T" after overall length. EX: SR25-4120LYT (GK) RAIL.

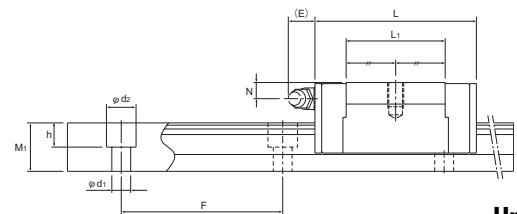
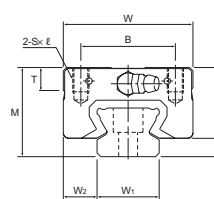
SSR-XW:






Unit = mm

MODEL NO.	OUTER DIMENSIONS			LM BLOCK DIMENSIONS								W ₂	H ₃	BASIC LOAD RATING		STATIC PERMISSIBLE MOMENT kN-M					MASS kg	
	HEIGHT M	WIDTH W	LENGTH L	B	C	S x ℓ	L ₁	T	K	N	E			GREASE NIPPLE	C kN	C0 kN	<div>MA</div>		<div>MB</div>			<div>MC</div>
																	1 BLOCK	DOUBLE BLOCK	1 BLOCK	DOUBLE BLOCK		1 BLOCK
SSR 15XW	24	34	56.9	26	26	M4x7	39.9	6.5	19.5	4.5	5.5	PB1021B	9.5	4.5	14.7	16.5	0.0792	0.44	0.0486	0.274	0.0962	0.15
SSR 20XW	28	42	66.5	32	32	M5x8	46.6	8.2	22	5.5	12	B-M6F	11	6	19.6	23.4	0.138	0.723	0.0847	0.448	0.18	0.25
SSR 25XW	33	48	83	35	35	M6x9	59.8	8.4	26.2	6	12	B-M6F	12.5	6.8	31.5	36.4	0.258	1.42	0.158	0.884	0.33	0.4
SSR 30XW	42	60	97	40	40	M8x12	70.7	11.3	32.5	8	12	B-M6F	16	9.5	46.5	52.7	0.446	2.4	0.274	1.49	0.571	0.8
SSR 35XW	48	70	110.9	50	50	M8x12	80.5	13	36.5	8.5	12	B-M6F	18	11.5	64.6	71.6	0.711	3.72	0.437	2.31	0.936	1.1

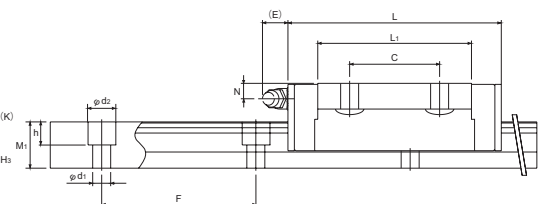
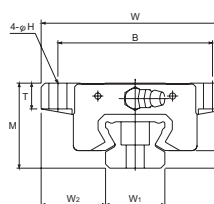
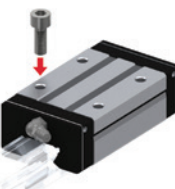
SSR-XV:






Unit = mm

MODEL NO.	OUTER DIMENSIONS			LM BLOCK DIMENSIONS								W ₂	H ₃	BASIC LOAD RATING		STATIC PERMISSIBLE MOMENT kN-M					MASS kg
	HEIGHT M	WIDTH W	LENGTH L	B	S x ℓ	L ₁	T	K	N	E	GREASE NIPPLE			C kN	CO kN	MA		MB		MC	
																					
																1 BLOCK	DOUBLE BLOCK	1 BLOCK	DOUBLE BLOCK	1 BLOCK	
SSR 15XV	24	34	40.3	26	M4x7	23.3	6.5	19.5	4.5	5.5	PB1021B	9.5	4.5	9.1	9.7	0.0303	0.192	0.0189	0.122	0.0562	0.08
SSR 20XV	28	42	47.7	32	M5x8	27.8	8.2	22	5.5	12	B-M6F	11	6	13.4	14.4	0.0523	0.336	0.0326	0.213	0.111	0.14
SSR 25XV	33	48	60	35	M6x9	36.8	8.4	26.2	6	12	B-M6F	12.5	6.8	21.7	22.5	0.104	0.661	0.0652	0.419	0.204	0.23

SSR-XTB:



Unit = mm

MODEL NO.	OUTER DIMENSIONS			LM BLOCK DIMENSIONS									W ₂	H ₃	BASIC LOAD RATING		STATIC PERMISSIBLE MOMENT kN-M					MASS kg
	HEIGHT M	WIDTH W	LENGTH L	B	C	H	L ₁	T	K	N	E	GREASE NIPPLE			C kN	CO kN						
																	1 BLOCK	DOUBLE BLOCK	1 BLOCK	DOUBLE BLOCK	1 BLOCK	
SSR 15XTB	24	52	56.9	41	26	4.5	39.9	7	19.5	4.5	5.5	PB1021B	18.5	4.5	14.7	16.5	0.0792	0.44	0.0486	0.274	0.0962	0.19
SSR 20XTB	28	59	66.5	49	32	5.5	46.6	9	22	5.5	12	B-M6F	19.5	6	19.6	23.4	0.138	0.723	0.0847	0.448	0.18	0.31
SSR 25XTB	33	73	83	60	35	7	59.8	10	26.2	6	12	B-M6F	25	6.8	31.5	36.4	0.258	1.42	0.158	0.884	0.33	0.53

Static Permissible Moment: Double Blocks - value with 2 blocks in close contact with each other.

Lubrication: Lithium soap base grease No. 2 (THK AFB-LF grease) is contained.

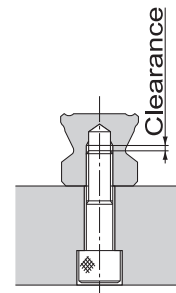
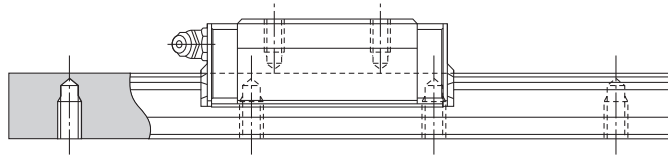
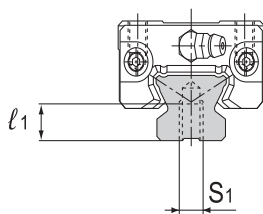
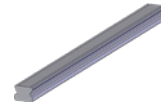
SSR LM RAIL:



Unit = mm

MODEL NO.	LM RAIL DIMENSIONS				MASS kg/m
	Width W1 ±0.05	HEIGHT M1	PITCH F	d1×d2×h	
SR 15Y	15	12.5	60	4.5× 7.5× 5.3	1.2
SR 20	20	15.5	60	6 × 9.5× 8.5	2.1
SR 25Y	23	18	60	7 ×11 × 9	2.7
SR 30	28	23	80	7 ×11 × 9	4.3
SR 35	34	27.5	80	9 ×14 ×12	6.4

SSR LM RAIL - Bottom Tapped Rail:



Unit = mm

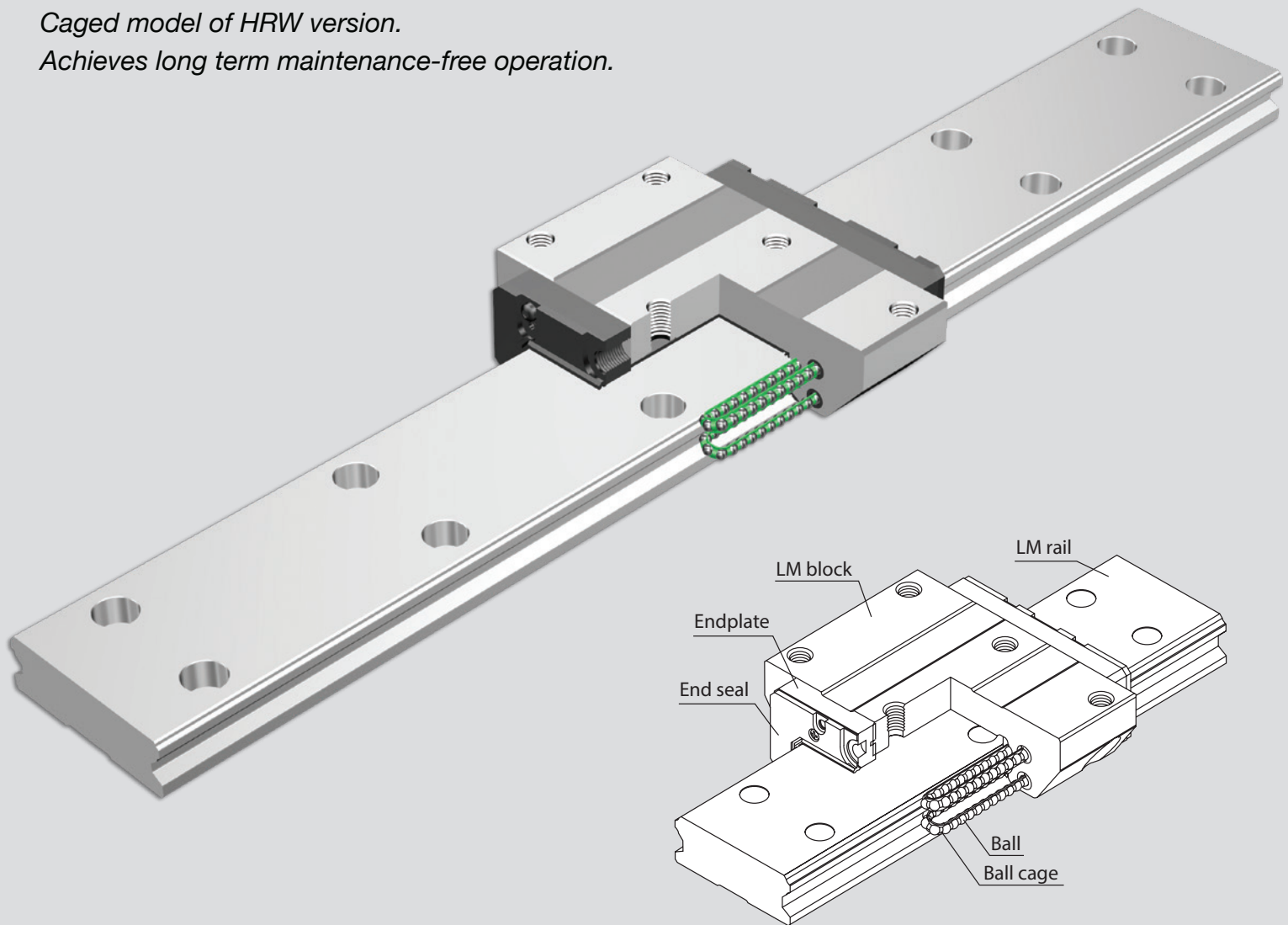
MODEL NO.	S'	EFFECTIVE TAP DEPTH ℓ_1
SR 15	M5	7
SR 20	M6	9
SR 25	M6	10

SSR rails are also available with tapped mounting holes. Maintain 2 to 5 mm of clearance between bolt end and effective tap depth.

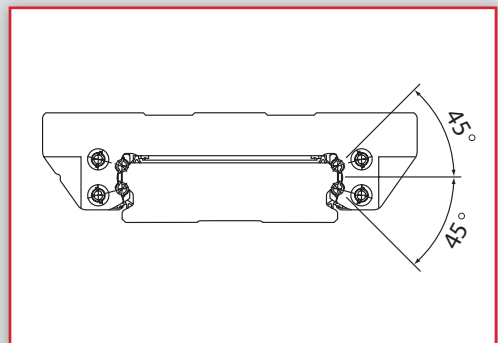


Caged model of HRW version.

Achieves long term maintenance-free operation.



[Cross Section]



Structure:

Balls roll in four rows of raceways precision-ground on an LM rail and an LM block, and endplates incorporated in the LM block allow the balls to circulate to realize infinite motion.

The use of a ball cage allows lines of evenly spaced balls, thus to eliminate friction between the balls.

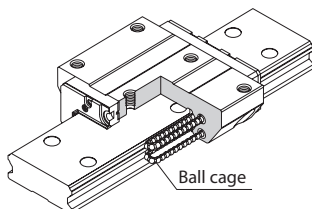
Since the balls are held, they do not fall off even if the LM block is pulled out from LM rail. (Ball may fall depending on the handling. Use dummy rail when removing LM block.)

Features:

1. Caged Ball:

The ball cage drastically improves the performance of the LM guide. The effects of the ball cage are:

- Long service life and long-term maintenance-free operation
- Low noise, acceptable running sound and high-speed
- Smoother running
- Low dust generation

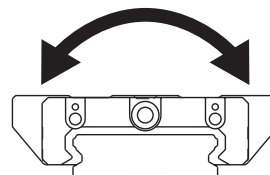


2. Wide and Low:

The LM Rail is wide and the distance between the right and left raceways is long, providing a high Mc moment rigidity.

This is suitable for places where space saving is required thanks to the low center of gravity with low LM Guide length.

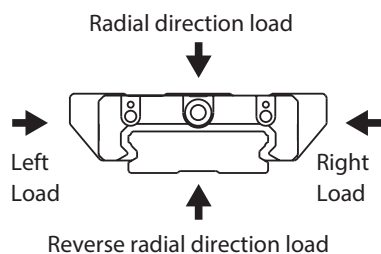
This is a high-rigidity guide suitable for usage in single-axis applications.



3. 4-Way Equal Load:

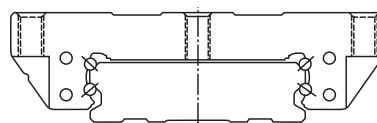
Each row of balls is placed at a contact angle of 45° so that the rated loads applied to the LM block are uniform in the four directions (radial, reverse radial and lateral directions).

Therefore it can be used in any direction and used for a wide range of applications.



4. Self-Aligning Capability:

The self-aligning capability through face-to-face configuration of THK's unique circular-arc grooves (DF Structure) enables a mounting error to be absorbed even under a preload, thus to achieve highly accurate, smooth straight motion.



LM guide (DF structure) of the four-row circular-arc groove, two point contact structure.

[Rated Loads of Model SHW in All Directions]

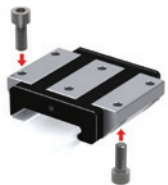
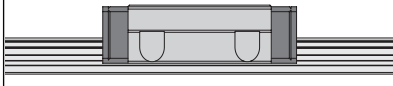
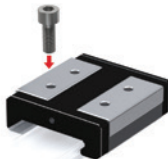

DIRECTION	BASIC DYNAMIC LOAD RATING	BASIC STATIC LOAD RATING
RADIAL DIRECTION	C	C_0
REVERSE RADIAL DIRECTION	$C_L=C$	$C_{0L}=C_0$
LATERAL DIRECTION	$C_T=C$	$C_{0T}=C_0$

[Equivalent Factor of Model SHW]

PE	X	Y
EQUIVALENT IN RADIAL DIRECTION	1.000	1.000
EQUIVALENT IN REVERSE RADIAL DIRECTION	1.000	1.000

MODEL AND TYPES OF LM BLOCK:

The applicable model and LM block types are as follows.

MODEL	TYPE	FEATURES
SHW-CAN 	Standard Type 	<ul style="list-style-type: none"> • The flange of its LM block has tapped holes. • The LM blocks can be mounted from the top and the bottom.
SHW-CRN 	Standard Type 	<ul style="list-style-type: none"> • With this type, the LM block has a smaller width and tapped holes. • This is suitable for places where the space for table width is limited and for the purpose of space saving in the width direction.

● = Interchangeable Series Available

MODEL	SIZE		
	21	27	35
SHW-CAN	●	●	●
SHW-CRN	●	●	●

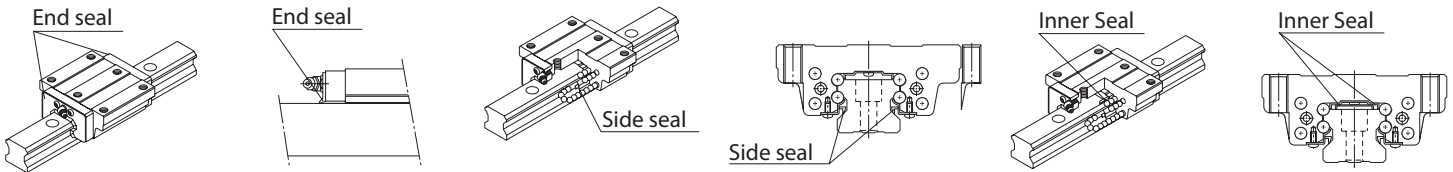
MODEL NUMBER CODING:

BLOCK

 : Choose Quick-SHIP Option
 : Standard/Only Quick Ship Option

Step 1		Step 2		Step 3		
MODEL NUMBER	BLOCK TYPE	BLOCK QUANTITY	SEAL TYPE	RADIAL CLEARANCE	SYMBOL FOR INTERCHANGEABLE BLOCK & RAIL	SAMPLE PART NUMBER
SHW27	CAN	1	SS	C1	(GK)	SHW27CAN1SSC1(GK) BLOCK
		Standard for interchangeable blocks = 1	Standard for SHW*: Contamination Protection Seal "SS"	Normal Clearance = No Symbol; Light Preload = C1		

*SS = End Seal + Side Seal + Inner Seal



Please contact THK for other seal options.

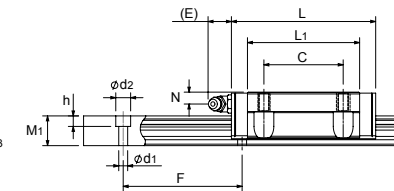
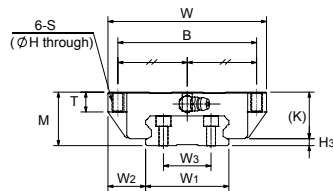
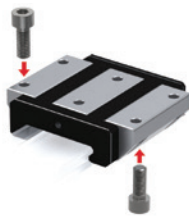
RAIL

Step 1		Step 2	
MODEL NUMBER		OVERALL LENGTH (mm)*	SYMBOL FOR INTERCHANGEABLE BLOCK & RAIL
SHW35	-	640L	(GK)
Add "L" to end of length			
			SAMPLE PART NUMBER
			SHW35-640L (GK) RAIL




* If you need a non-standard rail length, please let us know overall length with G/g dimensions. EX: SHW21-330L(GK) RAIL (G=20/g=10).

Note: If you need jointed rails (two or more rails butted end to end), please let us know overall length with drawing. Part number will have "T" after overall length. EX: SHW35-3600LT(GK) RAIL

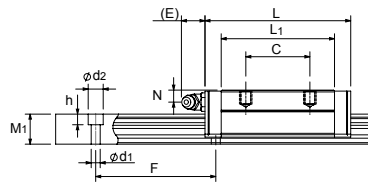
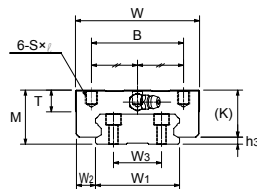
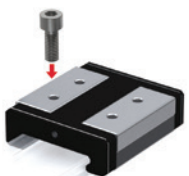
SHW-CAN:






Unit = mm

MODEL NO.	OUTER DIMENSIONS			LM BLOCK DIMENSIONS										W ₂	H ₃	BASIC LOAD RATING		STATIC PERMISSIBLE MOMENT kN-M					MASS kg
	HEIGHT M	WIDTH W	LENGTH L	B	C	S	H	L ₁	T	K	N	E	GREASE NIPPLE			C kN	CO kN	MA		MB		MC	
																							
																					1 BLOCK	DOUBLE BLOCK	
SHW 21CAN	21	68	59	60	29	M5	4.4	43.6	8	17.7	5	5.5	PB1021B	15.5	3.3	8.24	12.8	0.0806	0.434	0.0806	0.434	0.229	0.24
SHW 27CAN	27	80	72.8	70	40	M6	5.3	56.6	10	23.5	6	12	B-M6F	19	3.5	16	22.7	0.187	0.949	0.187	0.949	0.455	0.47
SHW 35CAN	35	120	107	107	60	M8	6.8	83	14	31	7.6	12	B-M6F	25.5	4	35.5	49.2	0.603	3	0.603	3	1.63	1.4

SHW-CRN:



Unit = mm

MODEL NO.	OUTER DIMENSIONS			LM BLOCK DIMENSIONS									W ₂	H ₃	BASIC LOAD RATING		STATIC PERMISSIBLE MOMENT kN-M					MASS kg
	HEIGHT M	WIDTH W	LENGTH L	B	C	S x l	L ₁	T	K	N	E	GREASE NIPPLE			C kN	CO kN	MA 		MB 		MC 	
																	1 BLOCK	DOUBLE BLOCK	1 BLOCK	DOUBLE BLOCK	1 BLOCK	
SHW 21CRN	21	54	59	31	19	M5x6	43.6	8	17.7	5	5.5	PB1021B	8.5	3.3	8.24	12.8	0.0806	0.434	0.0806	0.434	0.229	0.19
SHW 27CRN	27	62	72.8	46	32	M6x6	56.6	10	23.5	6	12	B-M6F	10	3.5	16	22.7	0.187	0.949	0.187	0.949	0.455	0.36
SHW 35CRN	35	100	107	76	50	M8x8	83	14	31	7.6	12	B-M6F	15.5	4	35.5	49.2	0.603	3	0.603	3	1.63	1.2

Static Permissible Moment: Double Blocks - value with 2 blocks in close contact with each other.

Lubrication: Lithium soap base grease No. 2 (THK AFB-LF grease) is contained.

