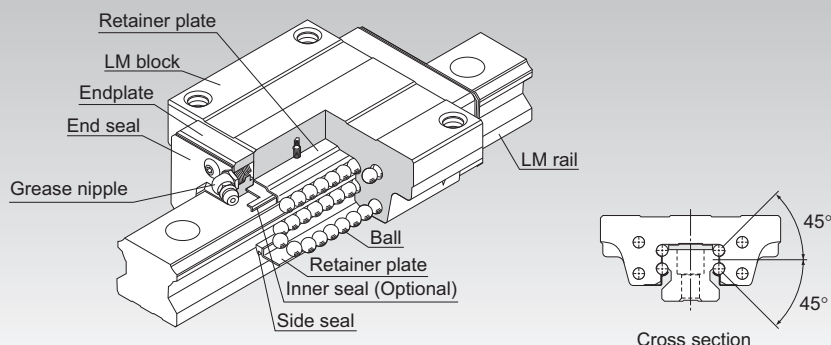


HSR

LM Guide Global Standard Size Model HSR



Point of Selection **A1-10**

Point of Design **A1-436**

Options **A1-459**

Model No. **A1-524**

Precautions on Use **A1-530**

Accessories for Lubrication **A24-1**

Mounting Procedure and Maintenance **B1-89**

Equivalent moment factor **A1-43**

Rated Loads in All Directions **A1-58**

Equivalent factor in each direction **A1-60**

Radial Clearance **A1-71**

Accuracy Standards **A1-76**

Shoulder Height of the Mounting Base and the Corner Radius **A1-447**

Permissible Error of the Mounting Surface **A1-452**

Dimensions of Each Model with an Option Attached **A1-472**

Structure and Features

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.

Since retainer plates hold the balls, they do not fall off even if the LM rail is pulled out (except models HSR 8, 10 and 12).

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), enabling the LM Guide to be used in all orientations. In addition, the LM block can receive a well-balanced preload, increasing the rigidity in the four directions while maintaining a constant, low friction coefficient. With the low sectional height and the high rigidity design of the LM block, this model achieves highly accurate and stable straight motion.

[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), enabling the LM Guide to be used in all orientations and in extensive applications.

[High Rigidity Type]

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.

[Self-adjustment Capability]

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

[High Durability]

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

[Stainless Steel Type also Available]

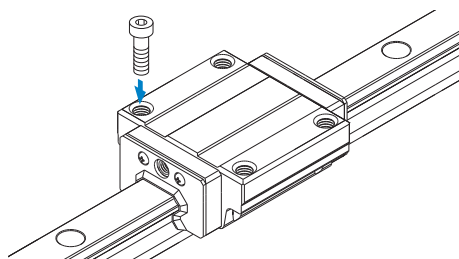
A special type which LM block, LM rail and balls are made of stainless steel is also available.

Types

Model HSR-A

The flange of its LM block has tapped holes.

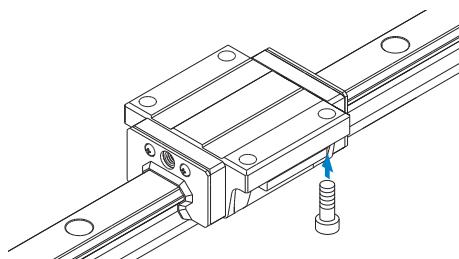
Specification Table⇒ **A1-186**



Model HSR-B

The flange of the LM block has through holes. Used in places where the table cannot have through holes for mounting bolts.

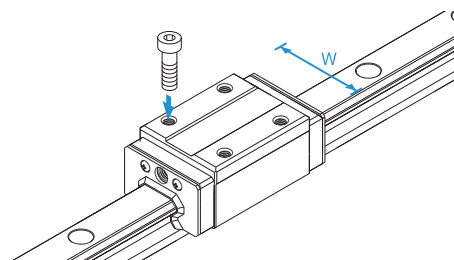
Specification Table⇒ **A1-188**



Model HSR-R

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

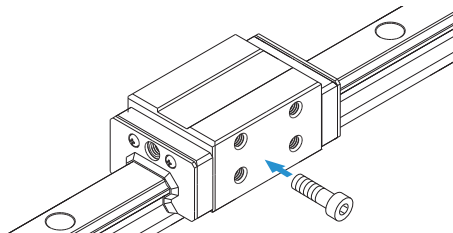
Specification Table⇒ **A1-192**



Model HSR-YR

When using two units of LM Guide facing each other, the previous model required much time in machining the table and had difficulty achieving the desired accuracy and adjusting the clearance. Since model HSR-YR has tapped holes on the side of the LM block, a simpler structure is gained and reduced man-hour and increase in accuracy can be achieved.