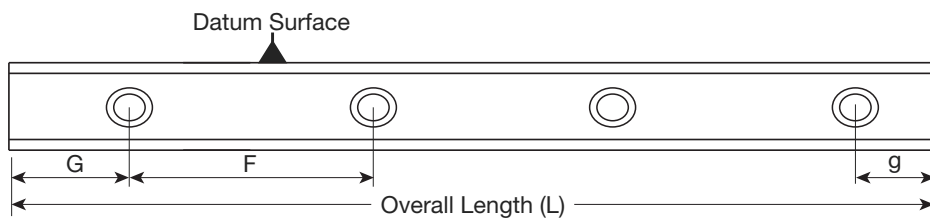
SHW LM RAIL:



Unit = mm

MODEL NO.	LM RAIL DIMENSIONS					MASS kg/m
	Width W1 0 -0.05	W3	HEIGHT M1	PITCH F	d1xd2xh	
SHW 21	37	22	11	50	4.5x7.5x5.3	2.9
SHW 27	42	24	15	60	4.5x7.5x5.3	4.5
SHW 35	69	40	19	80	7x11x9	9.6

STANDARD / MAXIMUM LENGTH OF LM RAIL:



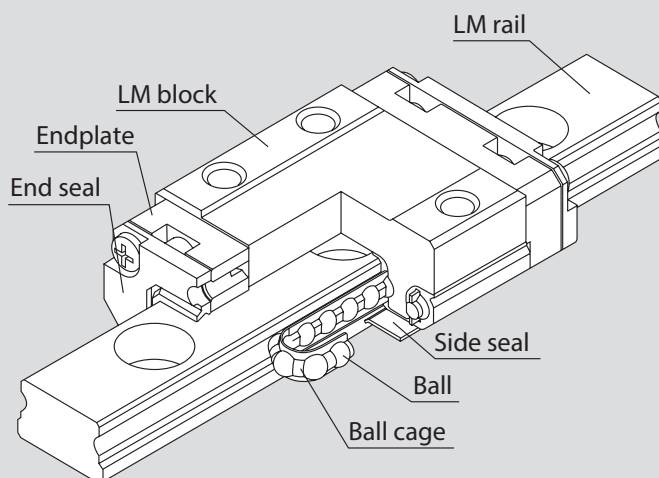
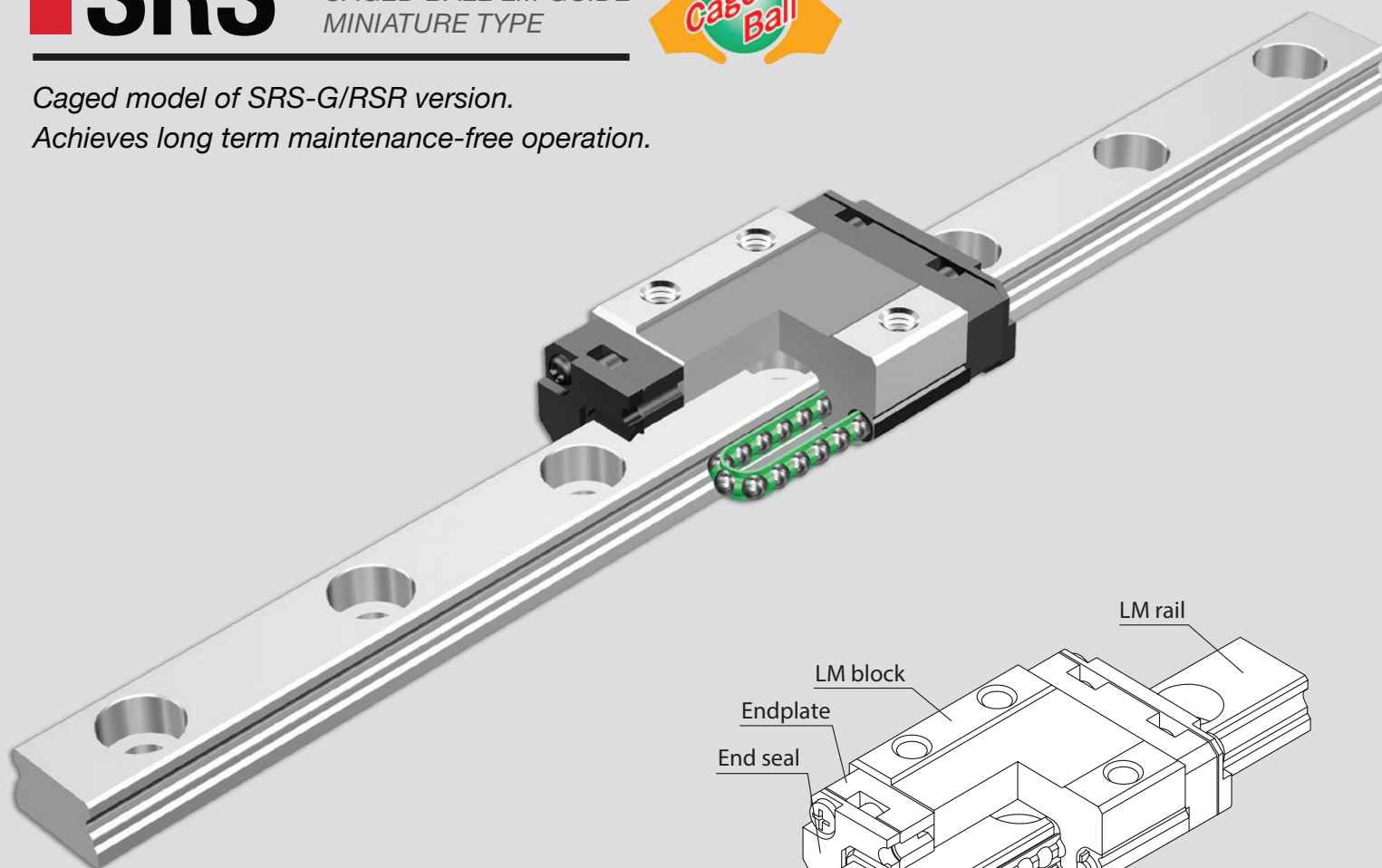
Unit = mm

MODEL NO.	SHW 21	SHW 27	SHW 35
LM RAIL STANDARD LENGTH (L ₀)	130	160	280
	230	280	440
	380	340	760
	480	460	1000
	580	640	1240
	780	820	1560
STANDARD PITCH F	50	60	80
G/g	15	20	20
STANDARD MAX LENGTH	1900	3000	3000



Caged model of SRS-G/RSR version.

Achieves long term maintenance-free operation.



Structure:

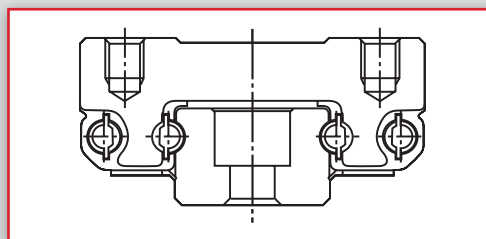
Balls roll in two rows of raceways precision-ground on an LM rail and an LM block, and endplates incorporated in the LM block allow the balls to circulate to realize infinite motion.

The use of a ball cage allows lines of evenly spaced balls, thus to eliminate friction between the balls. Since the balls are held, they do not fall off even if the LM block is pulled out from LM rail. (Ball may fall depending on handling. Use dummy rail when removing LM block.)

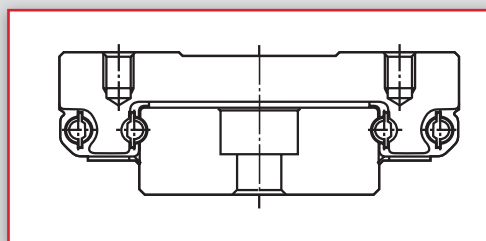
Caution:

Interchangeable SRS Blocks and Rails are not necessarily compatible with SRS Block and Rail set products.

[Cross Section - Compact Type SRS-M]



[Cross Section - Wide Type SRS-WM]

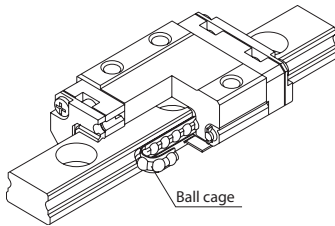


Features:

1. Caged Ball:

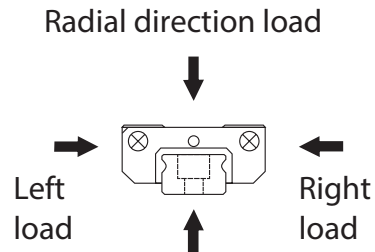
The ball cage drastically improves the performance of the LM guide. The effects of the ball cage are:

- Long service life and long-term maintenance-free operation
- Smoother running
- Low noise, acceptable running sound and high-speed
- Low dust generation



2. Wide and Low:

Since SRS has a compact structure where the rail cross section is designed to be low and that contains only two rows of balls, it can be installed in space-saving locations.



3. Lightweight:

Since part of the LM block is made of resin and formed through insert molding, SRS is a lightweight type of LM guide.

4. Stainless Steel Standard:

Stainless steel (LM Block & Rail), which is highly resistant to corrosion, is standard for SRS.

[Rated Loads of Model SRS in All Directions - Size 9]

DIRECTION	BASIC DYNAMIC LOAD RATING	BASIC STATIC LOAD RATING
RADIAL DIRECTION	C	C_0
REVERSE RADIAL DIRECTION	$C_L=C$	$C_{0L}=C_0$
LATERAL DIRECTION	$C_T=1.19C$	$C_{0T}=1.19C_0$

[EQUIVALENT FACTOR OF MODEL SRS - SIZE 9]

PE	X	Y
EQUIVALENT IN RADIAL DIRECTION	1.000	0.839
EQUIVALENT IN REVERSE RADIAL DIRECTION	1.000	0.89

[Rated Loads of Model SRS in All Directions - Size 12, 15]


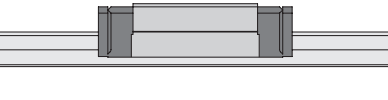
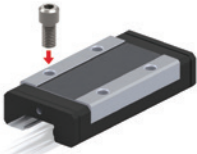
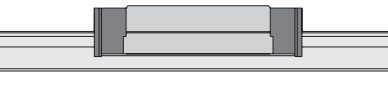
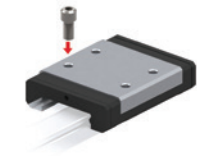


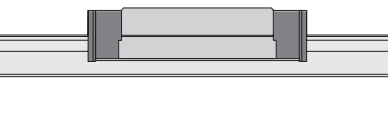
DIRECTION	BASIC DYNAMIC LOAD RATING	BASIC STATIC LOAD RATING
RADIAL DIRECTION	C	C_0
REVERSE RADIAL DIRECTION	$C_L=C$	$C_{0L}=C_0$
LATERAL DIRECTION	$C_T=C$	$C_{0T}=C_0$

[Equivalent Factor of Model SRS - Size 12, 15]

PE	X	Y
EQUIVALENT IN RADIAL DIRECTION	1.000	1.000
EQUIVALENT IN REVERSE RADIAL DIRECTION	1.000	1.000

MODEL AND TYPES OF LM BLOCK:

The applicable model and LM block types are as follows.

MODEL	TYPE	FEATURES
SRS-M 	 <p>Standard Type</p>	<ul style="list-style-type: none"> With this type, the LM block has a smaller width and tapped holes. This is suitable for design compact in the width and height directions.
SRS-N 	 <p>Long Type</p>	<ul style="list-style-type: none"> The LM block has the same cross-sectional shape as model SRS-M, but has a longer overall LM block length and a greater rated load and permissible moment.
SRS-WM 	 <p>Standard Type</p>	<ul style="list-style-type: none"> Has a longer overall LM block length, a greater width and a larger rated load and permissible moment than SRS-M.
SRS-WN 	 <p>Long Type</p>	<ul style="list-style-type: none"> The LM block has the same cross-sectional shape as model SRS-WM, but has a longer overall LM block length and a greater rated load and permissible moment.

● = Interchangeable Series Available

MODEL	SIZE			
	7	9	12	15
SRS-M	●	●	●	●
SRS-N	-	●	●	●
SRS-WM	●	●	●	●
SRS-WN	-	●	●	●

MODEL NUMBER CODING:

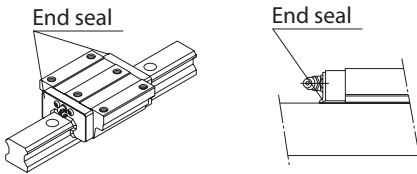
BLOCK

 : Choose Quick-Ship Option
 : Standard/Only Quick Ship Option

Step 1		Step 2		
MODEL NUMBER	BLOCK TYPE	SEAL TYPE	SYMBOL FOR INTERCHANGEABLE BLOCK & RAIL	SAMPLE PART NUMBER
SRS9X	M	UU	(GK)	SRS9XMUUC1 (GK) BLOCK

Standard for SRS*:
 Contamination
 Protection Seal "UU"

*UU = End Seal



Please contact THK for other seal options.

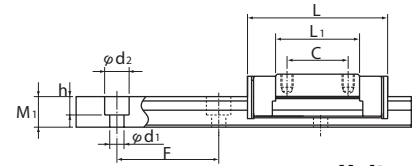
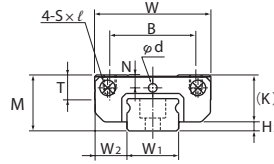
RAIL

Step 1		Step 2		
MODEL NUMBER		OVERALL LENGTH (mm)*	SYMBOL FOR INTERCHANGEABLE BLOCK & RAIL	SAMPLE PART NUMBER
SRS15W	-	220LM	(GK)	SRS15W-220LM (GK) RAIL




Add "LM" to end of length

* If you need a non-standard rail length, please let us know overall length with G/g dimensions. EX: SRS9X-120LM(GK) RAIL (G=10/g=10).

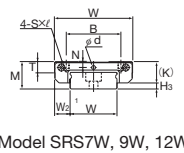
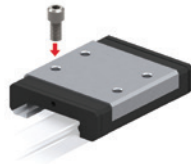
SRS-M, N:



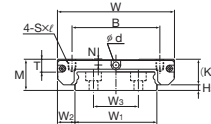
Unit = mm

MODEL NO.	OUTER DIMENSIONS			LM BLOCK DIMENSIONS								W ₂	H ₃	BASIC LOAD RATING		STATIC PERMISSIBLE MOMENT N-M					MASS kg
	HEIGHT M	WIDTH W	LENGTH L	B	C	S x ℓ	L ₁	T	K	N	GREASING HOLE d			C kN	C0 kN	MA 		MB 		MC 	
																1 BLOCK	DOUBLE BLOCK	1 BLOCK	DOUBLE BLOCK	1 BLOCK	
SRS 7M	8	17	23.4	12	8	M2x2.3	13.4	3.3	6.7	1.6	1.2	5	1.3	1.51	1.29	3.09	17.2	3.69	17.3	5.02	0.009
SRS 9XM	10	20	30.8	15	10	M3x2.8	19.8	4.5	8.5	2.4	1.6	5.5	1.5	2.69	2.75	9.31	52.2	10.7	60.3	12.7	0.016
SRS 9XN	10	20	40.8	15	16	M3x2.8	29.8	4.5	8.5	2.4	1.6	5.5	1.5	3.48	3.98	18.7	96.5	21.6	112	18.3	0.024
SRS 12M	13	27	34.4	20	15	M3x3.2	20.6	5.7	11	3	2	7.5	2	4.00	3.53	12.0	78.5	12.0	78.5	23.1	0.027
SRS 12N	13	27	47.1	20	20	M3x3.2	33.3	5.7	11	3	2	7.5	2	5.82	5.30	28.4	151	28.4	151	34.7	0.049
SRS 15M	16	32	43	25	20	M3x3.5	25.7	6.5	13.3	3	3	8.5	2.7	6.66	5.7	26.2	154	26.2	154	40.4	0.047
SRS 15N	16	32	60.8	25	25	M3x3.5	43.5	6.5	13.3	3	3	8.5	2.7	9.71	8.55	59.7	312	59.7	312	60.7	0.095

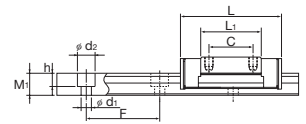
SRS-WM, WN:






Model SRS7W, 9W, 12W



Model SRS15W

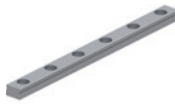


Unit = mm

MODEL NO.	OUTER DIMENSIONS			LM BLOCK DIMENSIONS								W ₂	H ₃	BASIC LOAD RATING		STATIC PERMISSIBLE MOMENT N-M					MASS kg
	HEIGHT M	WIDTH W	LENGTH L	B	C	S x ℓ	L ₁	T	K	N	GREASING HOLE d			C kN	C0 kN	MA 		MB 		MC 	
																1 BLOCK	DOUBLE BLOCK	1 BLOCK	DOUBLE BLOCK	1 BLOCK	
SRS 7WM	9	25	31	19	10	M3x2.8	20.4	3.8	7.2	1.8	1.2	5.5	1.8	2.01	1.94	6.47	36.4	7.71	42.3	14.33	0.018
SRS 9WM	12	30	39	21	12	M3x2.8	27	4.9	9.1	2.3	1.6	6	2.9	3.29	3.34	14.0	78.6	16.2	91.0	31.5	0.031
SRS 9WN	12	30	50.7	23	24	M3x2.8	38.7	4.9	9.1	2.3	1.6	6	2.9	4.20	4.37	25.1	130	29.1	151	41.3	0.049
SRS 12WM	14	40	44.5	28	15	M3x3.5	30.9	5.7	11	3	2	8	3	5.48	5.3	26.4	143	26.4	143	66.5	0.055
SRS 12WN	14	40	59.5	28	28	M3x3.5	45.9	5.7	11	3	2	8	3	7.13	7.07	49.2	249	49.2	249	88.7	0.091
SRS 15WM	16	60	55.5	45	20	M4x4.5	38.9	6.5	13.3	3	3	9	2.7	9.12	8.55	51.2	290	51.2	290	176	0.13
SRS 15WN	16	60	74.5	45	35	M4x4.5	57.9	6.5	13.3	3	3	9	2.7	12.4	12.1	106	532	106	532	250	0.201

Static Permissible Moment: Double Blocks - value with 2 blocks in close contact with each other.
Lubrication: AFF Grease is contained.

SRS-M LM RAIL:



Unit = mm

MODEL NO.	LM RAIL DIMENSIONS				MASS kg/m
	Width W1 0 -0.02	HEIGHT M1	PITCH F	d1xd2xh	
SRS 7	7	4.7	15	2.4x4.2x2.3	0.25
SRS 9X	9	5.5	20	3.5x6x3.3	0.36
SRS 12	12	7.5	25	3.5x6x4.5	0.65
SRS 15	15	9.5	40	3.5x6x4.5	0.96

SRS-W LM RAIL:

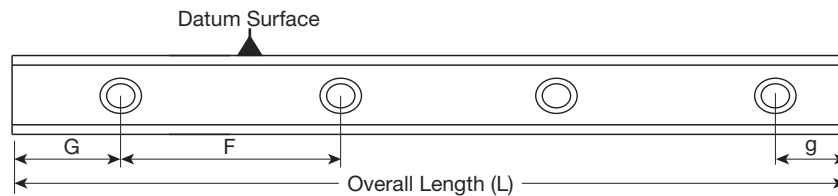


Unit = mm

MODEL NO.	LM RAIL DIMENSIONS					MASS kg/m
	Width W1 0 -0.02	W3	HEIGHT M1	PITCH F	d1xd2xh	
SRS 7W	14	—	5.2	30	3.5x6x3.2	0.56
SRS 9W	18	—	7.5	30	3.5x6x4.5	1.01
SRS 12W	24	—	8.5	40	4.5x8x4.5	1.52
SRS 15W	42	23	9.5	40	4.5x8x4.5	2.87

SRS/SRS-G Blocks use the same rail.

STANDARD / MAXIMUM LENGTH OF LM RAIL:

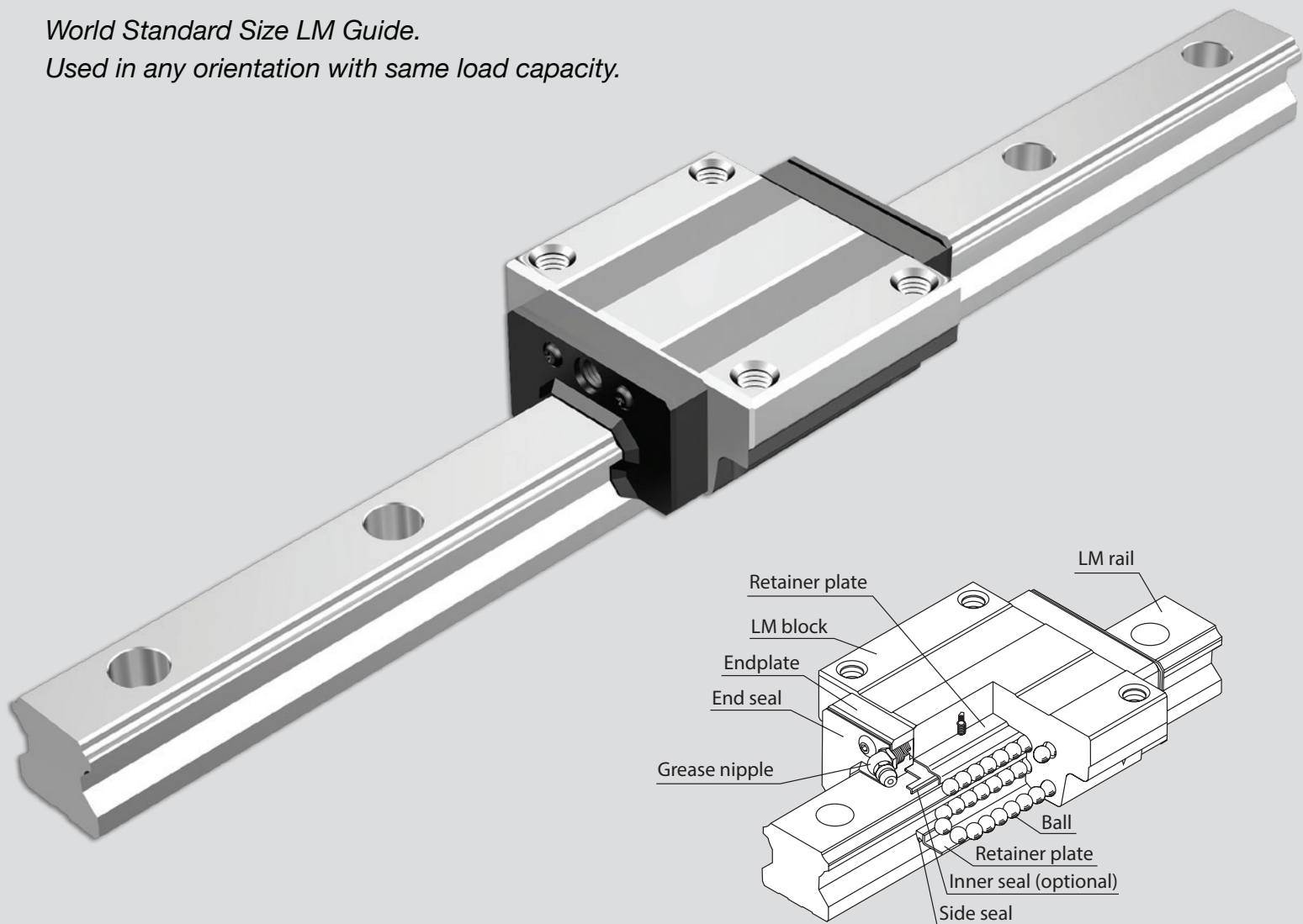


Unit = mm

MODEL NO.	SRS 7	SRS 7W	SRS 9X	SRS 9W	SRS 12	SRS 12W	SRS 15	SRS 15W
LM RAIL STANDARD LENGTH (L ₀)	40	50	55	50	70	70	70	110
	55	80	75	80	95	110	110	150
	70	110	95	110	120	150	150	190
	85	140	115	140	145	190	190	230
	100	170	135	170	170	230	230	270
	115	200	155	200	195	270	270	310
	130	260	175	260	220	310	310	430
		290	195	290	245	390	350	550
			275	320	270	470	390	670
			375		320	550	430	790
					370		470	
					470		550	
					570		670	
							870	
STANDARD PITCH F	15	30	20	30	25	40	40	40
G	5	10	7.5	10	10	15	15	15
STANDARD MAX LENGTH	490	500	1000	1000	1000	1000	1000	1000

World Standard Size LM Guide.

Used in any orientation with same load capacity.

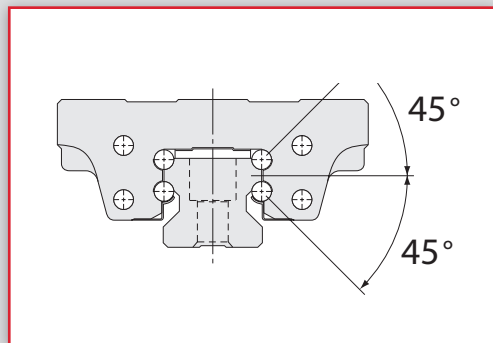


Structure:

Balls roll in four rows of raceways precision-ground on an LM rail and an LM block, and endplates incorporated in the LM block allow the balls to circulate to realize infinite motion.

Since retainer plates hold the balls, they do not fall out even if the LM block is pulled out from the LM rail (except models HSR 8, 10 and 12). (Ball may fall out depending on handling. Use dummy rail when removing the LM block.)

[Cross Section]

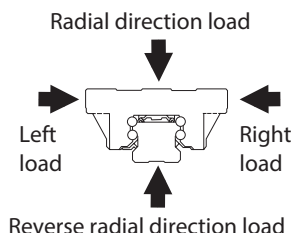


Features:

1. 4-Way Equal Load:

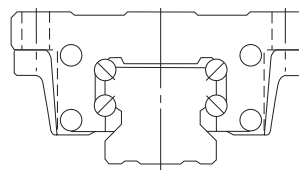
Each row of balls is placed at a contact angle of 45° so that the rated loads applied to the LM block are uniform in the four directions (radial, reverse radial and lateral directions).

Therefore it can be used in any direction and used for a wide range of applications.



2. Self-Aligning Capability:

The self-aligning capability through face-to-face configuration of THK's unique circular-arc grooves (DF Structure) enables a mounting error to be absorbed even under a preload, thus to achieve highly accurate, smooth straight motion.



LM Guide (DF structure) of four-row circular-arc groove, two-point contact structure.

3. High Rigidity:

Since balls are arranged in four rows in a well-balanced manner, a large preload can be applied and the rigidity in four directions can easily be increased.

4. High Durability:

Even under a preload or excessive eccentric load, differential slip of balls does not occur. As a result, smooth motion, high wear resistance and long-term maintenance of accuracy are achieved.

5. Stainless Steel Standard:

Stainless steel option (LM Block & Rail), which is highly resistant to corrosion, is also available for quick ship. Stainless steel option is available for only size 15 – 35 and C/LC/R/LR blocks.

[Rated Loads of Model HSR in All Directions]


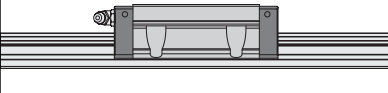
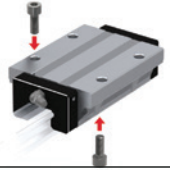
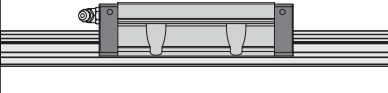


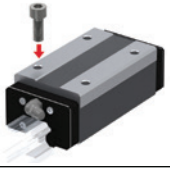


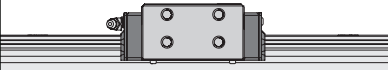
DIRECTION	BASIC DYNAMIC LOAD RATING	BASIC STATIC LOAD RATING
RADIAL DIRECTION	C	C_0
REVERSE RADIAL DIRECTION	$C_L=C$	$C_{0L}=C_0$
LATERAL DIRECTION	$C_T=C$	$C_{0T}=C_0$

[Equivalent Factor of Model HSR]

PE	X	Y
EQUIVALENT IN RADIAL DIRECTION	1.000	1.000
EQUIVALENT IN REVERSE RADIAL DIRECTION	1.000	1.000

MODEL AND TYPES OF LM BLOCK:

The applicable model and LM block types are as follows.

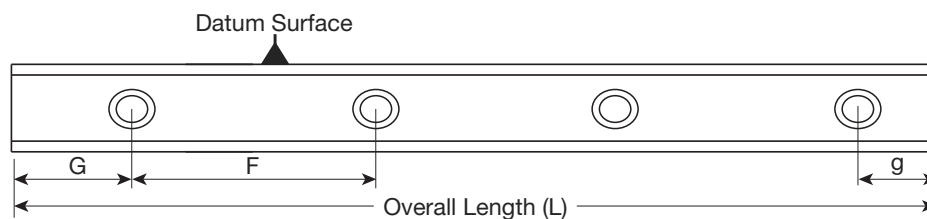
MODEL	TYPE	FEATURES
HSR-C 	 <p>Standard Type</p>	<ul style="list-style-type: none"> • The flange of its LM block has tapped holes. • The LM blocks can be mounted from the top and the bottom. • Upward mounting is used when any through holes cannot be made on the table and the tap machining is required for the table. • This is suitable for design compact in the height direction.
HSR-LC 	 <p>Long Type</p>	<ul style="list-style-type: none"> • The LM block has the same cross-sectional shape as model HSR-C, but has a longer overall LM block length and a greater rated load.
HSR-R 	 <p>Standard Type</p>	<ul style="list-style-type: none"> • With this type, the LM block has a smaller width and tapped holes. • This is suitable for design compact with width direction.
HSR-LR 	 <p>Long Type</p>	<ul style="list-style-type: none"> • The LM block has the same cross-sectional shape as model HSR-R, but has a longer overall LM block length and a greater rated load.
HSR-YR 	 <p>Standard Type</p>	<ul style="list-style-type: none"> • This type has tapped holes on the side of the LM block.

⊙ = Interchangeable Series Available for both Standard & Stainless Steel Option

● = Interchangeable Series Available

MODEL	SIZE							
	15	20	25	30	35	45	55	65
HSR-C	⊙	⊙	⊙	⊙	⊙	●	●	●
HSR-LC	⊙	⊙	⊙	⊙	⊙	●	●	●
HSR-R	⊙	⊙	⊙	⊙	⊙	●	●	●
HSR-LR	⊙	⊙	⊙	⊙	⊙	●	●	●
HSR-YR	●	●	●	●	●	-	-	-

STANDARD / MAXIMUM LENGTH OF LM RAIL:



Unit = mm



MODEL NO.	HSR 15	HSR 20	HSR 25	HSR 30	HSR 35	HSR 45	HSR 55	HSR 65
LM RAIL STANDARD LENGTH (L ₀)	160	160	220	280	280	570	780	1270
	220	220	280	360	360	675	900	1570
	280	280	340	440	440	780	1020	2020
	340	340	400	520	520	885	1140	2620
	400	400	460	600	600	990	1260	
	460	460	520	680	680	1095	1380	
	520	520	580	760	760	1200	1500	
	580	580	640	840	840	1305	1620	
	640	640	700	920	920	1410	1740	
	700	700	760	1000	1000	1515	1860	
	760	760	820	1080	1080	1620	1980	
	820	820	940	1160	1160	1725	2100	
	940	940	1000	1240	1240	1830	2220	
	1000	1000	1060	1320	1320	1935	2340	
	1060	1060	1120	1400	1400	2040	2460	
	1120	1120	1180	1480	1480	2145	2580	
	1180	1180	1240	1560	1560	2250	2700	
	1240	1240	1300	1640	1640	2355	2820	
	1360	1360	1360	1720	1720	2460	2940	
	1480	1480	1420	1800	1800	2565	3060	
	1600	1600	1480	1880	1880	2670		
		1720	1540	1960	1960	2775		
		1840	1600	2040	2040	2880		
		1960	1720	2200	2200	2985		
		2080	1840	2360	2360	3090		
		2200	1960	2520	2520			
			2080	2680	2680			
			2200	2840	2840			
			2320	3000	3000			
			2440					
			2500					
STANDARD PITCH F	60	60	60	80	80	105	120	150
G/g	20	20	20	20	20	22.5	30	35
STANDARD MAX LENGTH	3000	3000	3000	3000	3000	3090	3060	3000
CUSTOM ORDER MAX LENGTH		5000	5000	★ 7000	★ 7000	★ 7000	★ 7000	★ 7000
STANDARD MAX LENGTH FOR STAINLESS	1240	1480	2020	2520	-	-	-	-

★ 7m Single Rails Are
Available in Stock!



MODEL NUMBER CODING:

BLOCK

 : Choose Quick-Ship Option
 : Standard/Only Quick Ship Option

Step 1		Step 2		Step 3		
MODEL NUMBER	BLOCK TYPE	BLOCK QUANTITY	SEAL TYPE	RADIAL CLEARANCE	SYMBOL FOR INTERCHANGEABLE BLOCK & RAIL	SAMPLE PART NUMBER
HSR25	LC	1	SS	C1	(GK)	HSR25LC1SSC1 (GK) BLOCK
		Standard for interchangeable blocks = 1	Standard for HSR*: Contamination Protection Seal "SS"	Normal Clearance = No Symbol; Light Preload = C1 *C1 is not available for quick ship HSR-YR blocks		

RAIL

Step 1		Step 2		
MODEL NUMBER		OVERALL LENGTH (mm)*	SYMBOL FOR INTERCHANGEABLE BLOCK & RAIL	SAMPLE PART NUMBER
HSR25	-	1240L	(GK)	HSR25-1240L (GK) RAIL
Add "L" to end of length				

RAIL - Bottom Tap Option

Step 1		Step 2			
MODEL NUMBER		OVERALL LENGTH (mm)*	SYMBOL FOR BOTTOM TAPPED RAIL	SYMBOL FOR INTERCHANGEABLE BLOCK & RAIL	SAMPLE PART NUMBER
HSR30	-	1000L	K	(GK)	HSR25-1000LK(GK)RAIL
Available for 15 - 35 for Quick Ship		Add "L" to end of length			

BLOCK - Stainless Steel Option

Step 1 Step 2

MODEL NUMBER	BLOCK TYPE	BLOCK QUANTITY	SEAL TYPE	SYMBOL FOR STAINLESS STEEL	SYMBOL FOR INTERCHANGEABLE BLOCK & RAIL	SAMPLE PART NUMBER
HSR15	C	1	SS	M	(GK)	HSR15C1SSM(GK) BLOCK

Available for
15 - 35
for Quick Ship

Standard for
interchangeable
blocks = 1

Standard for
Stainless Steel
HSR Quick Ship:
Contamination
Protection Seal
"SS"

RAIL - Stainless Steel Option

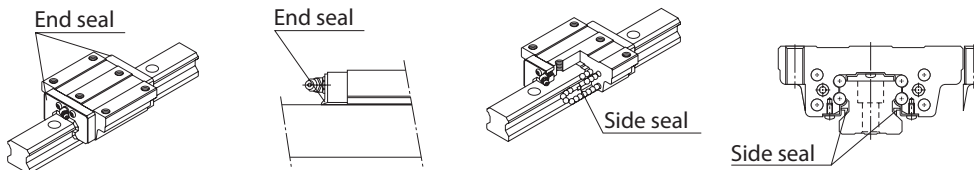
Step 1 Step 2

MODEL NUMBER		OVERALL LENGTH (mm)*	SYMBOL FOR STAINLESS STEEL	SYMBOL FOR INTERCHANGEABLE BLOCK & RAIL	SAMPLE PART NUMBER
HSR15	-	1240L	M	(GK)	HSR15-1240LM(GK)RAIL

Available for
15 - 35
for Quick Ship

Add "L" to end
of length

*SS = End Seal + Side Seal

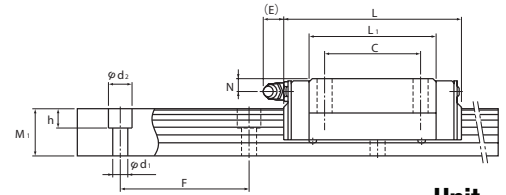
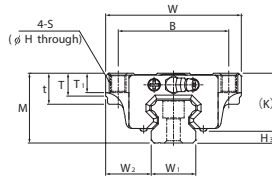
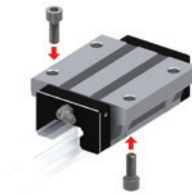


Please contact THK for other seal options.




* If you need a non-standard rail length, please let us know overall length with G/g dimensions. EX: HSR25-2340L(GK) RAIL (G=40/g=20).

Note: If you need jointed rails (two or more rails butted end to end), please let us know overall length with drawing. Part number will have "T" after overall length. EX: HSR35-3560LT(GK) RAIL.

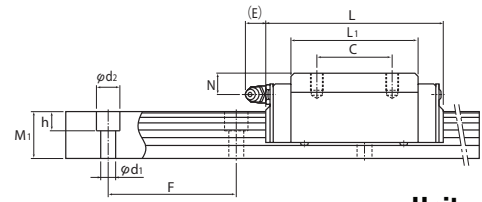
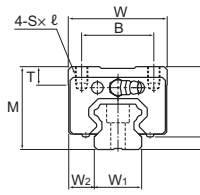
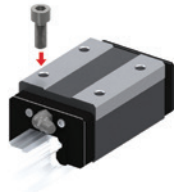
HSR-C, LC:






Unit = mm

MODEL NO.	OUTER DIMENSIONS			LM BLOCK DIMENSIONS												W ₂	H ₃	BASIC LOAD RATING		STATIC PERMISSIBLE MOMENT kN-M					MASS kg
	HEIGHT M	WIDTH W	LENGTH L	B	C	S	H	L ₁	t	T	T ₁	K	N	E	GREASE NIPPLE			C kN	C0 kN	<div>MA</div>		<div>MB</div>		<div>MC</div>	
																				<div></div>	<div></div>	<div></div>			
																							1 BLOCK	DOUBLE BLOCK	
HSR 15C HSR 15LC	24	47	56.6 74.6	38	30	M5	4.5	38.8 56.8	11	7	7	19.3	4.3	5.5	PB1021B	16	4.7	10.9 14.2	15.7 22.9	0.0945 0.194	0.527 0.984	0.0945 0.194	0.527 0.984	0.0998 0.145	0.2 0.29
HSR 20C HSR 20LC	30	63	74 90	53	40	M6	5.4	50.8 66.8	10	9.5	10	26	5	12	B-M6F	21.5	4	19.8 23.9	27.4 35.8	0.218 0.363	1.2 1.87	0.218 0.363	1.2 1.87	0.235 0.307	0.35 0.47
HSR 25C HSR 25LC	36	70	83.1 102.2	57	45	M8	6.8	59.5 78.6	16	11	10	30.5	6	12	B-M6F	23.5	5.5	27.6 35.2	36.4 51.6	0.324 0.627	1.8 3.04	0.324 0.627	1.8 3.04	0.366 0.518	0.59 0.75
HSR 30C HSR 30LC	42	90	98 120.6	72	52	M10	8.5	70.4 93	18	9	10	35	7	12	B-M6F	31	7	40.5 48.9	53.7 70.2	0.599 0.995	3.1 4.89	0.599 0.995	3.1 4.89	0.652 0.852	1.1 1.3
HSR 35C HSR 35LC	48	100	109.4 134.8	82	62	M10	8.5	80.4 105.8	21	12	13	40.5	8	12	B-M6F	33	7.5	53.9 65	70.2 91.7	0.895 1.49	4.51 7.13	0.895 1.49	4.51 7.13	1.05 1.37	1.6 2
HSR 45C HSR 45LC	60	120	139 170.8	100	80	M12	10.5	98 129.8	25	13	15	50	10	16	B-PT1/8	37.5	10	82.2 100	101 135	1.5 2.59	8.37 13.4	1.5 2.59	8.37 13.4	1.94 2.6	2.8 3.3
HSR 55C HSR 55LC	70	140	163 201.1	116	95	M14	12.5	118 156.1	29	13.5	17	57	11	16	B-PT1/8	43.5	13	121 148	146 194	2.6 4.46	14.1 22.7	2.6 4.46	14.1 22.7	3.43 4.56	4.5 5.7
HSR 65XC HSR 65XLC	90	170	190.5 250	142	110	M16	14.5	138.5 198	37	21.5	23	76	19	16	B-PT1/8	53.5	14	195 249	228 323	5.08 9.81	25 45.6	5.08 9.81	25 45.6	6.2 8.79	8.5 10.7

HSR-R, LR:

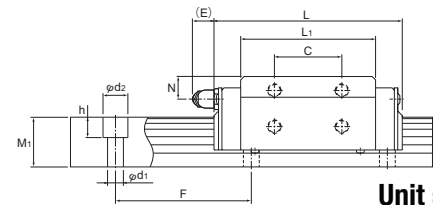
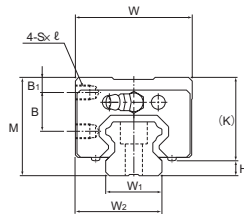


Unit = mm




MODEL NO.	OUTER DIMENSIONS			LM BLOCK DIMENSIONS									W ₂	H ₃	BASIC LOAD RATING		STATIC PERMISSIBLE MOMENT kN-M					MASS kg
	HEIGHT M	WIDTH W	LENGTH L	B	C	S x I	L ₁	T	K	N	E	GREASE NIPPLE			C kN	C0 kN						
																	1 BLOCK	DOUBLE BLOCK	1 BLOCK	DOUBLE BLOCK	1 BLOCK	
HSR 15R HSR 15LR	28	34	56.6 74.6	26	26 34	M4x5	38.8 56.8	6	23.3	8.3	5.5	PB1021B	9.5	4.7	10.9 14.2	15.7 22.9	0.0945 0.194	0.527 0.984	0.0945 0.194	0.527 0.984	0.0998 0.145	0.18 0.26
HSR 20R HSR 20LR	30	44	74 90	32	36 50	M5x6	50.8 66.8	8	26	5	12	B-M6F	12	4	19.8 23.9	27.4 35.8	0.218 0.363	1.2 1.87	0.218 0.363	1.2 1.87	0.235 0.307	0.25 0.35
HSR 25R HSR 25LR	40	48	83.1 102.2	35	35 50	M6x8	59.5 78.6	9	34.5	10	12	B-M6F	12.5	5.5	27.6 35.2	36.4 51.6	0.324 0.627	1.8 3.04	0.324 0.627	1.8 3.04	0.366 0.518	0.54 0.67
HSR 30R HSR 30LR	45	60	98 120.6	40	40 60	M8x10	70.4 93	9	38	10	12	B-M6F	16	7	40.5 48.9	53.7 70.2	0.599 0.995	3.1 4.89	0.599 0.995	3.1 4.89	0.652 0.852	0.9 1.1
HSR 35R HSR 35LR	55	70	109.4 134.8	50	50 72	M8x12	80.4 105.8	11.7	47.5	15	12	B-M6F	18	7.5	53.9 65	70.2 91.7	0.895 1.49	4.51 7.13	0.895 1.49	4.51 7.13	1.05 1.37	1.5 2
HSR 45R HSR 45LR	70	86	139 170.8	60	60 80	M10x17	98 129.8	15	60	20	16	B-PT1/8	20.5	10	82.2 100	101 135	1.5 2.59	8.37 13.4	1.5 2.59	8.37 13.4	1.94 2.6	2.6 3.1
HSR 55R HSR 55LR	80	100	163 201.1	75	75 95	M12x18	118 156.1	20.5	67	21	16	B-PT1/8	23.5	13	121 148	146 194	2.6 4.46	14.1 22.7	2.6 4.46	14.1 22.7	3.43 4.56	4.3 5.4
HSR 65XR HSR 65XLR	90	126	190.5 250	76	70 120	M16x20	138.5 198	23	76	19	16	B-PT1/8	31.5	14	195 249	228 323	5.08 9.81	25 45.6	5.08 9.81	25 45.6	6.2 8.79	7.3 9.3

Static Permissible Moment: Double Blocks - value with 2 blocks in close contact with each other.
Lubrication: Lithium soap base grease No. 2 (THK AFB-LF grease) is contained.