Specification Table⇒ **A1-194**



LM Guide

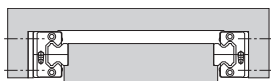


Fig.1 Conventional Structure

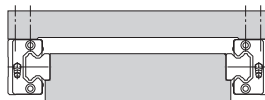
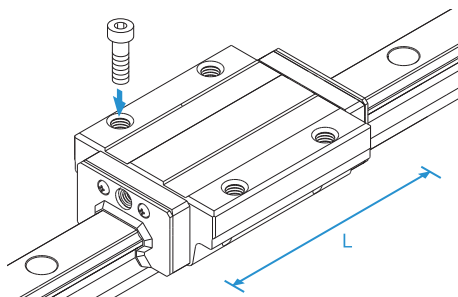


Fig.2 Mounting Structure for Model HSR-YR

Model HSR-LA

The LM block has the same cross-sectional shape as model HSR-A, but has a longer overall LM block length (L) and a greater rated load.

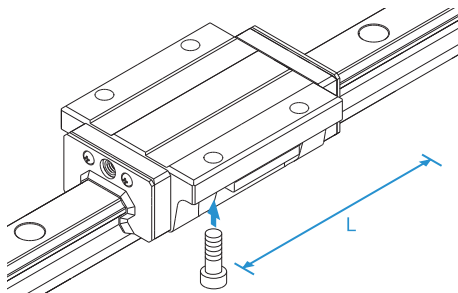
Specification Table⇒ **A1-186**



Model HSR-LB

The LM block has the same cross-sectional shape as model HSR-B, but has a longer overall LM block length (L) and a greater rated load.

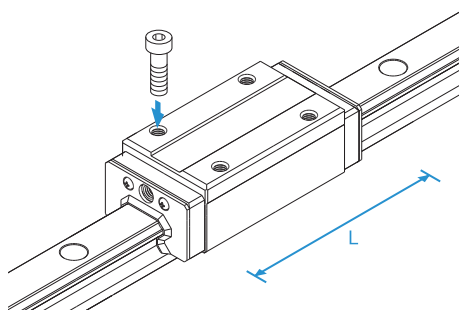
Specification Table⇒ **A1-188**



Model HSR-LR

Specification Table⇒ [A1-192](#)

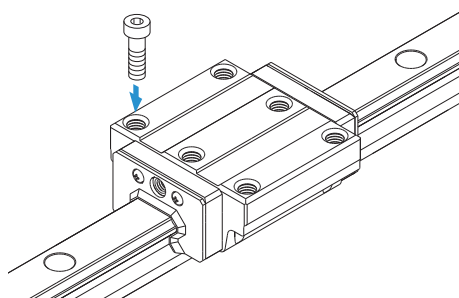
The LM block has the same cross-sectional shape as model HSR-R, but has a longer overall LM block length (L) and a greater rated load.



Model HSR-CA

Specification Table⇒ [A1-196](#)

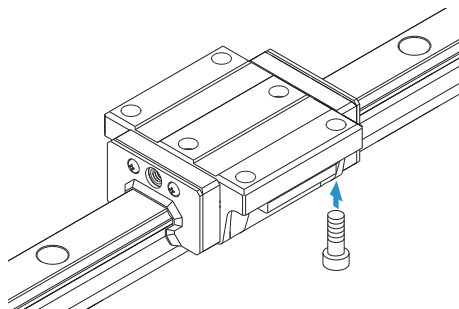
Has six tapped holes on the LM block.



Model HSR-CB

Specification Table⇒ [A1-198](#)

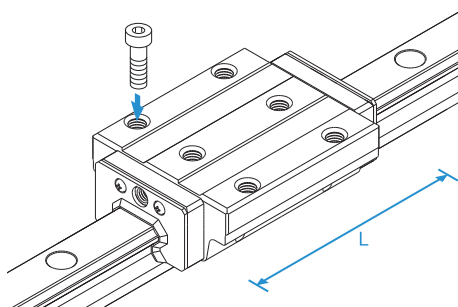
The LM block has six through holes. Used in places where the table cannot have through holes for mounting bolts.



Model HSR-HA

The LM block has the same cross-sectional shape as model HSR-CA, but has a longer overall LM block length (L) and a greater rated load.

Specification Table⇒ **A1-196**

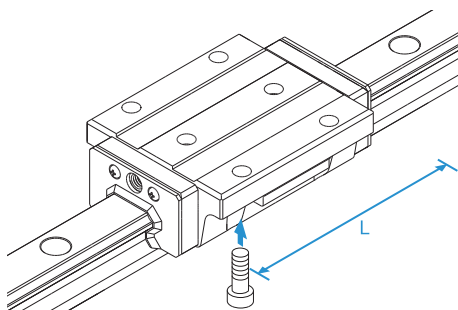


LM Guide

Model HSR-HB

The LM block has the same cross sectional shape as model HSR-CB, but has a longer overall LM block length (L) and a greater rated load.

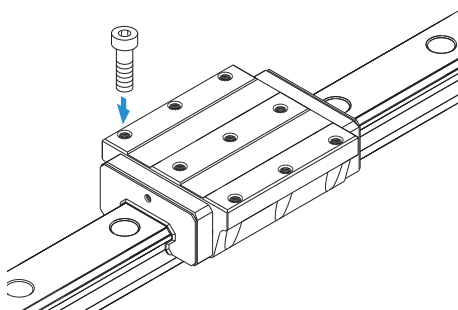
Specification Table⇒ **A1-198**



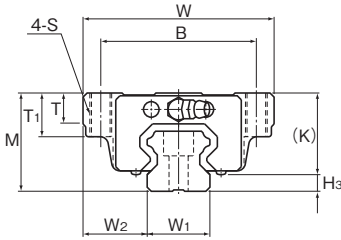
Models HSR 100/120/150 HA/HB/HR

Large types of model HSR that can be used in large-scale machine tools and building structures.

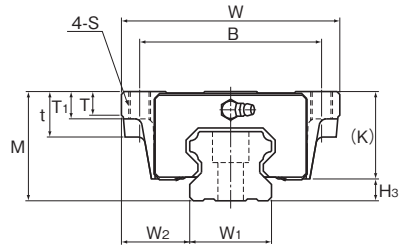
Specification Table⇒ **A1-200**



Models HSR-A and HSR-AM, Models HSR-LA and HSR-LAM



Models HSR15 to 35A/LA/AM/LAM



Models HSR45 to 85A/LA

| Model No. | Outer dimensions | | | LM block dimensions | | | | | | | | | | | Grease nipple | H _s |
|-----------------------|------------------|-------|--------------|---------------------|-----|-----|----------------|----|------|----------------|------|-----|-----|---------|---------------|----------------|
| | Height | Width | Length | B | C | S | L ₁ | t | T | T ₁ | K | N | E | | | |
| | M | W | L | B | C | S | L ₁ | t | T | T ₁ | K | N | E | | | |
| HSR 15A HSR 15AM | 24 | 47 | 56.6 | 38 | 30 | M5 | 38.8 | — | 7 | 11 | 19.3 | 4.3 | 5.5 | PB1021B | 4.7 | |
| HSR 20A HSR 20AM | 30 | 63 | 74 | 53 | 40 | M6 | 50.8 | — | 9.5 | 10 | 26 | 5 | 12 | B-M6F | 4 | |
| HSR 20LA HSR 20LAM | 30 | 63 | 90 | 53 | 40 | M6 | 66.8 | — | 9.5 | 10 | 26 | 5 | 12 | B-M6F | 4 | |
| HSR 25A HSR 25AM | 36 | 70 | 83.1 | 57 | 45 | M8 | 59.5 | — | 11 | 16 | 30.5 | 6 | 12 | B-M6F | 5.5 | |
| HSR 25LA HSR 25LAM | 36 | 70 | 102.2 | 57 | 45 | M8 | 78.6 | — | 11 | 16 | 30.5 | 6 | 12 | B-M6F | 5.5 | |
| HSR 30A HSR 30AM | 42 | 90 | 98 | 72 | 52 | M10 | 70.4 | — | 9 | 18 | 35 | 7 | 12 | B-M6F | 7 | |
| HSR 30LA HSR 30LAM | 42 | 90 | 120.6 | 72 | 52 | M10 | 93 | — | 9 | 18 | 35 | 7 | 12 | B-M6F | 7 | |
| HSR 35A HSR 35AM | 48 | 100 | 109.4 | 82 | 62 | M10 | 80.4 | — | 12 | 21 | 40.5 | 8 | 12 | B-M6F | 7.5 | |
| HSR 35LA HSR 35LAM | 48 | 100 | 134.8 | 82 | 62 | M10 | 105.8 | — | 12 | 21 | 40.5 | 8 | 12 | B-M6F | 7.5 | |
| HSR 45A HSR 45LA | 60 | 120 | 139 170.8 | 100 | 80 | M12 | 98 129.8 | 25 | 13 | 15 | 50 | 10 | 16 | B-PT1/8 | 10 | |
| HSR 55A HSR 55LA | 70 | 140 | 163 201.1 | 116 | 95 | M14 | 118 156.1 | 29 | 13.5 | 17 | 57 | 11 | 16 | B-PT1/8 | 13 | |
| HSR 65A HSR 65LA | 90 | 170 | 186 245.5 | 142 | 110 | M16 | 147 206.5 | 37 | 21.5 | 23 | 76 | 19 | 16 | B-PT1/8 | 14 | |
| HSR 85A HSR 85LA | 110 | 215 | 245.6 303 | 185 | 140 | M20 | 178.6 236 | 55 | 28 | 30 | 94 | 23 | 16 | B-PT1/8 | 16 | |

Model number coding

HSR25 A 2 QZ UU C0 M +1200L P T M - II

Model number

Type of LM block

With QZ Lubricator

Contamination protection accessory symbol (*1)

Stainless steel LM block

LM rail length (in mm)

Stainless steel LM rail
Symbol for LM rail jointed use

Symbol for No. of rails used on the same plane (*4)

No. of LM blocks used on the same rail

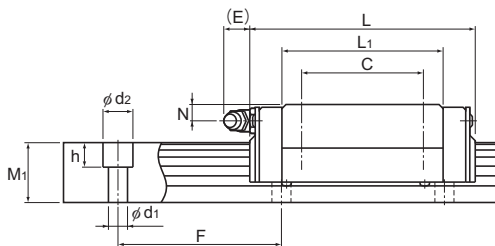
Radial clearance symbol (*2)
Normal (No symbol)
Light preload (C1)
Medium preload (C0)

Accuracy symbol (*3)
Normal grade (No Symbol)/High accuracy grade (H)
Precision grade (P)/Super precision grade (SP)
Ultra precision grade (UP)

(*1) See contamination protection accessory on **A1-496**. (*2) See **A1-71**. (*3) See **A1-76**. (*4) See **A1-13**.