HSR-YR:



Unit = mm

MODEL NO.	OUTER DIMENSIONS			LM BLOCK DIMENSIONS									W ₂	H ₃	BASIC LOAD RATING		STATIC PERMISSIBLE MOMENT kN-M					MASS kg
	HEIGHT M	WIDTH W	LENGTH L	B ₁	B	C	S x l	L ₁	K	N	E	GREASE NIPPLE			C kN	C ₀ kN	MA		MB		MC	
																						
																	1 BLOCK	DOUBLE BLOCK	1 BLOCK	DOUBLE BLOCK	1 BLOCK	
HSR 15YR	28	33.5	56.6	4.3	11.5	18	M4x5	38.8	23.3	8.3	5.5	PB1021B	24	4.7	10.9	15.7	0.0945	0.527	0.0945	0.527	0.0998	0.18
HSR 20YR	30	43.5	74	4	11.5	25	M5x6	50.8	26	5	12	B-M6F	31.5	4	19.8	27.4	0.218	1.2	0.218	1.2	0.235	0.25
HSR 25YR	40	47.5	83.1	6	16	30	M6x6	59.5	34.5	10	12	B-M6F	35	5.5	27.6	36.4	0.324	1.8	0.324	1.8	0.366	0.54
HSR 30YR	45	59.5	98	8	16	40	M6x9	70.4	38	10	12	B-M6F	43.5	7	40.5	53.7	0.599	3.1	0.599	3.1	0.652	0.9
HSR 35YR	55	69.5	109.4	8	23	43	M8x10	80.4	47.5	15	12	B-M6F	51.5	7.5	53.9	70.2	0.895	4.51	0.895	4.51	1.05	1.5

Static Permissible Moment: Double Blocks - value with 2 blocks in close contact with each other.

Lubrication: Lithium soap base grease No. 2 (THK AFB-LF grease) is contained.

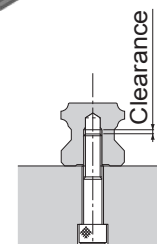
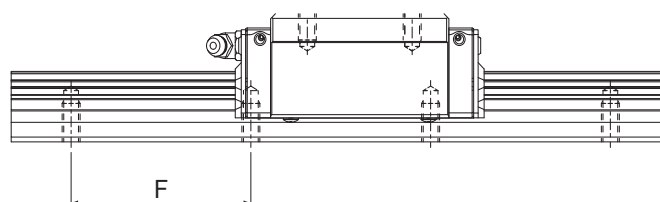
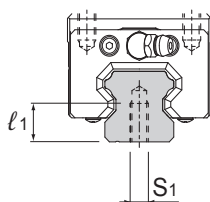
HSR LM RAIL:



Unit = mm

MODEL NO.	LM RAIL DIMENSIONS				MASS kg/m
	Width W1 ±0.05	HEIGHT M1	PITCH F	d1×d2×h	
HSR 15	15	15	60	4.5×7.5×5.3	1.5
HSR 20	20	18	60	6×9.5×8.5	2.3
HSR 25	23	22	60	7×11×9	3.3
HSR 30	28	26	80	9×14×12	4.8
HSR 35	34	29	80	9×14×12	6.6
HSR 45	45	38	105	14×20×17	11
HSR 55	53	44	120	16×23×20	15.1
HSR 65	63	53	150	18×26×22	22.5

HSR LM RAIL - Bottom Tapped Rail:

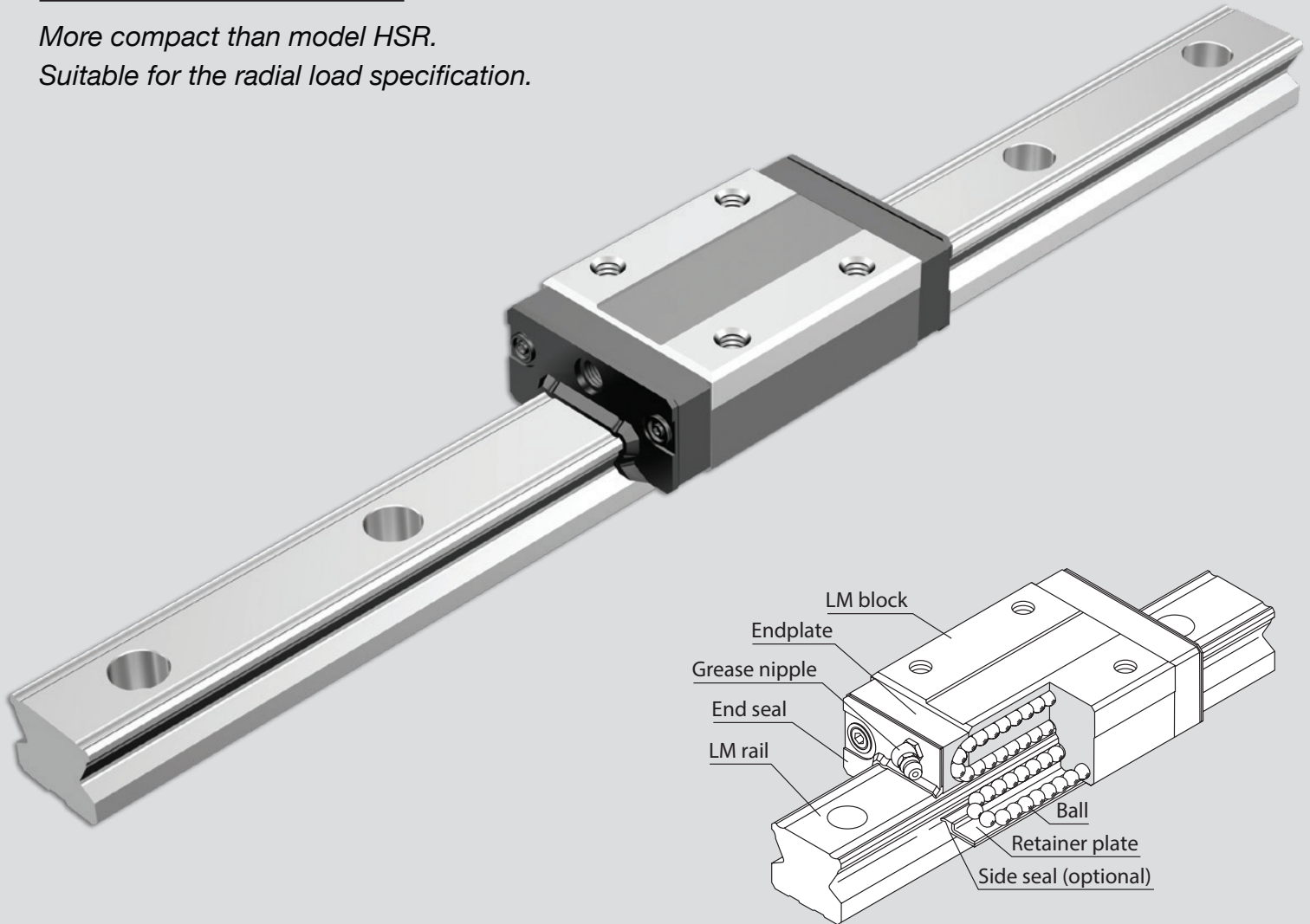


Unit = mm

MODEL NO.	S ¹	EFFECTIVE TAP DEPTH l ₁
HSR 15	M5	8
HSR 20	M6	10
HSR 25	M6	12
HSR 30	M8	15
HSR 35	M8	17

HSR rails are also available with tapped mounting holes. Maintain 2 to 5 mm of clearance between bolt end and effective tap depth.

*More compact than model HSR.
Suitable for the radial load specification.*

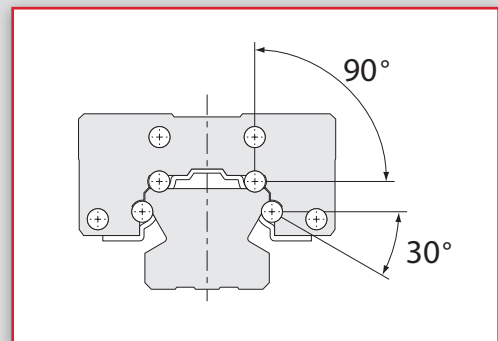


Structure:

Balls roll in four rows of raceways precision-ground on an LM rail and an LM block, and endplates incorporated in the LM block allows the balls to circulate to realize infinite motion. Since the balls are held, they do not fall off even if the LM block is pulled out from the LM rail. (Ball may fall depending on handling. Use dummy rail when removing LM block.)

It is a compact designed model that has a low sectional height and a ball contact structure rigid in the radial direction.

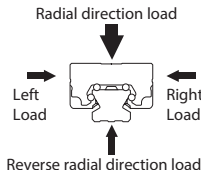
[Cross Section]



Features:

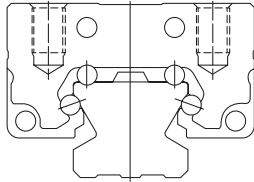
1. Compact & Efficient Design:

Since it is a compactly designed model that has a low sectional height and a ball contact structure in the radial direction, this model is suitable for horizontal guide units.



3. Self-Aligning Capability:

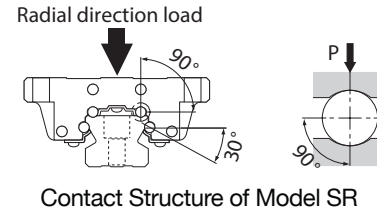
The self-aligning capability through face-to-face configuration of THK's unique circular-arc grooves (DF structure) enables a mounting error to be absorbed even under a preload, thus to achieve highly accurate, smooth straight motion.



LM Guide (DF Structure) of Four-Row circular-arc groove Two-point contact structure.

2. High Loading Capacity:

Model SR, whose angle of upper raceway has 90° contact structure, is suitable for the radial direction load. Compared with the LM Guide with 45° contact structure and the same ball diameter, this model can receive 1.4 or more larger radial direction load and its nominal life is twice or longer.



Contact Structure of Model SR

4. Stainless Steel Option:

Stainless steel option (LM Block & Rail), which is highly resistant to corrosion, is also available for quick ship. Stainless steel option is available for only size 15 – 35.

[Rated Loads of Model SR in All Directions]


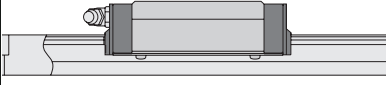


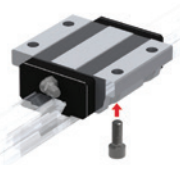
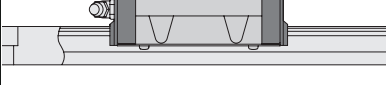
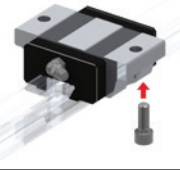
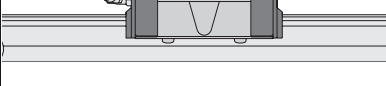
DIRECTION	BASIC DYNAMIC LOAD RATING	BASIC STATIC LOAD RATING
RADIAL DIRECTION	C	C ₀
REVERSE RADIAL DIRECTION	C _L =0.62C	C _{OL} =0.50C ₀
LATERAL DIRECTION	C _T =0.56C	C _{OT} =0.43C ₀

[Equivalent Factor of Model SR]

PE	X	Y
EQUIVALENT IN RADIAL DIRECTION	-	-
EQUIVALENT IN REVERSE RADIAL DIRECTION	1.000	1.155

MODEL AND TYPES OF LM BLOCK:

The applicable model and LM block types are as follows.

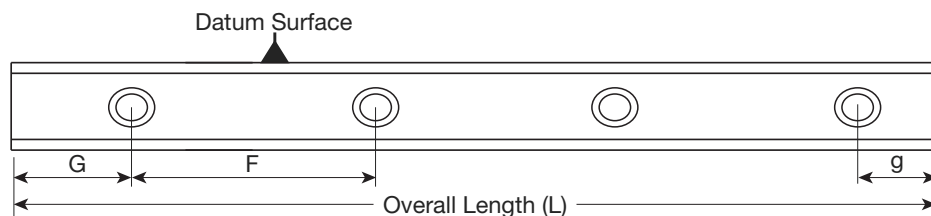
MODEL	TYPE	FEATURES
SR-W 	 <p>Standard Type</p>	<ul style="list-style-type: none"> • With this type, the LM block has a smaller width and tapped holes on the top face of the block. • This is suitable for design compact in the height and width directions.
SR-V 	 <p>Short Type</p>	<ul style="list-style-type: none"> • With this type, the LM block has smaller width and tapped holes on the top face of the block. • This is suitable for design compact in the height and width directions. • A space-saving type whose LM block has the same cross-sectional shape as model SR-W, but has smaller overall LM block length.
SR-TB 	 <p>Standard Type</p>	<ul style="list-style-type: none"> • Since the LM block can be mounted from the bottom, this type is suitable for applications where through holes for mounting bolts cannot be drilled on the table.
SR-SB 	 <p>Short Type</p>	<ul style="list-style-type: none"> • Since the LM block can be mounted from the bottom, this type is suitable for applications where through holes for mounting bolts cannot be drilled on the table. • A space-saving type whose LM block has the same cross-sectional shape as model SR-TB, but has a smaller overall LM block length.

⊙ = Interchangeable Series Available for both Standard & Stainless Steel Option

● = Interchangeable Series Available

MODEL	SIZE						
	15	20	25	30	35	45	
SR-W	⊙	⊙	⊙	⊙	⊙	●	●
SR-V	⊙	⊙	⊙	⊙	⊙	-	-
SR-TB	⊙	⊙	⊙	⊙	⊙	●	●
SR-SB	⊙	⊙	⊙	⊙	⊙	-	-

STANDARD / MAXIMUM LENGTH OF LM RAIL:



Unit = mm

MODEL NO.	SR 15	SR 20	SR 25	SR 30	SR 35	SR 45	SR 55
LM RAIL STANDARD LENGTH (L ₀)	160	220	220	280	280	570	780
	220	280	280	360	360	675	900
	280	340	340	440	440	780	1020
	340	400	400	520	520	885	1140
	400	460	460	600	600	990	1260
	460	520	520	680	680	1095	1380
	520	580	580	760	760	1200	1500
	580	640	640	840	840	1305	1740
	640	700	700	920	920	1410	1860
	700	760	760	1000	1000	1515	1980
	760	820	820	1080	1080	1620	2100
	820	940	940	1160	1160	1725	2220
	940	1000	1000	1240	1240	1830	2340
	1000	1060	1060	1320	1320	1935	2460
	1060	1120	1120	1400	1400	2040	2580
	1120	1180	1240	1480	1480	2145	2700
	1180	1240	1300	1640	1640	2250	2820
	1240	1300	1360	1720	1720	2355	2940
	1300	1360	1420	1800	1800	2460	
	1360	1420	1480	1880	1880	2565	
	1420	1480	1540	1960	1960	2670	
	1480	1540	1600	2040	2040	2775	
	1540	1600	1660	2120	2120	2880	
	1600	1660	1720	2200	2200	2985	
		1720	1780	2280	2280		
		1780	1840	2360	2360		
		1840	1900	2440	2440		
		1900	1960	2520	2520		
		1960	2020	2600	2600		
		2020	2080	2680	2680		
		2080	2140	2760	2760		
		2140	2200	2840	2840		
		2200	2260	2920	2920		
			2320				
			2380				
			2440				
			2500				
STANDARD PITCH F	60	60	60	80	80	105	120
G/g	20	20	20	20	20	22.5	30
STANDARD MAX LENGTH	3000	3000	3000	3000	3000	3000	3000
CUSTOM ORDER MAX LENGTH		7000	★ 7000	★ 7000	★ 7000	7000	7000
STANDARD MAX LENGTH FOR STAINLESS	1240	1480	2020	2520	2520	-	-

★ 7m Single Rails Are Available in Stock!

MODEL NUMBER CODING:

BLOCK

 : Choose Quick-Skip Option
 : Standard/Only Quick Ship Option

Step 1		Step 2		Step 3		
MODEL NUMBER	BLOCK TYPE	BLOCK QUANTITY	SEAL TYPE	RADIAL CLEARANCE	SYMBOL FOR INTERCHANGEABLE BLOCK & RAIL	SAMPLE PART NUMBER
SR20	V	1	SS	C1	(GK)	SR20V1SSC1 (GK) BLOCK
		Standard for interchangeable blocks = 1	Standard for SR*: Contamination Protection Seal "SS"	Normal Clearance = No Symbol; Light Preload = C1		

RAIL

Step 1		Step 2		Step 3	
MODEL NUMBER		OVERALL LENGTH (mm)*	RAIL CODE	SYMBOL FOR INTERCHANGEABLE BLOCK & RAIL	SAMPLE PART NUMBER
SR25	-	1540L	Y	(GK)	SR25-1540LY(GK)RAIL
		Add "L" to end of length	Size 15/20/30/35 = no symbol added Size 25 = Y		
					SR20-640L(GK) RAIL

RAIL - Bottom Tap Option

Step 1		Step 2			
MODEL NUMBER		OVERALL LENGTH (mm)*	SYMBOL FOR BOTTOM TAPPED RAIL	SYMBOL FOR INTERCHANGEABLE BLOCK & RAIL	SAMPLE PART NUMBER
SR25	-	640L	K	(GK)	SR25-640LK(GK)RAIL
Available for 15 - 25 for Quick Ship		Add "L" to end of length			

BLOCK - Stainless Steel Option

Step 1 Step 2

MODEL NUMBER	BLOCK TYPE	BLOCK QUANTITY	SEAL TYPE	SYMBOL FOR STAINLESS STEEL	SYMBOL FOR INTERCHANGEABLE BLOCK & RAIL	SAMPLE PART NUMBER
SR15	TB	1	SS	M	(GK)	SR15TB1SSM(GK) BLOCK

Available for
15 - 35
for Quick Ship

Standard for
interchangeable
blocks = 1

Standard for
Stainless Steel
HSR Quick Ship:
Contamination
Protection Seal
"SS"

RAIL - Stainless Steel Option

Step 1 Step 2 Step 3

MODEL NUMBER		OVERALL LENGTH (mm)*	RAIL CODE	SYMBOL FOR INTERCHANGEABLE BLOCK & RAIL	SYMBOL FOR INTERCHANGEABLE BLOCK & RAIL	SAMPLE PART NUMBER
SR25	-	1240L	Y	M	(GK)	SR25-1240LYM(GK) RAIL

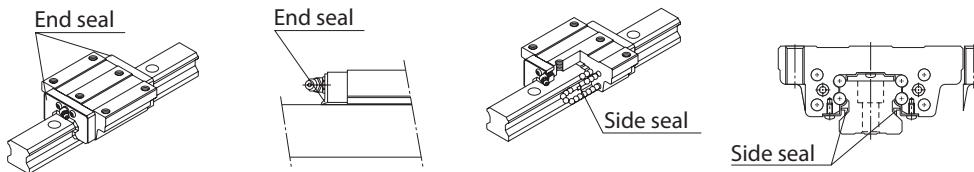
Available
for 15-35
for Quick
Ship

Add "L" to end of
length

Size
15/20/30/35 =
no symbol
added
Size 25 = Y

SR30-680LM(GK) RAIL

*SS = End Seal + Side Seal

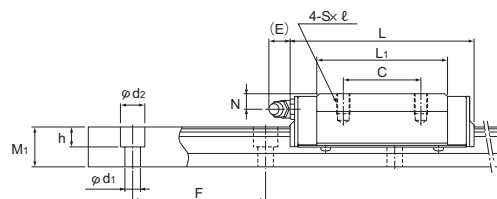
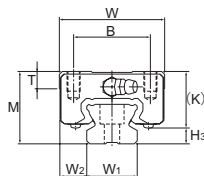


Please contact THK for other seal options.




* If you need a non-standard rail length, please let us know overall length with G/g dimensions. EX: SR30-500L(GK) RAIL (G=10/g=10).

Note: If you need jointed rails (two or more rails butted end to end), please let us know overall length with drawing. Part number will have "T" after overall length. EX: SR25-4120LYT (GK) RAIL.