Note) This model number indicates that a single-rail unit constitutes one set. (i.e., required number of sets when 2 rails are used in parallel is 2 at a minimum.)

Those models equipped with QZ Lubricator cannot have a grease nipple. When desiring a grease nipple for a model attached with QZ, contact THK.



Unit: mm

| | | LM rail dimensions | | | | | | Basic load rating | | Static permissible moment kN-m* | | | | | Mass | |
|-------------------------|----------------|--------------------|-------|-------------------------------------|----------------|-------------|----------------|-------------------|---------------|---------------------------------|---------------|----------------|-------------|---------|------|--|
| Width | | Height | Pitch | | Length* | C | C ₀ | M _A | | M _B | | M _C | LM block | LM rail | | |
| W ₁ ±0.05 | W ₂ | M ₁ | F | d ₁ × d ₂ × h | Max | kN | kN | 1 block | Double blocks | 1 block | Double blocks | 1 block | kg | kg/m | | |
| 15 | 16 | 15 | 60 | 4.5 × 7.5 × 5.3 | 3000 (1240) | 8.33 | 13.5 | 0.0805 | 0.457 | 0.0805 | 0.457 | 0.0844 | 0.2 | 1.5 | | |
| 20 | 21.5 | 18 | 60 | 6 × 9.5 × 8.5 | 3000 (1480) | 13.8 | 23.8 | 0.19 | 1.04 | 0.19 | 1.04 | 0.201 | 0.35 | 2.3 | | |
| 20 | 21.5 | 18 | 60 | 6 × 9.5 × 8.5 | 3000 (1480) | 21.3 | 31.8 | 0.323 | 1.66 | 0.323 | 1.66 | 0.27 | 0.47 | 2.3 | | |
| 23 | 23.5 | 22 | 60 | 7 × 11 × 9 | 3000 (2020) | 19.9 | 34.4 | 0.307 | 1.71 | 0.307 | 1.71 | 0.344 | 0.59 | 3.3 | | |
| 23 | 23.5 | 22 | 60 | 7 × 11 × 9 | 3000 (2020) | 27.2 | 45.9 | 0.529 | 2.74 | 0.529 | 2.74 | 0.459 | 0.75 | 3.3 | | |
| 28 | 31 | 26 | 80 | 9 × 14 × 12 | 3000 (2520) | 28 | 46.8 | 0.524 | 2.7 | 0.524 | 2.7 | 0.562 | 1.1 | 4.8 | | |
| 28 | 31 | 26 | 80 | 9 × 14 × 12 | 3000 (2520) | 37.3 | 62.5 | 0.889 | 4.37 | 0.889 | 4.37 | 0.751 | 1.3 | 4.8 | | |
| 34 | 33 | 29 | 80 | 9 × 14 × 12 | 3000 (2520) | 37.3 | 61.1 | 0.782 | 3.93 | 0.782 | 3.93 | 0.905 | 1.6 | 6.6 | | |
| 34 | 33 | 29 | 80 | 9 × 14 × 12 | 3000 (2520) | 50.2 | 81.5 | 1.32 | 6.35 | 1.32 | 6.35 | 1.2 | 2 | 6.6 | | |
| 45 | 37.5 | 38 | 105 | 14 × 20 × 17 | 3090 | 60 80.4 | 95.6 127 | 1.42 2.44 | 7.92 12.6 | 1.42 2.44 | 7.92 12.6 | 1.83 2.43 | 2.8 3.3 | 11 | | |
| 53 | 43.5 | 44 | 120 | 16 × 23 × 20 | 3060 | 88.5 119 | 137 183 | 2.45 4.22 | 13.2 21.3 | 2.45 4.22 | 13.2 21.3 | 3.2 4.28 | 4.5 5.7 | 15.1 | | |
| 63 | 53.5 | 53 | 150 | 18 × 26 × 22 | 3000 | 141 192 | 215 286 | 4.8 8.72 | 23.5 40.5 | 4.8 8.72 | 23.5 40.5 | 5.82 7.7 | 8.5 10.7 | 22.5 | | |
| 85 | 65 | 65 | 180 | 24 × 35 × 28 | 3000 | 210 282 | 310 412 | 8.31 14.2 | 45.6 72.5 | 8.31 14.2 | 45.6 72.5 | 11 14.7 | 17 23 | 35.2 | | |

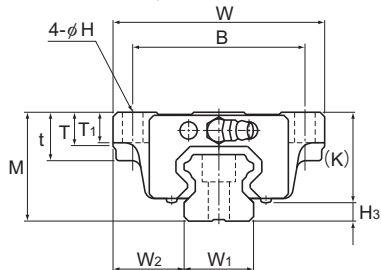
Note) Symbol M indicates that stainless steel is used in the LM block, LM rail and balls. Those models marked with this symbol are therefore highly resistant to corrosion and environment.

The maximum length under "Length*" indicates the standard maximum length of an LM rail. (See **A1-202**.)

Static permissible moment*: 1 block: static permissible moment value with 1 LM block

Double blocks: static permissible moment value with 2 blocks closely contacting with each other

Models HSR-B, HSR-BM, HSR-LB and HSR-LBM



| Model No. | Outer dimensions | | | LM block dimensions | | | | | | | | | | | Grease nipple | H ₃ |
|-----------------------|------------------|-------|--------------|---------------------|-----|-----|----------------|----|------|----------------|------|-----|-----|---------|----------------|----------------|
| | Height | Width | Length | B | C | H | L ₁ | t | T | T ₁ | K | N | E | | | |
| | M | W | L | B | C | H | L ₁ | t | T | T ₁ | K | N | E | | H ₃ | |
| HSR 15B HSR 15BM | 24 | 47 | 56.6 | 38 | 30 | 4.5 | 38.8 | 11 | 7 | 7 | 19.3 | 4.3 | 5.5 | PB1021B | 4.7 | |
| HSR 20B HSR 20BM | 30 | 63 | 74 | 53 | 40 | 6 | 50.8 | 10 | 9.5 | 10 | 26 | 5 | 12 | B-M6F | 4 | |
| HSR 20LB HSR 20LBM | 30 | 63 | 90 | 53 | 40 | 6 | 66.8 | 10 | 9.5 | 10 | 26 | 5 | 12 | B-M6F | 4 | |
| HSR 25B HSR 25BM | 36 | 70 | 83.1 | 57 | 45 | 7 | 59.5 | 16 | 11 | 10 | 30.5 | 6 | 12 | B-M6F | 5.5 | |
| HSR 25LB HSR 25LBM | 36 | 70 | 102.2 | 57 | 45 | 7 | 78.6 | 16 | 11 | 10 | 30.5 | 6 | 12 | B-M6F | 5.5 | |
| HSR 30B HSR 30BM | 42 | 90 | 98 | 72 | 52 | 9 | 70.4 | 18 | 9 | 10 | 35 | 7 | 12 | B-M6F | 7 | |
| HSR 30LB HSR 30LBM | 42 | 90 | 120.6 | 72 | 52 | 9 | 93 | 18 | 9 | 10 | 35 | 7 | 12 | B-M6F | 7 | |
| HSR 35B HSR 35BM | 48 | 100 | 109.4 | 82 | 62 | 9 | 80.4 | 21 | 12 | 13 | 40.5 | 8 | 12 | B-M6F | 7.5 | |
| HSR 35LB HSR 35LBM | 48 | 100 | 134.8 | 82 | 62 | 9 | 105.8 | 21 | 12 | 13 | 40.5 | 8 | 12 | B-M6F | 7.5 | |
| HSR 45B HSR 45LB | 60 | 120 | 139 170.8 | 100 | 80 | 11 | 98 129.8 | 25 | 13 | 15 | 50 | 10 | 16 | B-PT1/8 | 10 | |
| HSR 55B HSR 55LB | 70 | 140 | 163 201.1 | 116 | 95 | 14 | 118 156.1 | 29 | 13.5 | 17 | 57 | 11 | 16 | B-PT1/8 | 13 | |
| HSR 65B HSR 65LB | 90 | 170 | 186 245.5 | 142 | 110 | 16 | 147 206.5 | 37 | 21.5 | 23 | 76 | 19 | 16 | B-PT1/8 | 14 | |
| HSR 85B HSR 85LB | 110 | 215 | 245.6 303 | 185 | 140 | 18 | 178.6 236 | 55 | 28 | 30 | 94 | 23 | 16 | B-PT1/8 | 16 | |

Model number coding

HSR25 B 2 QZ UU C0 M +1200L P T M - II

Model number

Type of LM block

With QZ Lubricator

Contamination protection accessory symbol (*1)

Stainless steel LM block

LM rail length (in mm)

Stainless steel LM rail
Symbol for LM rail jointed use

Symbol for No. of rails used on the same plane (*4)

No. of LM blocks used on the same rail

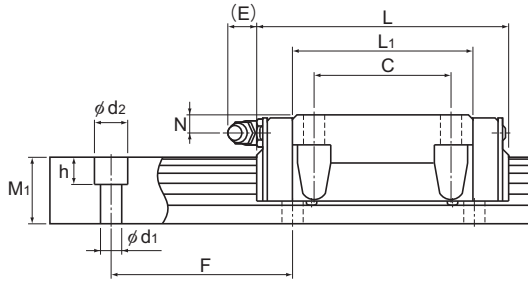
Radial clearance symbol (*2)
Normal (No symbol)
Light preload (C1)
Medium preload (C0)

Accuracy symbol (*3)
Normal grade (No Symbol)/High accuracy grade (H)
Precision grade (P)/Super precision grade (SP)
Ultra precision grade (UP)

(*1) See contamination protection accessory on **A1-496**. (*2) See **A1-71**. (*3) See **A1-76**. (*4) See **A1-13**.

Note) This model number indicates that a single-rail unit constitutes one set. (i.e., required number of sets when 2 rails are used in parallel is 2 at a minimum.)