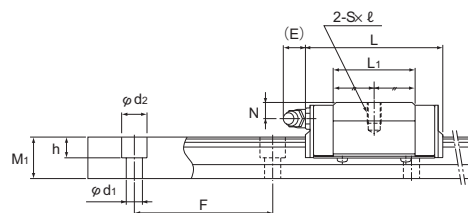
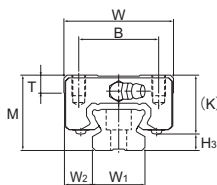
SR-W:






Unit = mm

MODEL NO.	OUTER DIMENSIONS			LM BLOCK DIMENSIONS								W ₂	H ₃	BASIC LOAD RATING		STATIC PERMISSIBLE MOMENT kN-M					MASS kg	
	HEIGHT M	WIDTH W	LENGTH L	B	C	S x ℓ	L ₁	T	K	N	E			GREASE NIPPLE	C kN	C0 kN	MA		MB			MC
																						
																	1 BLOCK	DOUBLE BLOCK	1 BLOCK	DOUBLE BLOCK		1 BLOCK
SR 15W	24	34	57	26	26	M4×7	39.5	5.7	18.2	6	5.5	PB1021B	9.5	5.8	13.8	20.5	0.0984	0.551	0.0604	0.343	0.122	0.2
SR 20W	28	42	66.2	32	32	M5×8	46.7	7.2	22	6	12	B-M6F	11	6	19.2	28.6	0.167	0.887	0.102	0.55	0.224	0.3
SR 25W	33	48	83	35	35	M6×9	59	7.7	26	7	12	B-M6F	12.5	7	30.9	44.7	0.326	1.74	0.2	1.08	0.408	0.4
SR 30W	42	60	96.8	40	40	M8×12	69.3	8.5	32.5	8	12	B-M6F	16	9.5	45.6	64.4	0.564	2.92	0.346	1.8	0.703	0.8
SR 35W	48	70	111	50	50	M8×12	79	12.5	36.5	8.5	12	B-M6F	18	11.5	60.4	81.8	0.785	4.27	0.482	2.65	1.08	1.2
SR 45W	60	86	126	60	60	M10×15	90.5	15	47.5	11.5	16	B-R1/8 (B-PT1/8)	20.5	12.5	80.4	107	1.17	6.34	0.721	3.94	1.89	2.2
SR 55W	68	100	156	75	75	M12×20	117	16.7	54.5	12	16	B-R1/8 (B-PT1/8)	26	13.5	136	179	2.61	13	1.6	8.05	3.33	3.6

SR-V:



Unit = mm

MODEL NO.	OUTER DIMENSIONS											W ₂	H ₃	BASIC LOAD RATING		STATIC PERMISSIBLE MOMENT kN-M					MASS kg
	HEIGHT M	WIDTH W	LENGTH L	B	S x ℓ	L ₁	T	K	N	E	GREASE NIPPLE			C kN	C ₀ kN	MA 		MB 		MC 	
																1 BLOCK	DOUBLE BLOCK	1 BLOCK	DOUBLE BLOCK	1 BLOCK	
SR 15V	24	34	40.4	26	M4×7	22.9	5.7	18.2	6	5.5	PB1021B	9.5	5.8	9.1	11.7	0.0344	0.234	0.0215	0.149	0.0694	0.12
SR 20V	28	42	47.3	32	M5×8	27.8	7.2	22	6	12	B-M6F	11	6	13.4	17.2	0.064	0.396	0.0397	0.25	0.135	0.2
SR 25V	33	48	59.2	35	M6×9	35.2	7.7	26	7	12	B-M6F	12.5	7	21.6	26.8	0.125	0.773	0.0774	0.488	0.245	0.3
SR 30V	42	60	67.9	40	M8×12	40.4	8.5	32.5	8	12	B-M6F	16	9.5	29.5	34.4	0.173	1.15	0.108	0.735	0.376	0.5
SR 35V	48	70	77.6	50	M8×12	45.7	12.5	36.5	8.5	12	B-M6F	18	11.5	40.9	46.7	0.275	1.79	0.171	1.14	0.615	0.8

Static Permissible Moment: Double Blocks - value with 2 blocks in close contact with each other.

Lubrication: Lithium soap base grease No. 2 (THK AFB-LF grease) is contained.

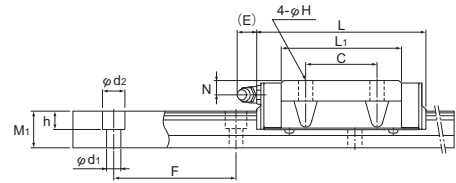
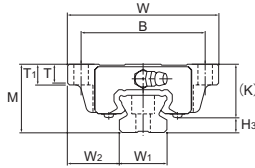
SR LM RAIL:






Unit = mm

MODEL NO.	LM RAIL DIMENSIONS				MASS kg/m
	Width W1 ±0.05	HEIGHT M1	PITCH F	d1×d2×h	
SR 15	15	12.5	60	3.5×6×4.5	1.2
SR 20	20	15.5	60	6×9.5×8.5	2.1
SR 25Y	23	18	60	7×11×9	2.7
SR 30	28	23	80	7×11×9	4.3
SR 35	34	27.5	80	9×14×12	6.4
SR 45	45	35.5	105	11×17.5×14	11.3
SR 55	48	38	120	14×20×17	12.8

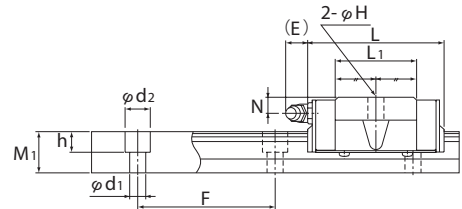
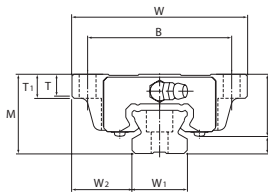
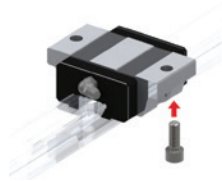
SR-TB:






Unit = mm

MODEL NO.	OUTER DIMENSIONS			LM BLOCK DIMENSIONS										W ₂	H ₃	BASIC LOAD RATING		STATIC PERMISSIBLE MOMENT kN-M					MASS kg
	HEIGHT M	WIDTH W	LENGTH L	B	C	H	L ₁	T	T ₁	K	N	E	GREASE NIPPLE			C kN	C ₀ kN	MA		MB		MC	
																							
																		1 BLOCK	DOUBLE BLOCK	1 BLOCK	DOUBLE BLOCK	1 BLOCK	
SR 15TB	24	52	57	41	26	4.5	39.5	6.1	7	18.2	6	5.5	PB1021B	18.5	5.8	13.8	20.5	0.0984	0.551	0.0604	0.343	0.122	0.2
SR 20TB	28	59	66.2	49	32	5.5	46.7	8	9	22	6	12	B-M6F	19.5	6	19.2	28.6	0.167	0.887	0.102	0.55	0.224	0.4
SR 25TB	33	73	83	60	35	7	59	9.1	10	26	7	12	B-M6F	25	7	30.9	44.7	0.326	1.74	0.2	1.08	0.408	0.6
SR 30TB	42	90	96.8	72	40	9	69.3	8.7	10	32.5	8	12	B-M6F	31	9.5	45.6	64.4	0.564	2.92	0.346	1.8	0.703	1.1
SR 35TB	48	100	111	82	50	9	79	11.2	13	36.5	8.5	12	B-M6F	33	11.5	60.4	81.8	0.785	4.27	0.482	2.65	1.08	1.5
SR 45TB	60	120	126	100	60	11	90.5	12.8	15	47.5	11.5	16	B-R1/8 (B-PT1/8)	37.5	12.5	80.4	107	1.17	6.34	0.721	3.94	1.89	2.5
SR 55TB	68	140	156	116	75	14	117	15.3	17	54.5	12	16	B-R1/8 (B-PT1/8)	46	13.5	136	179	2.61	13	1.6	8.05	3.33	4.2

SR-SB:



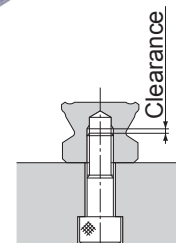
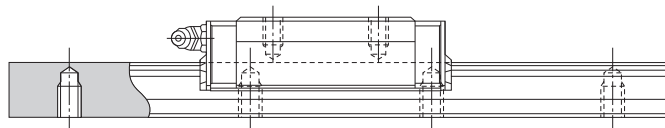
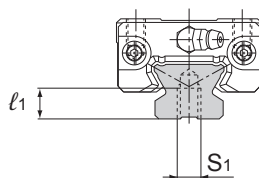
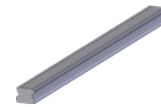
Unit = mm

MODEL NO.	OUTER DIMENSIONS			LM BLOCK DIMENSIONS									W ₂	H ₃	BASIC LOAD RATING		STATIC PERMISSIBLE MOMENT kN-M					MASS kg
	HEIGHT M	WIDTH W	LENGTH L	B	H	L ₁	T	T ₁	K	N	E	GREASE NIPPLE			C kN	C ₀ kN	MA 		MB 		MC 	
																	1 BLOCK	DOUBLE BLOCK	1 BLOCK	DOUBLE BLOCK	1 BLOCK	
SR 15SB	24	52	40.4	41	4.5	22.9	6.1	7	18.2	6	5.5	PB1021B	18.5	5.8	9.1	11.7	0.0344	0.234	0.0215	0.149	0.0694	0.15
SR 20SB	28	59	47.3	49	5.5	27.8	8	9	22	6	12	B-M6F	19.5	6	13.4	17.2	0.064	0.396	0.0397	0.25	0.135	0.3
SR 25SB	33	73	59.2	60	7	35.2	9.1	10	26	7	12	B-M6F	25	7	21.6	26.8	0.125	0.773	0.0774	0.488	0.245	0.4
SR 30SB	42	90	67.9	72	9	40.4	8.7	10	32.5	8	12	B-M6F	31	9.5	29.5	34.4	0.173	1.15	0.108	0.735	0.376	0.8
SR 35SB	48	100	77.6	82	9	45.7	11.2	13	36.5	8.5	12	B-M6F	33	11.5	40.9	46.7	0.275	1.79	0.171	1.14	0.615	1

Static Permissible Moment: Double Blocks - value with 2 blocks in close contact with each other.

Lubrication: Lithium soap base grease No. 2 (THK AFB-LF grease) is contained.

SR LM RAIL - Bottom Tapped Rail:

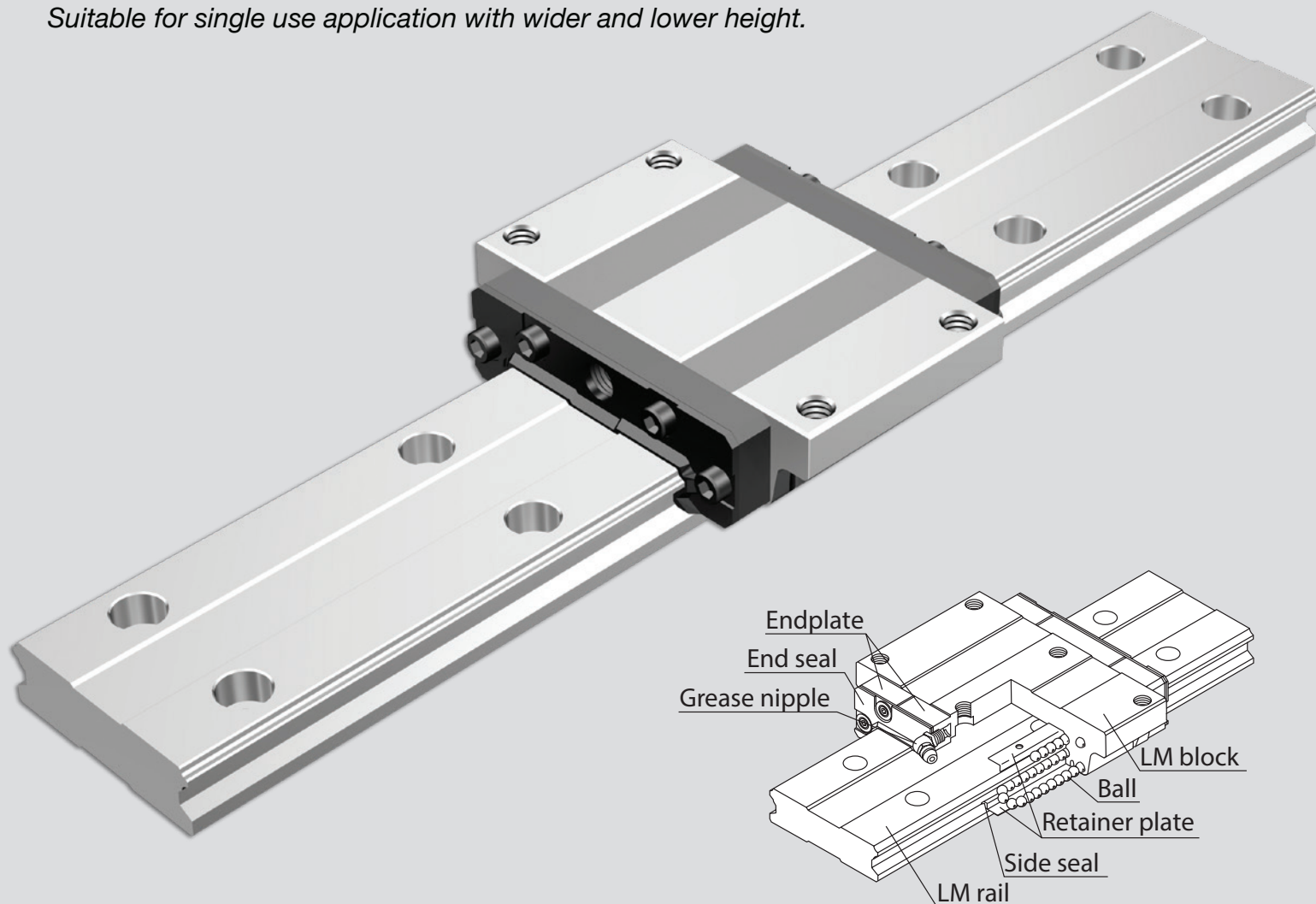


Unit = mm

MODEL NO.	S ¹	EFFECTIVE TAP DEPTH l ₁
SR 15	M5	7
SR 20	M6	9
SR 25	M6	10

SR rails are also available with tapped mounting holes. Maintain 2 to 5 mm of clearance between bolt end and effective tap depth.

Suitable for single use application with wider and lower height.

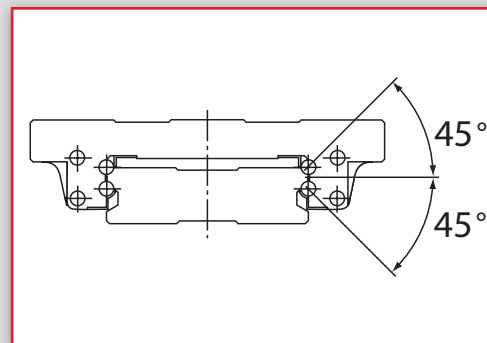


Structure:

Balls roll in 4 rows of raceways precision-ground on an LM rail and an LM block, and endplates incorporated in the LM block allow the balls to circulate to realize infinite motion.

Since the balls are held, they do not fall off even if the LM block is pulled from the LM rail. (Ball may fall depending on the handling. Use dummy rail when removing the LM block.)

[Cross Section - Models HRW17 to 50]

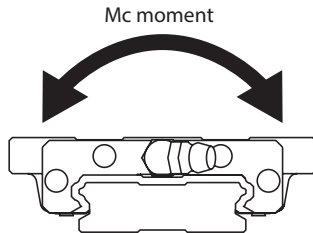


Features:

1. Wide and Low:

The LM Rail is wide and the distance between the right and left raceways is long, providing a high M_c moment rigidity.

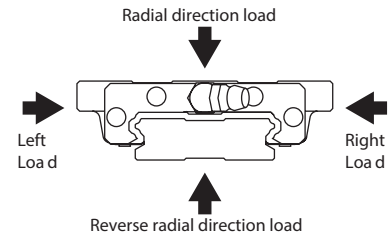
This is suitable for places where space saving is required thanks to the low center of gravity. This is a high-rigidity guide suitable for usage in single-axis applications.



2. 4-Way Equal Load:

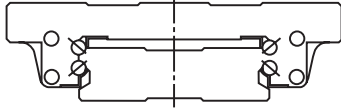
Each row of balls is placed at a contact angle of 45° so that the rated loads applied to the LM block are uniform in the four directions (radial, reverse radial and lateral directions).

Therefore, it can be used in any direction and used for a wide range of applications.



3. Self-Aligning Capability:

The self-aligning structure through face-to-face configuration of THK's unique circular-arc grooves (DF structure) enables a mounting error to be absorbed even under a preload, thus to achieve high accurate, smooth straight motion.



LM Guide (DF structure) of
Four-row circular-arc groove
two-point contact structure

[Rated Loads of Model HRW in All Directions]


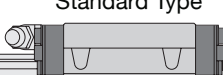


DIRECTION	BASIC DYNAMIC LOAD RATING	BASIC STATIC LOAD RATING
RADIAL DIRECTION	C	C_0
REVERSE RADIAL DIRECTION	$C_L=C$	$C_{0L}=C_0$
LATERAL DIRECTION	$C_T=C$	$C_{0T}=C_0$

[Equivalent Factor of Model HRW]

PE	X	Y
EQUIVALENT IN RADIAL DIRECTION	1.000	1.000
EQUIVALENT IN REVERSE RADIAL DIRECTION	1.000	1.000

MODEL AND TYPES OF LM BLOCK:

The applicable model and LM block types are as follows.

MODEL	TYPE	FEATURES
HRW-CA 		<ul style="list-style-type: none"> • The flange of its LM block has tapped holes. • The LM blocks can be mounted from the top and the bottom.
HRW-CR 		<ul style="list-style-type: none"> • With this type, the LM block has a smaller width and tapped holes.

● = Interchangeable Series Available

MODEL	SIZE				
	17	21	27	35	50
HRW-CA	●	●	●	●	●
HRW-CR	●	●	●	●	●

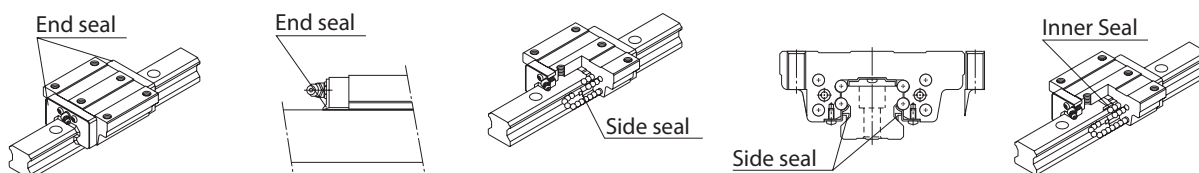
MODEL NUMBER CODING:

BLOCK

 : Choose Quick-SHIP Option
 : Standard/Only Quick Ship Option

Step 1		Step 2	Step 3		Step 4	
MODEL NUMBER	BLOCK TYPE	BLOCK QUANTITY	SEAL TYPE	RADIAL CLEARANCE	SYMBOL FOR INTERCHANGEABLE BLOCK & RAIL	SAMPLE PART NUMBER
HRW17	CA	1	UU	C1	(GK)	HRW17CA1UUC1 (GK) BLOCK
		Standard for interchangeable blocks = 1	SS	Normal Clearance = No Symbol; Light Preload = C1		
		UU = Standard for HRW17/21 SS = Standard for HRW27/35/50*				

*UU = End Seal; SS = End Seal + Side Seal (not available for size 17/21)



Please contact THK for other seal options.

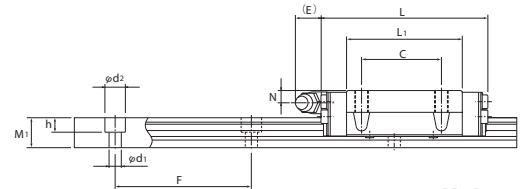
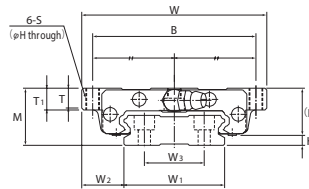
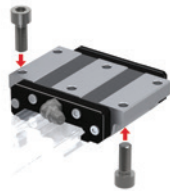
RAIL

Step 1		Step 2		
MODEL NUMBER		OVERALL LENGTH (mm)*	SYMBOL FOR INTERCHANGEABLE BLOCK & RAIL	SAMPLE PART NUMBER
HRW35	-	640L	(GK)	HRW35-640L (GK) RAIL
Add "L" to end of length				




* If you need a non-standard rail length, please let us know overall length with G/g dimensions. EX: HRW21-330L(GK) RAIL (G=20/g=10).

Note: If you need jointed rails (two or more rails butted end to end), please let us know overall length with drawing. Part number will have "T" after overall length. EX: HRW35-3600LT (GK) RAIL.

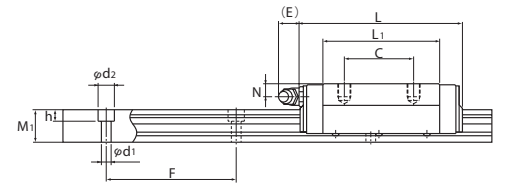
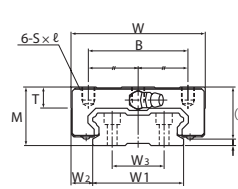
HRW-CA:



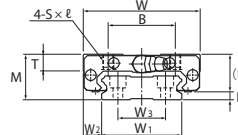
Unit = mm

MODEL NO.	OUTER DIMENSIONS			LM BLOCK DIMENSIONS										W ₂	H ₃	BASIC LOAD RATING		STATIC PERMISSIBLE MOMENT kN-M					MASS kg	
	HEIGHT M	WIDTH W	LENGTH L	B	C	H	S	L ₁	T	T ₁	K	N	E			GREASE NIPPLE	C kN	C0 kN	MA		MB			MC
																								
																			1 BLOCK	DOUBLE BLOCK	1 BLOCK	DOUBLE BLOCK		1 BLOCK
HRW 17CA	17	60	50.8	53	26	3.3	M4	33.6	5.5	6	14.5	4	2	PB107	13.5	2.5	5.53	9.1	0.0464	0.272	0.0464	0.272	0.144	0.15
HRW 21CA	21	68	58.8	60	29	4.4	M5	40	7.3	8	18	4.5	12	B-M6F	15.5	3	8.02	12.9	0.0784	0.445	0.0784	0.445	0.219	0.25
HRW 27CA	27	80	72.8	70	40	5.3	M6	51.8	9.5	10	24	6	12	B-M6F	19	3	14.2	21.6	0.166	0.923	0.166	0.923	0.423	0.5
HRW 35CA	35	120	106.6	107	60	6.8	M8	77.6	13	14	31	8	12	B-M6F	25.5	4	33.8	48.6	0.559	3.03	0.559	3.03	1.59	1.4
HRW 50CA	50	162	140.5	144	80	8.6	M10	103.5	16.5	18	46.6	14	16	B-R1/8 (B-PT1/8)	36	34	62.4	86.3	1.32	7.08	1.32	7.08	3.67	4

HRW-CR:






Models HRW17CR, HRW21CR



Models HRW27, HRW50CR

Unit = mm

MODEL NO.	OUTER DIMENSIONS											W ₂	H ₃	BASIC LOAD RATING		STATIC PERMISSIBLE MOMENT kN-M					MASS kg	
	HEIGHT M	WIDTH W	LENGTH L	B	C	S x t	L ₁	T	K	N	E			GREASE NIPPLE	C kN	CO kN	MA		MB			MC
																						
																				1 BLOCK		DOUBLE BLOCK
HRW 17CR	17	50	50.8	29	15	M4×5	33.6	6	14.5	4	2	PB107	8.5	2.5	5.53	9.1	0.0464	0.272	0.0464	0.272	0.144	0.12
HRW 21CR	21	54	58.8	31	19	M5×6	40	8	18	4.5	12	B-M6F	8.5	3	8.02	12.9	0.0784	0.445	0.0784	0.445	0.219	0.19
HRW 27CR	27	62	72.8	46	32	M6×6	51.8	10	24	6	12	B-M6F	10	3	14.2	21.6	0.166	0.923	0.166	0.923	0.423	0.37
HRW 35CR	35	100	106.6	76	50	M8×8	77.6	14	31	8	12	B-M6F	15.5	4	33.8	48.6	0.559	3.03	0.559	3.03	1.59	1.2
HRW 50CR	50	130	140.5	100	65	M10×15	103.5	18	46.6	14	16	B-R1/8 (B-PT1/8)	20	3.4	62.4	86.3	1.32	7.08	1.32	7.08	3.67	3.2

Static Permissible Moment: Double Blocks - value with 2 blocks in close contact with each other.
Lubrication: Lithium soap base grease No. 2 (THK AFB-LF grease) is contained.

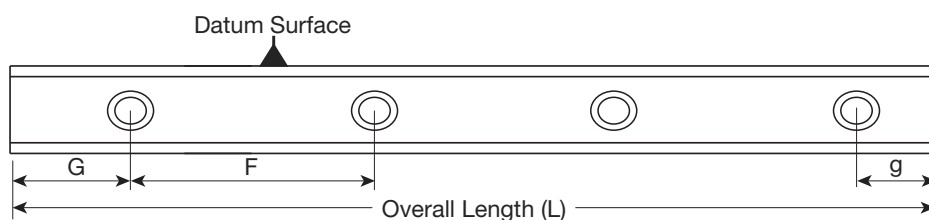
HRW LM RAIL:



Unit = mm

MODEL NO.	LM RAIL DIMENSIONS					MASS kg/m
	Width W1 ±0.05	W3	HEIGHT M1	PITCH F	d1×d2×h	
HRW 17	33	18	9	40	4.5×7.5×5.3	2.1
HRW 21	37	22	11	50	4.5×7.5×5.3	2.9
HRW 27	42	24	15	60	4.5×7.5×5.3	4.3
HRW 35	69	40	19	80	7×11×9	9.9
HRW 50	90	60	24	80	9×14×12	14.6

STANDARD / MAXIMUM LENGTH OF LM RAIL:



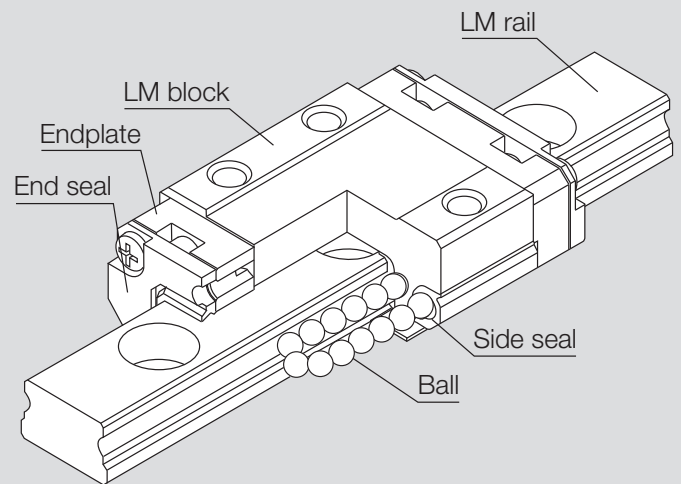
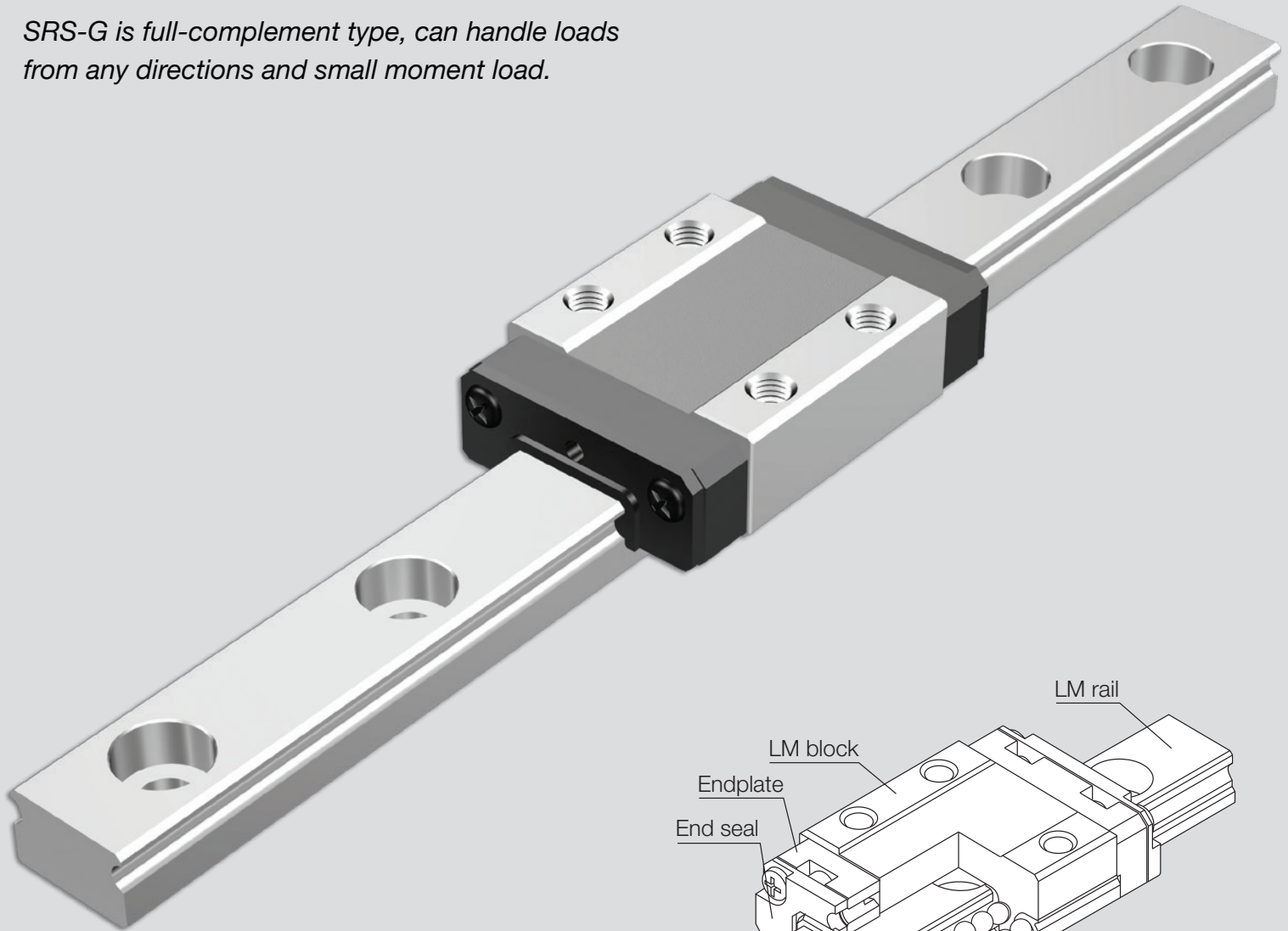
Unit = mm

MODEL NO.	HRW 17	HRW 21	HRW 27	HRW 35	HRW 50
LM RAIL STANDARD LENGTH (L ₀)	110	130	160	280	280
	190	230	280	440	440
	310	380	340	760	760
	470	480	460	1000	1000
	550	580	640	1240	1240
		780	820	1560	1640
					2040
STANDARD PITCH F	40	50	60	80	80
G	15	15	20	20	20
STANDARD MAX LENGTH	1900	1900	3000	3000	3000

SRS-G

LM GUIDE
MINIATURE TYPE

SRS-G is full-complement type, can handle loads from any directions and small moment load.



Structure:

Balls roll in two rows of raceways precision-ground on an LM rail and an LM block, and endplates incorporated in the LM block allow the balls to circulate to realize infinite motion.

If LM blocks are removed from LM rails, balls will fall. Use dummy rail when removing LM blocks from LM rail.

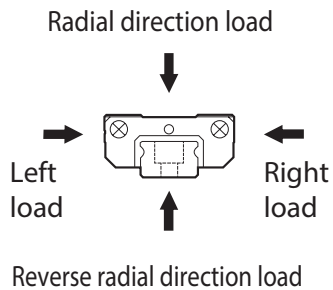
Caution:

Interchangeable SRS Blocks and Rails are not necessarily compatible with SRS Block and Rail set products.

Features:

1. Ultra Compact:

Since SRS-G has a compact structure where the rail cross section is designed to be low and that contains only two rows of balls, it can be installed in save-saving locations.



2. Lightweight:

Since part of the LM block is made of resin and formed through insert molding, SRS-G is a lightweight type of LM Guide.

3. Stainless Steel Standard:

Stainless steel (LM Block & Rail), which is highly resistant to corrosion, is standard for SRS.

[Rated Loads of Model SRS-G in All Directions - Size 9]

DIRECTION	BASIC DYNAMIC LOAD RATING	BASIC STATIC LOAD RATING
RADIAL DIRECTION	C	C_0
REVERSE RADIAL DIRECTION	$C_L=C$	$C_{0L}=C_0$
LATERAL DIRECTION	$C_T=1.19C$	$C_{0T}=1.19C_0$

[Equivalent Factor of Model SRS-G - Size 9]

PE	X	Y
EQUIVALENT IN RADIAL DIRECTION	1.000	0.839
EQUIVALENT IN REVERSE RADIAL DIRECTION	1.000	0.839

[Rated Loads of Model SRS-G in All Directions - Size 12, 15]


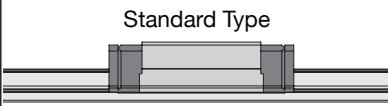

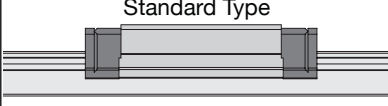
DIRECTION	BASIC DYNAMIC LOAD RATING	BASIC STATIC LOAD RATING
RADIAL DIRECTION	C	C_0
REVERSE RADIAL DIRECTION	$C_L=C$	$C_{0L}=C_0$
LATERAL DIRECTION	$C_T=C$	$C_{0T}=C_0$

[Equivalent Factor of Model SRS-G - Size 12, 15]

PE	X	Y
EQUIVALENT IN RADIAL DIRECTION	1.000	1.000
EQUIVALENT IN REVERSE RADIAL DIRECTION	1.000	1.000

MODEL AND TYPES OF LM BLOCK:

The applicable model and LM block types are as follows.

MODEL	TYPE	FEATURES
SRS-GM 	 <p>Standard Type</p>	<ul style="list-style-type: none"> • With this type, the LM block has a smaller width and tapped holes. • This is suitable for design compact in the width and height directions.
SRS-WGM 	 <p>Standard Type</p>	<ul style="list-style-type: none"> • The LM block has the same cross-sectional shape as model SRS-GM, but has a longer overall LM block length, broader width, and a greater rated load and permissible moment.

● = Interchangeable Series Available

MODEL	SIZE		
	9	12	15
SRS-GM	●	●	●
SRS-WGM	●	●	●

MODEL NUMBER CODING:

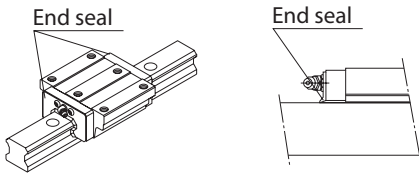
BLOCK

 : Choose Quick-SHIP Option
 : Standard/Only Quick Ship Option

Step 1		Step 2		
MODEL NUMBER	BLOCK TYPE	SEAL TYPE	SYMBOL FOR INTERCHANGEABLE BLOCK & RAIL	SAMPLE PART NUMBER
SRS9XG	M	UU	(GK)	SRS9XGMUUC1 (GK) BLOCK

Standard for SRS-G:
 Contamination
 Protection Seal "UU"*

*UU = End Seal



Please contact THK for other seal options.

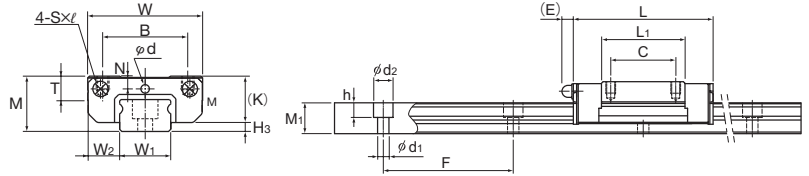
RAIL

Step 1		Step 2		
MODEL NUMBER		OVERALL LENGTH (mm)*	SYMBOL FOR INTERCHANGEABLE BLOCK & RAIL	SAMPLE PART NUMBER
SRS15W	-	220LM	(GK)	SRS15W-220LM (GK) RAIL




Add "LM" to end of length

* If you need a non-standard rail length, please let us know overall length with G/g dimensions. EX: SRS9X-120LM (GK) RAIL (G=10/g=10).

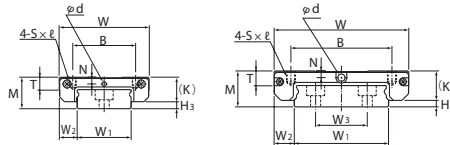
SRS-GM:



Unit = mm

MODEL NO.	OUTER DIMENSIONS			LM BLOCK DIMENSIONS										W ₂	H ₃	BASIC LOAD RATING		STATIC PERMISSIBLE MOMENT N-M					MASS kg
	HEIGHT M	WIDTH W	LENGTH L	B	C	S x ℓ	L ₁	T	K	N	E	GREASING HOLE d	GREASE NIPPLE			C kN	C ₀ kN	MA 		MB 		MC 	
																		1 BLOCK	DOUBLE BLOCK	1 BLOCK	DOUBLE BLOCK	1 BLOCK	
SRS 9XGM	10	20	30.8	15	10	M3x2.8	19.8	4.5	8.5	2.4	-	1.6	-	5.5	1.5	2.22	3.06	9.87	57.9	11.4	66.9	14.1	0.016
SRS 12GM	13	27	34.4	20	15	M3x3.2	20.6	5.7	11	3	-	2	-	7.5	2	3.36	3.55	12.1	79.0	12.1	79.0	23.2	0.027
SRS 15GM	16	32	43	25	20	M3x3.5	25.7	6.5	13.3	3	4	-	PB107	8.5	2.7	5.59	5.72	24.8	158	24.8	158	40.6	0.047




SRS-WGM:



SRS9WGM, 12WGM

SRS15WGM

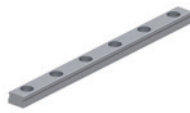
Unit = mm

MODEL NO.	OUTER DIMENSIONS			LM BLOCK DIMENSIONS										W ₂	H ₃	BASIC LOAD RATING		STATIC PERMISSIBLE MOMENT N-M					MASS kg
	HEIGHT M	WIDTH W	LENGTH L	B	C	S x ℓ	L ₁	T	K	N	E	GREASING HOLE d	GREASE NIPPLE			C kN	C ₀ kN	MA 		MB 		MC 	
																		1 BLOCK	DOUBLE BLOCK	1 BLOCK	DOUBLE BLOCK	1 BLOCK	
SRS 9WGM	12	30	39	21	12	M3x2.8	27	4.9	9.1	2.3	-	1.6	-	6	2.9	2.67	3.35	13.9	69.7	16.6	96.7	31.7	0.031
SRS 12WGM	14	40	44.5	28	15	M3x3.5	30.9	5.7	11	3	-	2	-	8	3	4.46	5.32	25.7	146	25.7	146	66.8	0.055
SRS 15WGM	16	60	55.5	45	20	M4x4.5	38.9	6.5	13.3	3	4	-	PB107	9	2.7	7.43	8.59	52.7	293	52.7	293	178	0.13

Static Permissible Moment: Double Blocks - value with 2 blocks in close contact with each other.

Lubrication: AFF Grease is contained.

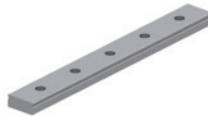
SRS-M LM RAIL:



Unit = mm

MODEL NO.	LM RAIL DIMENSIONS				MASS kg/m
	Width W1 0 -0.02	HEIGHT M1	PITCH F	d1xd2xh	
SRS 9X	9	5.5	20	3.5x6x3.3	0.36
SRS 12	12	7.5	25	3.5x6x4.5	0.65
SRS 15	15	9.5	40	3.5x6x4.5	0.96

SRS-W LM RAIL:

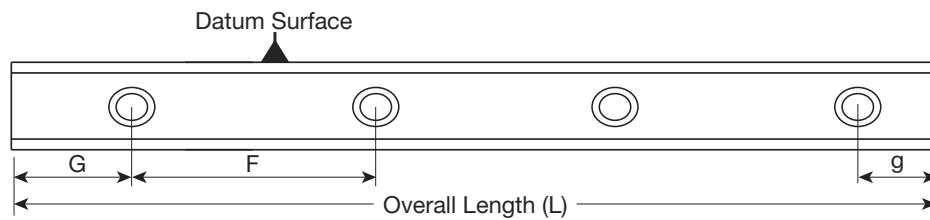


Unit = mm

MODEL NO.	LM RAIL DIMENSIONS					MASS kg/m
	Width W1 0 -0.02	W3	HEIGHT M1	PITCH F	d1xd2xh	
SRS 9W	18	—	7.5	30	3.5x6x4.5	1.01
SRS 12W	24	—	8.5	40	4.5x8x4.5	1.52
SRS 15W	42	23	9.5	40	4.5x8x4.5	2.87

SRS/SRS-G Blocks use the same rail.

STANDARD / MAXIMUM LENGTH OF LM RAIL:



Unit = mm

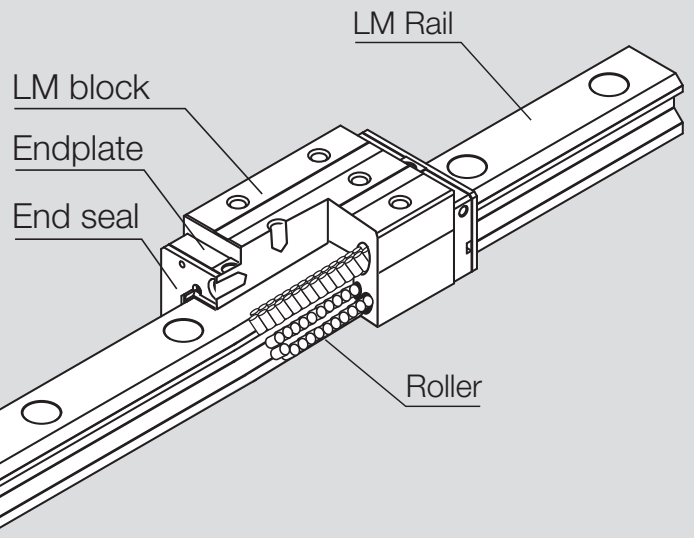
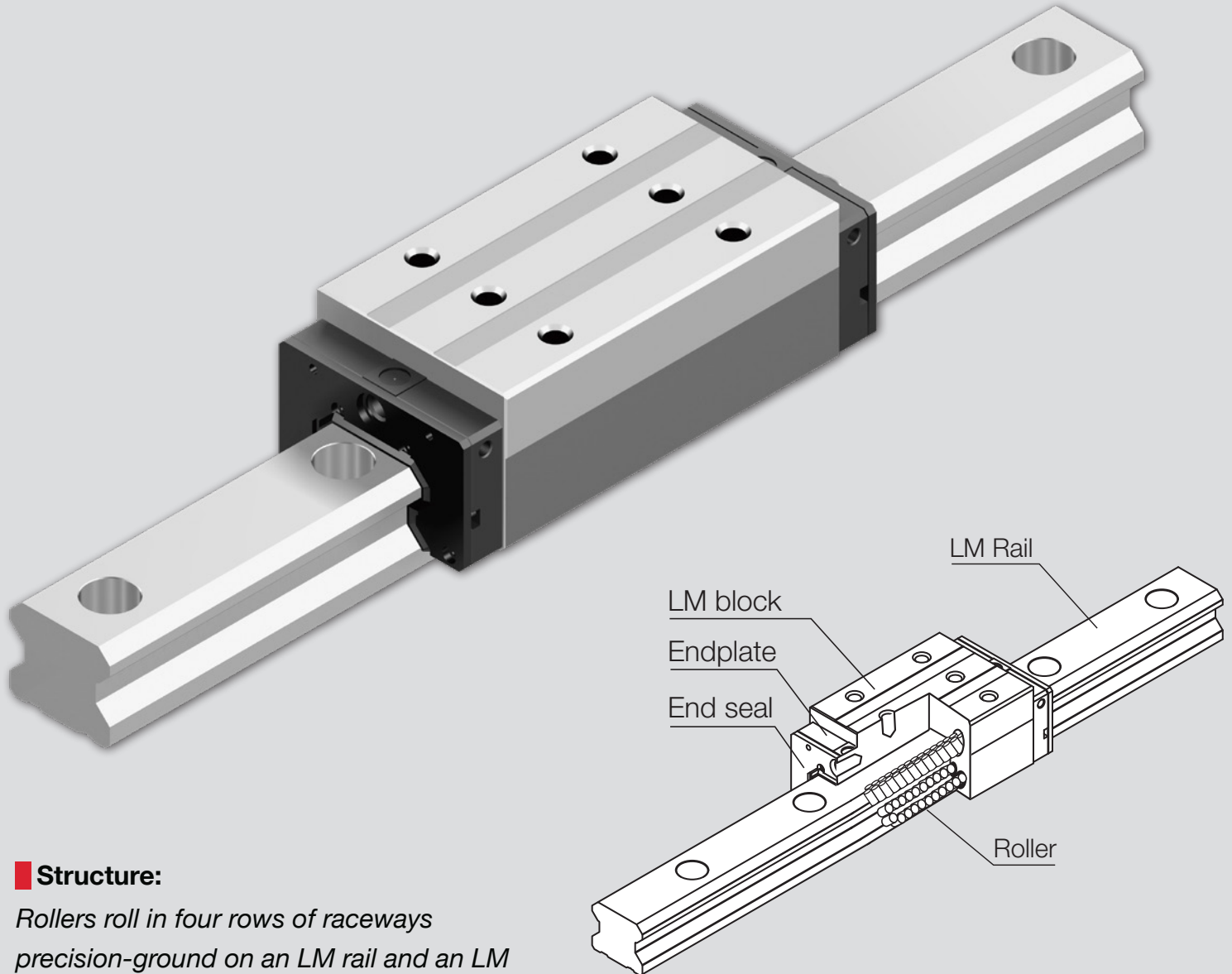
MODEL NO.	SRS 9X	SRS 9W	SRS 12	SRS 12W	SRS 15	SRS 15W
LM RAIL STANDARD LENGTH (L ₀)	55	50	70	70	70	110
	75	80	95	110	110	150
	95	110	120	150	150	190
	115	140	145	190	190	230
	135	170	170	230	230	270
	155	200	195	270	270	310
	175	260	220	310	310	430
	195	290	245	390	350	550
	275	320	270	470	390	670
	375		320	550	430	790
			370		470	
			470		550	
			570		670	
					870	
STANDARD PITCH F	20	30	25	40	40	40
G	7.5	10	10	15	15	15
STANDARD MAX LENGTH	1000	1000	1000	1000	1000	1000

HRX

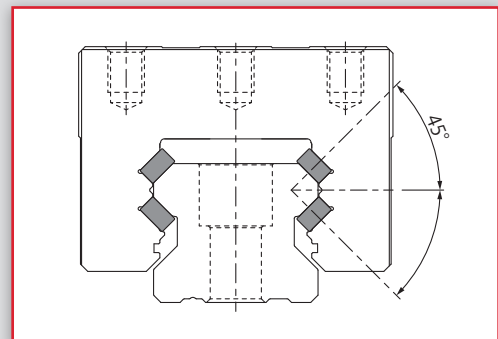
ROLLER TYPE LM GUIDE
GLOBAL STANDARD SIZE

World Standard Size LM Guide.