Those models equipped with QZ Lubricator cannot have a grease nipple. When desiring a grease nipple for a model attached with QZ, contact THK.



Unit: mm

| | LM rail dimensions | | | | | | Basic load rating | | Static permissible moment kN-m* | | | | | | Mass | |
|--|----------------------------------|----------------|--------------------------|------------|-------------------------------------|----------------|-------------------|----------------------|---------------------------------|------------------|----------------|------------------|----------------|-------------------|--------------------|--|
| | Width W ₁ ±0.05 | W ₂ | Height M ₁ | Pitch F | d ₁ × d ₂ × h | Length* Max | C kN | C ₀ kN | M _a | | M _b | | M _c | LM block kg | LM rail kg/m | |
| | | | | | | | | | 1 block | Double blocks | 1 block | Double blocks | 1 block | | | |
| | 15 | 16 | 15 | 60 | 4.5 × 7.5 × 5.3 | 3000 (1240) | 8.33 | 13.5 | 0.0805 | 0.457 | 0.0805 | 0.457 | 0.0844 | 0.2 | 1.5 | |
| | 20 | 21.5 | 18 | 60 | 6 × 9.5 × 8.5 | 3000 (1480) | 13.8 | 23.8 | 0.19 | 1.04 | 0.19 | 1.04 | 0.201 | 0.35 | 2.3 | |
| | 20 | 21.5 | 18 | 60 | 6 × 9.5 × 8.5 | 3000 (1480) | 21.3 | 31.8 | 0.323 | 1.66 | 0.323 | 1.66 | 0.27 | 0.47 | 2.3 | |
| | 23 | 23.5 | 22 | 60 | 7 × 11 × 9 | 3000 (2020) | 19.9 | 34.4 | 0.307 | 1.71 | 0.307 | 1.71 | 0.344 | 0.59 | 3.3 | |
| | 23 | 23.5 | 22 | 60 | 7 × 11 × 9 | 3000 (2020) | 27.2 | 45.9 | 0.529 | 2.74 | 0.529 | 2.74 | 0.459 | 0.75 | 3.3 | |
| | 28 | 31 | 26 | 80 | 9 × 14 × 12 | 3000 (2520) | 28 | 46.8 | 0.524 | 2.7 | 0.524 | 2.7 | 0.562 | 1.1 | 4.8 | |
| | 28 | 31 | 26 | 80 | 9 × 14 × 12 | 3000 (2520) | 37.3 | 62.5 | 0.889 | 4.37 | 0.889 | 4.37 | 0.751 | 1.3 | 4.8 | |
| | 34 | 33 | 29 | 80 | 9 × 14 × 12 | 3000 (2520) | 37.3 | 61.1 | 0.782 | 3.93 | 0.782 | 3.93 | 0.905 | 1.6 | 6.6 | |
| | 34 | 33 | 29 | 80 | 9 × 14 × 12 | 3000 (2520) | 50.2 | 81.5 | 1.32 | 6.35 | 1.32 | 6.35 | 1.2 | 2 | 6.6 | |
| | 45 | 37.5 | 38 | 105 | 14 × 20 × 17 | 3090 | 60 80.4 | 95.6 127 | 1.42 2.44 | 7.92 12.6 | 1.42 2.44 | 7.92 12.6 | 1.83 2.43 | 2.8 3.3 | 11 | |
| | 53 | 43.5 | 44 | 120 | 16 × 23 × 20 | 3060 | 88.5 119 | 137 183 | 2.45 4.22 | 13.2 21.3 | 2.45 4.22 | 13.2 21.3 | 3.2 4.28 | 4.5 5.7 | 15.1 | |
| | 63 | 53.5 | 53 | 150 | 18 × 26 × 22 | 3000 | 141 192 | 215 286 | 4.8 8.72 | 23.5 40.5 | 4.8 8.72 | 23.5 40.5 | 5.82 7.7 | 8.5 10.7 | 22.5 | |
| | 85 | 65 | 65 | 180 | 24 × 35 × 28 | 3000 | 210 282 | 310 412 | 8.31 14.2 | 45.6 72.5 | 8.31 14.2 | 45.6 72.5 | 11 14.7 | 17 23 | 35.2 | |

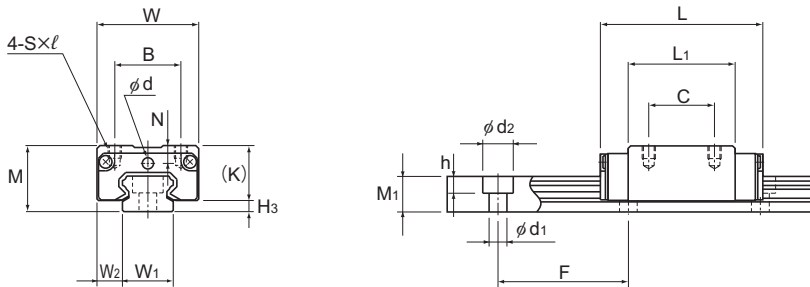
Note) Symbol M indicates that stainless steel is used in the LM block, LM rail and balls. Those models marked with this symbol are therefore highly resistant to corrosion and environment.

The maximum length under "Length*" indicates the standard maximum length of an LM rail. (See **A1-202**.)

Static permissible moment*: 1 block: static permissible moment value with 1 LM block

Double blocks: static permissible moment value with 2 blocks closely contacting with each other

Model HSR-RM



Models HSR8RM and 10RM

| Model No. | Outer dimensions | | | LM block dimensions | | | | | | | | | | Grease nipple | H ₃ |
|-----------|------------------|-------|--------|---------------------|----|----------|----------------|---|------|-----|---|---------------|-------|----------------|----------------|
| | Height | Width | Length | B | C | S×ℓ | L ₁ | T | K | N | E | Greasing hole | | | |
| | M | W | L | B | C | S×ℓ | L ₁ | T | K | N | E | d | | H ₃ | |
| HSR 8RM | 11 | 16 | 24 | 10 | 10 | M2×2.5 | 15 | — | 8.9 | 2.6 | — | 2.2 | — | 2.1 | |
| HSR 10RM | 13 | 20 | 31 | 13 | 12 | M2.6×2.5 | 20.1 | — | 10.8 | 3.5 | — | 2.5 | — | 2.2 | |
| HSR 12RM | 20 | 27 | 45 | 15 | 15 | M4×4.5 | 30.5 | 6 | 16.9 | 5.2 | 4 | — | PB107 | 3.1 | |

Model number coding

HSR12 R 2 UU C1 M +670L H T M - II

Model number

Type of LM block

No. of LM blocks used on the same rail

Contamination protection accessory symbol (*1)

Radial clearance symbol (*2)
Normal (No symbol)
Light preload (C1)

Stainless steel LM block

LM rail length (in mm)

Accuracy symbol (*3)

Normal grade (No Symbol)/High accuracy grade (H)
Precision grade (P)/Super precision grade (SP)

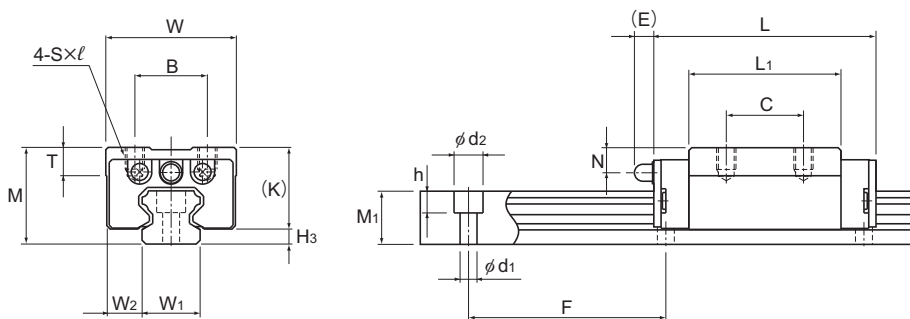
Stainless steel LM rail

Symbol for LM rail jointed use

Symbol for No. of rails used on the same plane (*4)

(*1) See contamination protection accessory on **A1-496**. (*2) See **A1-71**. (*3) See **A1-76**. (*4) See **A1-13**.

Note) This model number indicates that a single-rail unit constitutes one set. (i.e., required number of sets when 2 rails are used in parallel is 2 at a minimum.)



Model HSR12RM

Unit: mm

| | LM rail dimensions | | | | | | Basic load rating | | Static permissible moment kN·m* | | | | | Mass | |
|--|-------------------------|--------|-------|---------|-----------------|----------------|-------------------|------|-------------------------------------|--------|----------------|----------|---------|-------|---------|
| | Width | Height | Pitch | Length* | C | C ₀ | M _A | | M _B | | M _C | LM block | LM rail | | |
| | W ₁ ±0.05 | | | | | | M ₁ | F | d ₁ × d ₂ × h | Max | kN | | | kN | 1 block |
| | 8 | 4 | 6 | 20 | 2.4 × 4.2 × 2.3 | (975) | 1.08 | 2.16 | 0.00492 | 0.0319 | 0.00492 | 0.0319 | 0.00727 | 0.012 | 0.3 |
| | 10 | 5 | 7 | 25 | 3.5 × 6 × 3.3 | (995) | 1.96 | 3.82 | 0.0123 | 0.0716 | 0.0123 | 0.0716 | 0.0162 | 0.025 | 0.45 |
| | 12 | 7.5 | 11 | 40 | 3.5 × 6 × 4.5 | (1240) | 4.7 | 8.53 | 0.0409 | 0.228 | 0.0409 | 0.228 | 0.0445 | 0.08 | 0.83 |

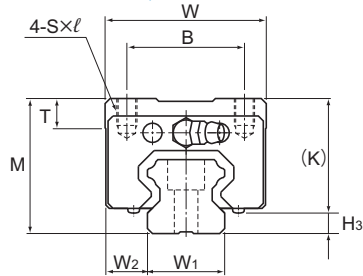
Note) Since stainless steel is used in the LM block, LM rail and balls, these models are highly resistant to corrosion and environment.

The maximum length under "Length*" indicates the standard maximum length of an LM rail. (See **A1-202**.)