Suitable for ultra-high rigidity and ultra-heavy loads



[Cross Section]



Structure:

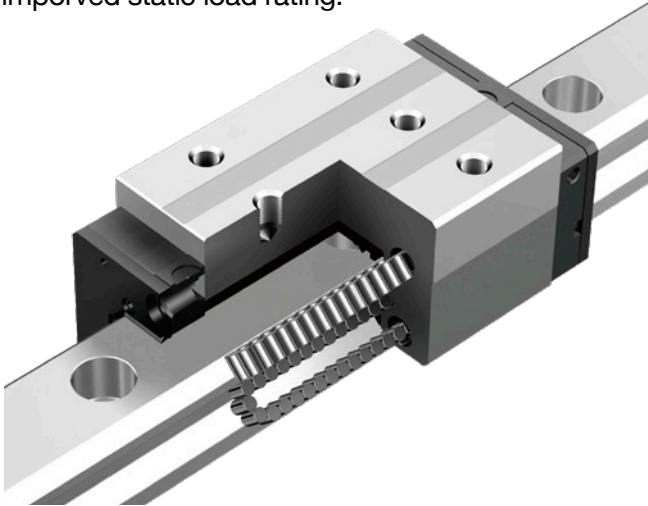
Rollers roll in four rows of raceways precision-ground on an LM rail and an LM block, and end plates incorporated in the LM block allow the rollers to circulate to realize infinite motion.

Since retainer plates hold the rollers, they do not fall out even if the LM block is pulled out from the LM rail. (Rollers may fall depending on handling. Use dummy rail when removing LM block.)

■ Features:

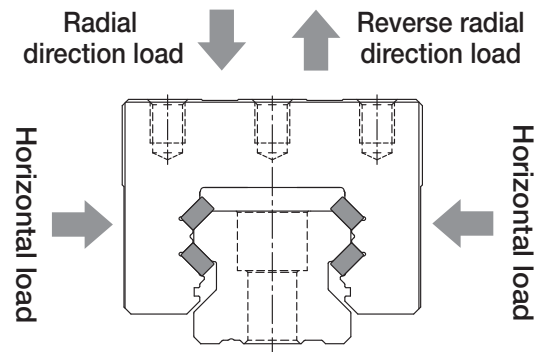
1. Ultra-High Rigidity & Ultra-Heavy Loads:

The HRX is an LM Guide that uses rollers as a rolling element for higher rigidity. Also, compared to our existing roller products, we have extended the length of the metal LM block and increased the number of load bearing rollers to achieve an improved static load rating.



2. 4-Way Equal Load:

On the HRX, each row of rollers is arranged at a contact angle of 45° so that the LM block receives an equal load rating in all directions (radial, reverse radial, and horizontal directions), ensuring high rigidity in all directions.



[Rated Loads of Model HRX in All Directions]

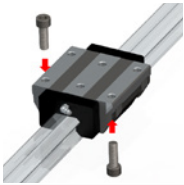
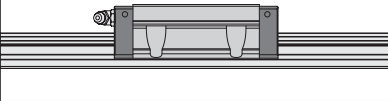
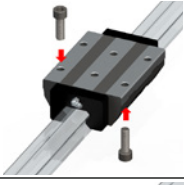
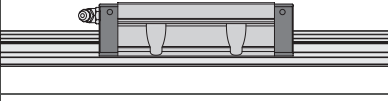
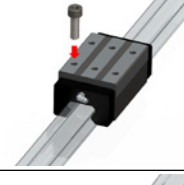

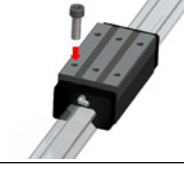
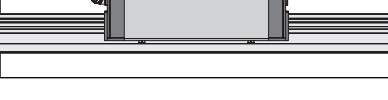
DIRECTION	BASIC DYNAMIC LOAD RATING	BASIC STATIC LOAD RATING
RADIAL DIRECTION	C	C_0
REVERSE RADIAL DIRECTION	$C_L=C$	$C_{0L}=C_0$
LATERAL DIRECTION	$C_T=C$	$C_{0T}=C_0$

[Equivalent Factor of Model HRX]

PE	X	Y
EQUIVALENT IN RADIAL DIRECTION	1.000	1.000
EQUIVALENT IN REVERSE RADIAL DIRECTION	1.000	1.000

MODEL AND TYPES OF LM BLOCK:

The applicable model and LM block types are as follows.

MODEL	TYPE	FEATURES
HRX-C 	 <p>Standard Type</p>	<ul style="list-style-type: none"> • The flange of its LM block has tapped holes. • The LM blocks can be mounted from the top and the bottom. • Upward mounting is used when any through holes cannot be made on the table and the tap machining is required for the table. • This is suitable for design compact in the height direction.
HRX-LC 	 <p>Long Type</p>	<ul style="list-style-type: none"> • The LM block has the same cross-sectional shape as model HRX-C, but has a longer overall LM block length and a greater rated load.
HRX-R 	 <p>Standard Type</p>	<ul style="list-style-type: none"> • With this type, the LM block has a smaller width and tapped holes. • This is suitable for design compact with width direction.
HRX-LR 	 <p>Long Type</p>	<ul style="list-style-type: none"> • The LM block has the same cross-sectional shape as model HRX-R, but has a longer overall LM block length and a greater rated load.

● = Interchangeable Series Available

MODEL	SIZE					
	25	30	35	45	55	65
HRX-C	●	●	●	●	●	●
HRX-LC	●	●	●	●	●	●
HRX-R	●	●	●	●	●	●
HRX-LR	●	●	●	●	●	●

MODEL NUMBER CODING:

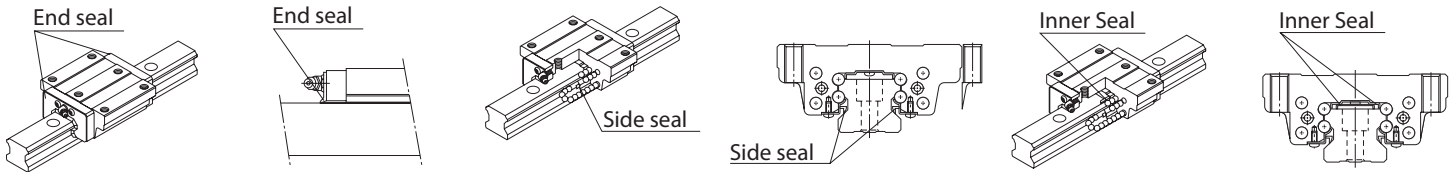
BLOCK

Choose Quick-SHIP Option
Standard/Only Quick Ship Option

Step 1 Step 2

MODEL NUMBER	BLOCK TYPE	BLOCK QUANTITY	SEAL TYPE	RADIAL CLEARANCE	ACCURACY GRADE	SYMBOL FOR INTERCHANGEABLE BLOCK & RAIL	SAMPLE PART NUMBER
HRX35	C	1	SS	C0	H	(GK)	HRX35C1SSC0H(GK) BLOCK
		Standard for interchangeable blocks = 1	Standard for HRX*: Contamination Protection Seal "SS"	Standard for HRX: Medium Preload "C0"	Standard for HRX*: High Accuracy Grade "H"		

*SS = End Seal + Side Seal



Please contact THK for other seal options.

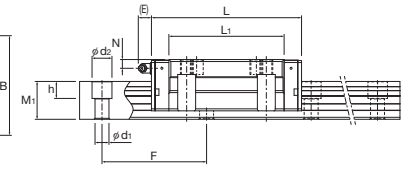
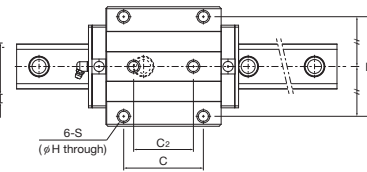
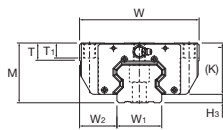
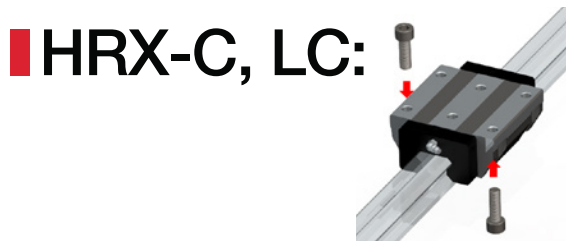
RAIL

Step 1




MODEL NUMBER		OVERALL LENGTH (mm)*	ACCURACY GRADE	SYMBOL FOR INTERCHANGEABLE BLOCK & RAIL	SAMPLE PART NUMBER
HRX45	-	2460L	H	(GK)	HRX45-2460LH(GK) RAIL
		Add "L" to end of length	Standard for HRX*: High Accuracy Grade "H"		

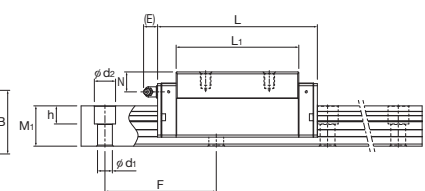
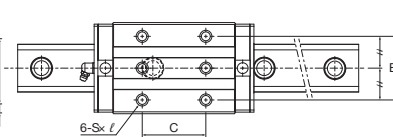
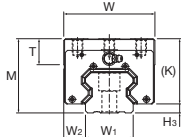
*If you need a non-standard rail length, please let us know overall length with G/g dimensions. EX: HRX55-1010LH(GK) RAIL (G=30/g=20)

Note: if you need jointed rails (two or more rails butted end to end), please let us know overall length with drawing. Part number will have "T" after accuracy grade. EX: HRX25-4500LHT(GK) RAIL






Unit = mm

MODEL NO.	OUTER DIMENSIONS			LM BLOCK DIMENSIONS											W ₂	H ₃	BASIC LOAD RATING		STATIC PERMISSIBLE MOMENT kN-M					MASS kg	
	HEIGHT M	WIDTH W	LENGTH L	B	C	C ₂	S	H	L ₁	T	T ₁	K	N	E			GREASE NIPPLE	C100 kN	C0 kN	MA 		MB 			MC 
																				1 BLOCK	DOUBLE BLOCK	1 BLOCK	DOUBLE BLOCK		1 BLOCK
HRX 25C HRX 25LC	36	70	99.6 116.4"	57	45	40	M8	6.8	75.4 92.2	9.5	10	31	5.5	12	B-M6F	23.5	5	26.3 30.8	73.1 89.3	0.92 1.37	4.84 6.86	0.92 1.37	4.84 6.86	0.57 0.69	0.84 1.03
HRX 30C HRX 30LC	42	90	110.6 135.1	72	52	44	M10	12.5	84.0 108.5	12	14	37	8.2	12	B-M6F	31	5	39.4 48.0	104.7 135.2	1.48 2.44	7.72 12.06	1.48 2.44	7.72 12.06	1.03 1.33	1.48 1.93
HRX 35C HRX 35LC	48	100	123.2 151.2	82	62	52	M10	8.5	92.2 120.2	12	10	41.5	8	12	B-M6F	33	6.5	56.0 68.9	150.1 195.7	2.33 3.92	11.59 18.60	2.33 3.92	11.59 18.60	1.81 2.36	1.93 2.55
HRX 45C HRX 45LC	60	120	150.7 185.7	100	80	60	M12	10.5	115.7 150.7	17.3	15	51.5	8.75	16	B-R1/8 (B-PT1/8)	37.5	8.5	94.3 116.0	250.4 326.7	4.85 8.17	23.90 38.44	4.85 8.17	23.90 38.44	3.84 5.01	3.51 4.6"
HRX 55C HRX 55LC	70	140	180.2 229.7	116	95	70	M14	12.5	143.2 192.7	18.2	18	59	11.2	16	B-R1/8 (B-PT1/8)	43.5	11	134.5 169.5	369.9 497.9	8.86 15.86	42.34 72.70	8.86 15.86	42.34 72.70	6.86 9.24	5.85 7.96
HRX 65C HRX 65LC	90	170	239.1 304.1	142	110	82	M16	14.5	195.7 260.7	22.3	20	78	18.0	16	B-R1/8 (B-PT1/8)	53.5	12	205.5 257.0	567.0 756.0	18.43 32.04	86.49 146.69	18.43 32.04	86.49 146.69	12.27 16.35	13.34 17.94



Unit = mm

MODEL NO.	OUTER DIMENSIONS			LM BLOCK DIMENSIONS									W ₂	H ₃	BASIC LOAD RATING		STATIC PERMISSIBLE MOMENT kN-M					MASS kg
	HEIGHT M	WIDTH W	LENGTH L	B	C	S x ℓ	L ₁	T	K	N	E	GREASE NIPPLE			C100 kN	C0 kN						
																	1 BLOCK	DOUBLE BLOCK	1 BLOCK	DOUBLE BLOCK	1 BLOCK	
HRX 25R HRX 25LR	40	48	99.6 116.4	35	35 50	M6x7	75.4 92.2	9.0	35	9.5	12	B-M6F	12.5	5	26.3 30.8	73.1 89.3	0.92 1.37	4.84 6.86	0.92 1.37	4.84 6.86	0.57 0.69	0.72 0.86
HRX 30R HRX 30LR	45	60	110.6 135.1	40	40 60	M8x8	84.0 108.5	12	40	11.2	12	B-M6F	16	5	39.4 48.0	104.7 135.2	1.48 2.44	7.72 12.06	1.48 2.44	7.72 12.06	1.03 1.33	1.16 1.48
HRX 35R HRX 35LR	55	70	123.2 151.2	50	50 72	M8x10	92.2 120.2	18.5	48.5	15	12	B-M6F	18	6.5	56.0 68.9	150.1 195.7	2.33 3.92	11.59 18.60	2.33 3.92	11.59 18.60	1.81 2.36	1.73 2.23
HRX 45R HRX 45LR	70	86	150.7 185.7	60	60 80	M10x12.5	115.7 150.7	24.5	61.5	18.75	16	B-R1/8 (B-PT1/8)	20.5	8.5	94.3 116.0	250.4 326.7	4.85 8.17	23.90 38.44	4.85 8.17	23.90 38.44	3.84 5.01	3.20 4.15
HRX 55R HRX 55LR	80	100	180.2 229.7	75	75 95	M12x15	143.2 192.7	27.5	69	21.2	16	B-R1/8 (B-PT1/8)	23.5	11	134.5 169.5	369.9 497.9	8.86 15.86	42.34 72.70	8.86 15.86	42.34 72.70	6.86 9.24	5.31 7.12
HRX 65R HRX 65LR	100	126	239.1 304.1	76	70 120	M16x20	195.7 260.7	29.5	88	28	16	B-R1/8 (B-PT1/8)	31.5	12	205.5 257.0	567.0 756.0	18.43 32.04	86.49 146.69	18.43 32.04	86.49 146.69	12.27 16.35	12.06 16.01

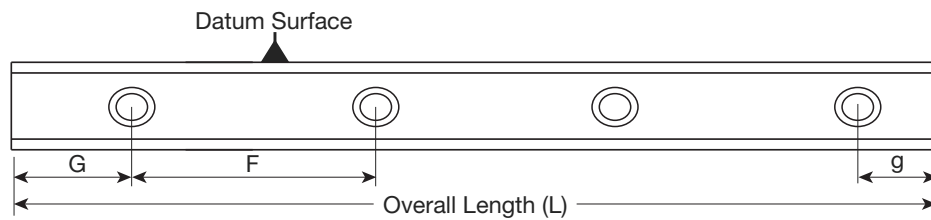
HRX LM RAIL:



Unit = mm

MODEL NO.	LM RAIL DIMENSIONS				MASS kg/m
	Width W1 0-0.05	HEIGHT M1	PITCH F	d1×d2×h	
HRX 25	23	21.5	60	7×11×9	3.25
HRX 30	28	23.5	80	9×14×12	4.42
HRX 35	34	29	80	9×14×12	6.33
HRX 45	45	38	105	14×20×17	10.9
HRX 55	53	44	120	16×23×20	15.6
HRX 65	63	53	150	18×26×22	22.6

STANDARD / MAXIMUM LENGTH OF LM RAIL:



Unit = mm

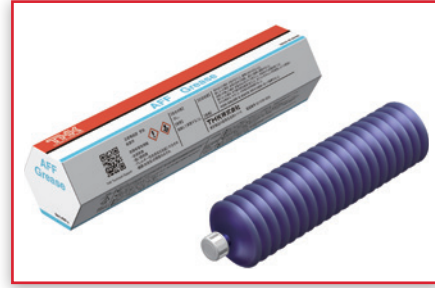
MODEL NO.	HRX 25	HRX 30	HRX 35	HRX 45	HRX 55	HRX 65
LM RAIL STANDARD LENGTH (L ₀)	220	280	280	570	780	1270
	280	360	360	675	900	1570
	340	440	440	780	1020	2020
	400	520	520	885	1140	2620
	460	600	600	990	1260	
	520	680	680	1095	1380	
	580	760	760	1200	1500	
	640	840	840	1305	1620	
	700	920	920	1410	1740	
	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		
	1480	1880	1880	2670		
	1540	1960	1960	2775		
	1600	2040	2040	2880		
	1720	2200	2200	2985		
	1840	2360	2360			
	1960	2520	2520			
	2080	2680	2680			
	2200	2840	2840			
	2320	3000	3000			
	2440					
STANDARD PITCH F	60	80	80	105	120	150
G/g	20	20	20	22.5	30	35
STANDARD MAX LENGTH	3000	3000	3000	3000	3000	3000

GREASE:



AFB-LF: contained for SHS/SHS Stainless (SS Seal)/
SSR/SHWHSR/SR/HRW/HRX

ITEM		REPRESENTATIVE VALUE	TEST METHOD
Consistency enhancer		Lithium-based	
Base oil		Refined mineral oil	
Base oil kinematic viscosity: mm ² /s (40°C)		170	JIS K 2220 23
Worked penetration (25°C, 60W)		275	JIS K 2220 7
Mixing stability (100,000 W)		345	JIS K 2220 15
Dropping point °C		193	JIS K 2220 8
Evaporation amount: mass% (99°C, 22h)		0.4	JIS K 2220 10
Oil separation rate: mass% (100°C, 24h)		0.6	JIS K 2220 11
Copper plate corrosion (B method, 100°C, 24h)		Accepted	JIS K 2220 9
Low temp. torque: N·m (-20°C)	Start	130	JIS K 2220 18
	(revolutions)	51	
4-ball testing (burn-in load): N		3089	ASTM D2596
Service Temperature Range °C		-15 to 100	
Color		Yellowish brown	



AFF: contained for SRS/SRS-G/SHS Stainless
(UU Seal)

ITEM		REPRESENTATIVE VALUE	TEST METHOD
Consistency enhancer		Lithium-based	
Base oil		High-grade synthetic oil	
Base oil kinematic viscosity: mm ² /s (40°C)		100	JIS K 2220 23
Worked penetration (25°C, 60W)		315	JIS K 2220 7
Mixing stability (100,000 W)		345	JIS K 2220 15
Dropping point °C		220	JIS K 2220 8
Evaporation amount: mass% (99°C, 22h)		0.7	JIS K 2220 10
Oil separation rate: mass% (100°C, 24h)		2.6	JIS K 2220 11
Copper plate corrosion (B method, 100°C, 24h)		Accepted	JIS K 2220 9
Low temp. torque: N·m (-20°C)	Start	220	JIS K 2220 18
	(revolutions)	60	
4-ball testing (burn-in load): N		1236	ASTM D2596
Service Temperature Range °C		-40 to 120	
Color		Reddish Brown	

For other greases, please contact THK or check general catalog.

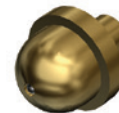
■ GREASE NIPPLE:

B-M6F, B-PT1: 45 Degree

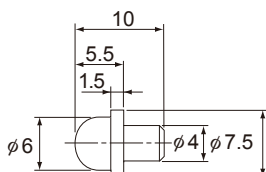


B-M6F: for size 20 through 35
B-PT1/8: for size 45 through 65

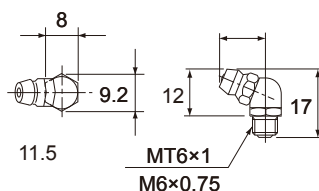
PB1021B: Driven-in Nipple



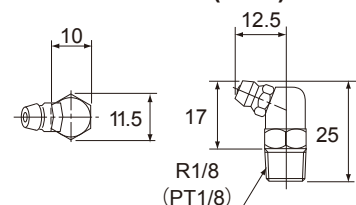
PB1021B: for size 15 & 17

Model PB1021B

Model B-M6F (M6×0.75)



Model B-PT1/8 (R1/8)



Each block comes with one grease nipple and plug (except SRS/SRS-G). For other grease nipples, please contact THK or check general catalog.

LUBRICATION:

When using the LM Guide, be sure to lubricate it well.

If traveling is carried out without lubrication or the lubrication runs out during traveling, the wear of the balls and ball rolling elements, which shortens the service life.

The lubricant has the following roles:

- (1) Minimizes friction in the traveling unit to prevent seizure and reduce wear.
- (2) Forms an oil film on the raceway to decrease stress acting on the surface and extend rolling life.
- (3) Covers the metal surface to prevent rust formation.

To fully bring out the LM Guide's functions, it is necessary to provide lubrication according to the conditions.

● Precautions

- Do not use a mix of lubricants with different physical properties. Mixing lubricants using the same type of thickening agent may still cause mutually adverse impacts on the two lubricants if they use different additives, etc.
- The properties of lubricant deteriorate and its lubrication performance drops over time. Lubricants must be checked and added properly according to the use frequency of the machine.
- The appropriate lubrication schedule will depend on usage conditions and the surrounding environment. In general, the unit should be lubricated after every 100 kilometers of operation (every 3 to 6 months) in the case of the full-component LM Guide. Set the final lubrication interval/amount based on the actual machine.
- If the mounting orientation of the LM Guide is other than horizontal use (i.e., vertical, wall and inverted mount), the lubricant may not reach the raceway completely. Be careful.

Lubrication Methods Manual Greasing

Generally, grease is replenished periodically, fed through a grease nipple provided on the LM block, using a grease gun.

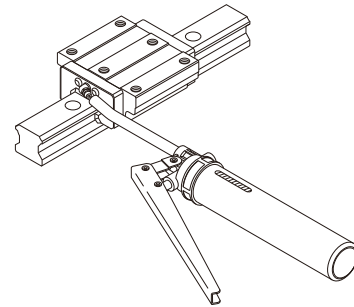


Fig.4 Lubrication Using a Grease Gun

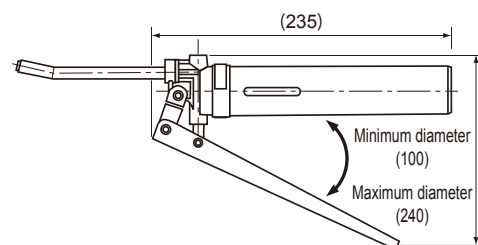
Lubrication Equipment Grease Gun Unit MG70

Grease Gun Unit MG70 is capable of lubricating small to large models by replacing dedicated nozzles (attached). For small models, dedicated attachments are provided. The user can select from these attachments according to the model number and the installation space.

Grease Gun has a slit window, allowing the user to check the remaining amount of grease.

Since a 70g type of THK original grease is contained in a bellows cartridge, you can install it on the grease gun unit and replace it without soiling your hand.

Grease Nipple Model No.	Type	Dimensional Drawing
PB1021B	Type N	
B-M6F	Type H	
B-R1/8 (B-PT1/8)		



■ MOUNTING THE LM GUIDE

Lubrication Methods Manual Greasing

LM Guide has a reference surface.

The accuracy grade of the LM Guide is specified based on the reference surface.

The reference surface of the LM block is opposite to the surface marked with the THK logo and the model No. while the reference surface of the LM rail is on the bottom of the LM rail marked with a line.

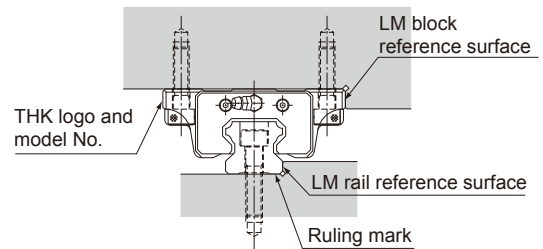


Fig.5 Reference surface of the LM Guide

Combined Use of an LM Rail and LM Blocks

Combine so that the reference surface of the LM rail and LM blocks should face the same direction.

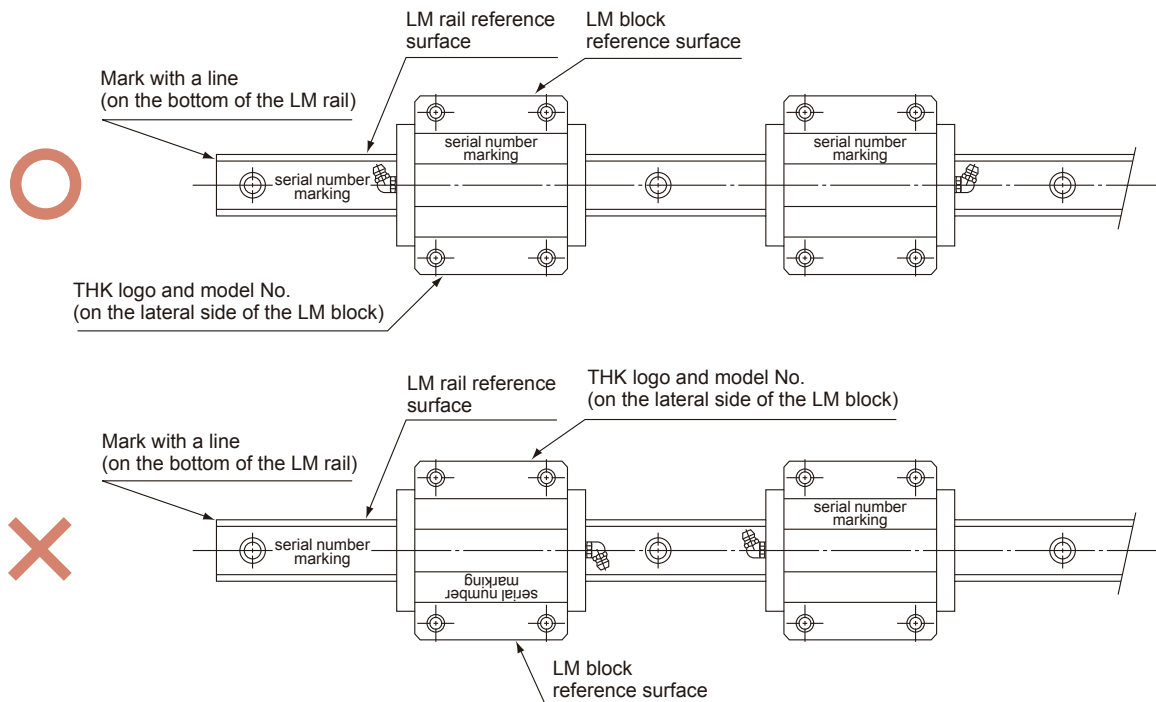


Fig.6 Combined Use of an LM Rail and LM Blocks

Note: LM Guide GK Series has a grease nipple. (Not attached to the LM block)

Attach a grease nipple when mounting the LM Guide. Attach a bundled plug to the opposite side of the LM block.

■ INSTALLING THE LM BLOCKS

Use the bundled removing/mounting jig when mounting the LM blocks to the LM rail in its assembly, etc. When the LM blocks are inserted into the LM rail without using the removing/mounting jig, balls may drop out from an LM block due to entered foreign materials, damaged internal components, or slight tilt. Using the LM Guide with some of the balls missing may cause damage at an early stage. Align the removing/mounting jig to the end face of the LM rail without tilting or separating when used. (See Fig.7) The removing/mounting jig is not provided as standard. To use the jig, contact THK. Also contact THK when balls drop out during mounting.

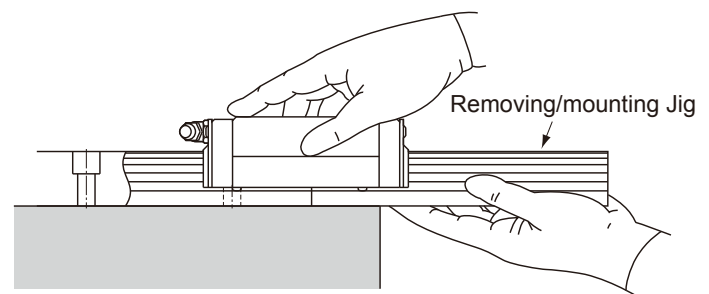


Fig.7 Installing the LM Blocks

■ PRECAUTIONS

[Handling]

- (1) Please use at least two people to move any product weighing 20 kg or more, or use a dolly or another conveyance. Otherwise, it may cause injury or damage the unit.
- (2) Do not disassemble the parts. Otherwise, it may reduce functionality.
- (3) Tilting an LM block or LM rail may cause them to fall by their own weight.
- (4) Take care not to drop or strike the LM Guide. Otherwise, it may cause injury or damage the unit. If the product is dropped or impacted, functionality may be reduced even if there is no surface damage.
- (5) Do not remove the LM block from the LM rail during setup.
- (6) Do not insert fingers into the mounting holes on the LM rail, as they could get caught between the rail and the LM block, resulting in injury.
- (7) To ensure personal safety, wear gloves and protective footwear when handling this product.

[Precautions on Use]

- (1) Prevent foreign material, such as cutting chips or coolant, from entering the product. This may also cause damage to the product.
- (2) If the product is used in an environment where cutting chips, coolant, corrosive solvents, water, etc., may enter the product, use bellows, covers, etc., to prevent them from entering the product.
- (3) Do not use the product at temperature of 80°C or higher. Unless the unit is specially designed to be heat-resistant, exposure to such temperatures may deform or damage plastic and rubber parts.
- (4) If foreign material such as cutting chips adheres to the product, replenish the lubricant after cleaning the product.
- (5) Micro-strokes can inhibit the formation of a film of oil between the raceways and the ball, resulting in fretting. So use grease with high fretting resistance. THK recommends periodically making stroke movement of about the length of the LM block to help ensure that a film forms on the raceways and balls.
- (6) Do not forcibly drive a pin, key, or other positioning device into this product. This may generate permanent deformation on the raceway, leading to loss of functionality.
- (7) If, for operational reasons, it becomes absolutely necessary to remove the LM block from the LM rail and reattach it, a special mounting jig must be used for this purpose. (The removing/mounting jig is not provided as standard. When desiring to use it, contact THK.)
- (8) Position the mounting jig so that one end abuts the end of the LM rail. When the rail and the jig are exactly aligned, the LM block can be loaded onto the rail.
- (9) Take care to keep the LM block straight. Loading the block at an angle can introduce foreign material, damage internal components, or cause balls to fall out.
- (10) The LM block must contain all its internal rolling elements (balls) when mounted on the LM rail. Using a block with any balls removed may result in premature damage.
- (11) If any of the balls falls from the LM block, contact THK instead of using the product.
- (12) If the endplate is damaged due to an accident, etc., balls may fall out or the LM block may become detached from the LM rail and drop. If the LM Guide will be used hanging upside down, take preventive measures such as adding a safety mechanism to prevent falls.
- (13) If the durability of the mounting parts are insufficient and the mounting accuracy is bad, an unexpected load will be applied to the LM block, which may cause damage at an early stage. Accordingly, give sufficient consideration to the rigidity/accuracy of the housing and the base.
- (14) When removing the LM block from the LM rail and then replacing the block, an LM block mounting/removing jig that facilitates such installation is available. Contact THK for details.

[Lubrication]

- (1) Thoroughly wipe off anti-rust oil and feed lubricant before using the product.
- (2) Do not use a mix of lubricants with different physical properties. Mixing greases using the same type of thickening agent may still cause adverse interaction between the two greases if they use different additives, etc.
- (3) When using the product in locations exposed to constant vibrations or in special environments such as clean rooms, vacuum and low/high temperature, use the grease appropriate for the specification/environment.
- (4) To lubricate a product that has no grease nipple or oil hole, apply lubricant directly to the raceway surface and execute a few preliminary strokes to ensure that the interior is fully lubricated.
- (5) Lubricant viscosity can vary depending on the temperature. Take note that the slide resistance and torque of the LM Guide also changes as the consistency of grease changes.
- (6) After lubrication, the slide resistance and torque of the LM Guide may increase due to the agitation resistance of grease. Be sure to perform a break-in to let the grease spread fully, before operating the machine.
- (7) Excess lubricant may spatter immediately after lubrication. If necessary, wipe off any spattered grease.
- (8) The properties of grease deteriorate and its lubrication performance drops over time. Grease must be checked and added properly according to the use frequency of the machine.
- (9) Although the lubrication interval may vary according to use conditions and the service environment, lubrication should be performed approximately every 100 km in travel distance (three to six months). Set the final lubrication interval/amount based on the actual machine.
- (10) If the installation direction is other than horizontal use, the lubricant may not reach the raceway completely.
- (11) When adopting oil lubrication, the lubricant may not be distributed throughout the LM block depending on the installation direction of the block. Contact THK in advance for details.

[Storage]

When storing the LM Guide, enclose it in a package designated by THK and store it in a room in a horizontal orientation while avoiding high temperature, low temperature and high humidity. After the product has been in storage for an extended period of time, lubricant inside may have deteriorated, so add new lubricant before use.

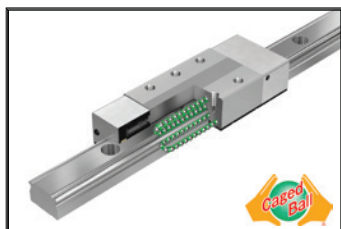
[Disposal]

Dispose of the product properly as industrial waste.

■ MORE LINEAR MOTION GUIDES:

Caged-Ball Linear Motion Guides:

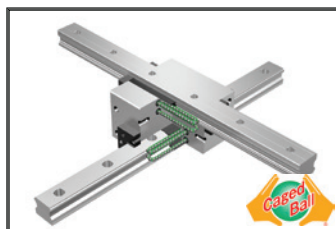
GK = Interchangeable Block/Rail Available



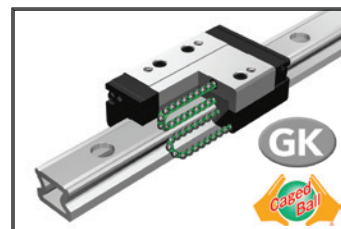
SVR/SVS: Ultra Heavy Load



SPR/SPS: Low Waiving

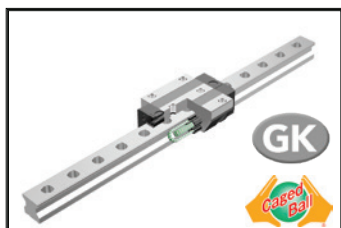


SCR: Cross

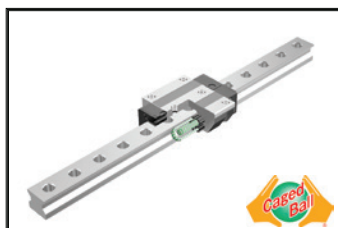


LM Guide-Light: Hollow Rail

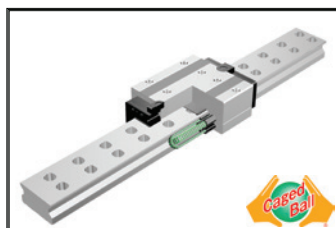
Caged-Roller Linear Motion Guides:



SRG: Roller

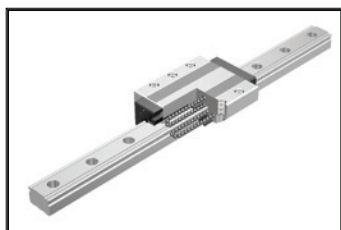


SRN: Roller-Low Center of Gravity



SRW: Roller-Ultra High Rigidity

Full-Ball Linear Motion Guides:



NR-X/NRS-X: Ultra Heavy Load



JR: Structural Member



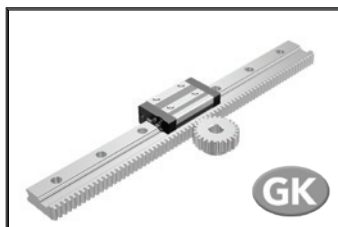
HCR: Curved Rail



HMG: Straight + Curved



HR: Separate



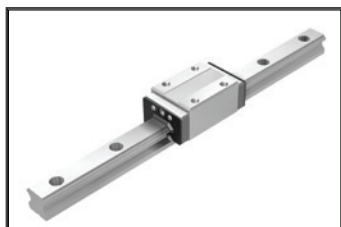
GSR-R: With Rack-Pinion



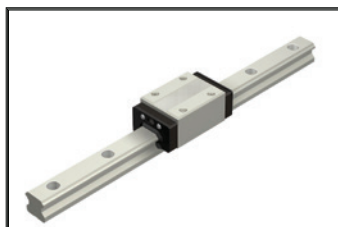
MX: Miniature-Cross



RSR: Micro LM Guide



High Temperature



High Corrosion



Mid to Low Vacuum

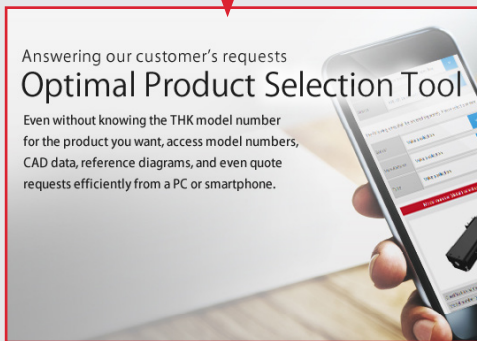
Contact THK or check general catalog for product details.

SUPPORT TOOLS

Technical Support Site - tech.thk.com

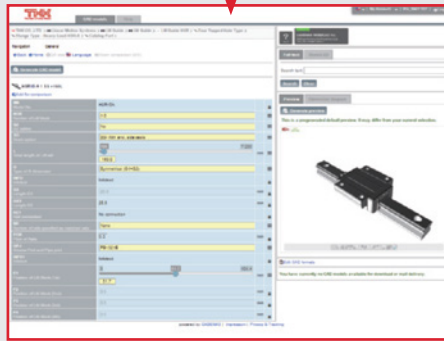
01 Optimal Product Selection Tool

Input usage conditions to easily narrow down the selection of products and help you make the right choice.



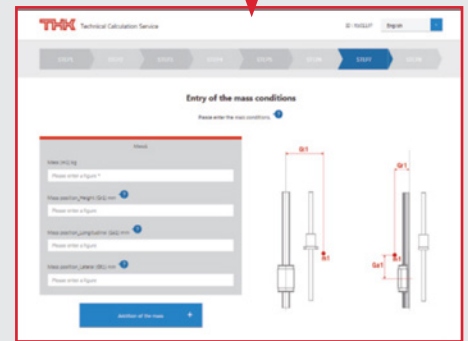
02 CAD/Drawing Data Aquisition

From each product page, important information such as catalog data, CAD data and reference diagrams can be easily accessed.



03 Life Calculator

Easily calculate a product's expected service life by selecting a tool and entering its conditions, as shown in the steps.



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Contributes to quick delivery



Major Credit Cards Accepted
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2D/3D CAD & Product Configurator
2D/3D models and product configurator available for download in most file formats



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Clear lead times and prices are listed in the store (no RFQ required)



Grease MSDS
Grease MSDS (Material Safety Data Sheets) can be downloaded



Available for USA/Canada/Mexico Customers
We ship to the USA (mainland), Canada, and Mexico

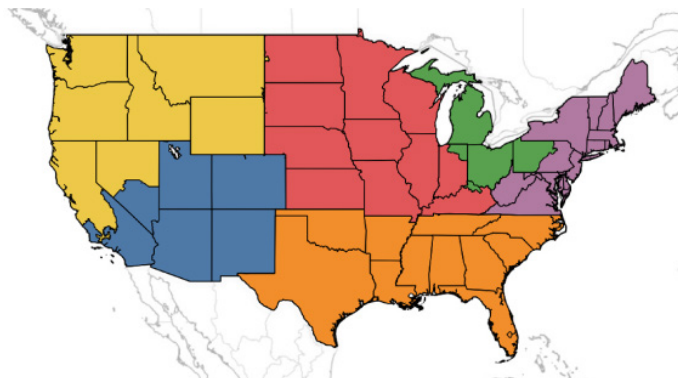


Quotation File
Cart contents can be downloaded as quotation



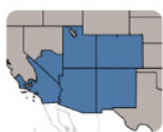
CONTACT US

North America - United States



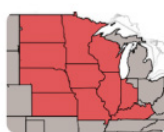
Northern CA/ Northwest

Tel: (925) 455-8948
3037 Independence Drive Suite I,
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Email: sanfrancisco@thk.com



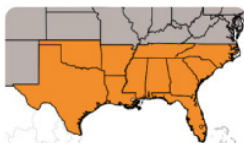
Southern CA/ West

Tel: (949) 955-3145
34 Executive Park, Suite 215,
Irvine CA. 92614
Email: losangeles@thk.com



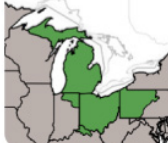
Midwest (HQ)

Tel: (847) 310-1111
200 East. Commerce Drive,
Schaumburg, IL. 60173
Email: chicago@thk.com



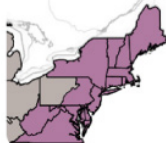
South

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East Midwest

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