Static permissible moment*: 1 block: static permissible moment value with 1 LM block

Double blocks: static permissible moment value with 2 blocks closely contacting with each other

Models HSR-R, HSR-RM, HSR-LR and HSR-LRM



| Model No. | Outer dimensions | | | LM block dimensions | | | | | | | | | Grease nipple | H ₃ |
|-----------------------|------------------|-------|--------------|---------------------|-----------|--------|----------------|------|------|-----|-----|---------|---------------|----------------|
| | Height | Width | Length | B | C | S×ℓ | L ₁ | T | K | N | E | | | |
| | M | W | L | | | | | | | | | | | |
| HSR 15R HSR 15RM | 28 | 34 | 56.6 | 26 | 26 | M4×5 | 38.8 | 6 | 23.3 | 8.3 | 5.5 | PB1021B | 4.7 | |
| HSR 20R HSR 20RM | 30 | 44 | 74 | 32 | 36 | M5×6 | 50.8 | 8 | 26 | 5 | 12 | B-M6F | 4 | |
| HSR 20LR HSR 20LRM | 30 | 44 | 90 | 32 | 50 | M5×6 | 66.8 | 8 | 26 | 5 | 12 | B-M6F | 4 | |
| HSR 25R HSR 25RM | 40 | 48 | 83.1 | 35 | 35 | M6×8 | 59.5 | 9 | 34.5 | 10 | 12 | B-M6F | 5.5 | |
| HSR 25LR HSR 25LRM | 40 | 48 | 102.2 | 35 | 50 | M6×8 | 78.6 | 9 | 34.5 | 10 | 12 | B-M6F | 5.5 | |
| HSR 30R HSR 30RM | 45 | 60 | 98 | 40 | 40 | M8×10 | 70.4 | 9 | 38 | 10 | 12 | B-M6F | 7 | |
| HSR 30LR HSR 30LRM | 45 | 60 | 120.6 | 40 | 60 | M8×10 | 93 | 9 | 38 | 10 | 12 | B-M6F | 7 | |
| HSR 35R HSR 35RM | 55 | 70 | 109.4 | 50 | 50 | M8×12 | 80.4 | 11.7 | 47.5 | 15 | 12 | B-M6F | 7.5 | |
| HSR 35LR HSR 35LRM | 55 | 70 | 134.8 | 50 | 72 | M8×12 | 105.8 | 11.7 | 47.5 | 15 | 12 | B-M6F | 7.5 | |
| HSR 45R HSR 45LR | 70 | 86 | 139 170.8 | 60 | 60 80 | M10×17 | 98 129.8 | 15 | 60 | 20 | 16 | B-PT1/8 | 10 | |
| HSR 55R HSR 55LR | 80 | 100 | 163 201.1 | 75 | 75 95 | M12×18 | 118 156.1 | 20.5 | 67 | 21 | 16 | B-PT1/8 | 13 | |
| HSR 65R HSR 65LR | 90 | 126 | 186 245.5 | 76 | 70 120 | M16×20 | 147 206.5 | 23 | 76 | 19 | 16 | B-PT1/8 | 14 | |
| HSR 85R HSR 85LR | 110 | 156 | 245.6 303 | 100 | 80 140 | M18×25 | 178.6 236 | 29 | 94 | 23 | 16 | B-PT1/8 | 16 | |

Model number coding

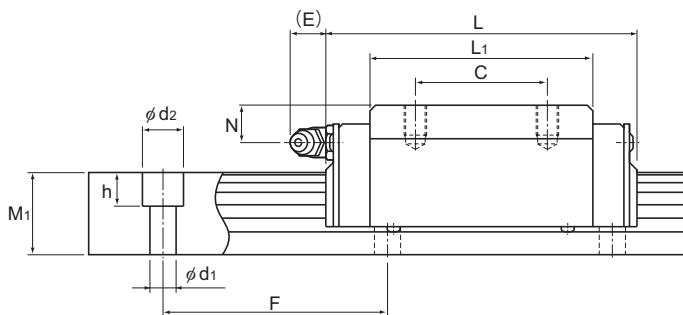
HSR35 R 2 QZ SS C0 M +1400L P T M -II

| Model number | Type of LM block | With QZ Lubricator | Contamination protection accessory symbol (*1) | Stainless steel LM block | LM rail length (in mm) | Stainless steel LM rail | Symbol for LM rail jointed use | Symbol for No. of rails used on the same plane (*4) |
|--------------|--|--------------------|---|--------------------------|--|-------------------------|--------------------------------|---|
| | No. of LM blocks used on the same rail | | Radial clearance symbol (*2) Normal (No symbol) Light preload (C1) Medium preload (C0) | | Accuracy symbol (*3) Normal grade (No Symbol)/High accuracy grade (H) Precision grade (P)/Super precision grade (SP) Ultra precision grade (UP) | | | |

(*1) See contamination protection accessory on **A1-496**. (*2) See **A1-71**. (*3) See **A1-76**. (*4) See **A1-13**.

Note) This model number indicates that a single-rail unit constitutes one set. (i.e., required number of sets when 2 rails are used in parallel is 2 at a minimum.)

Those models equipped with QZ Lubricator cannot have a grease nipple. When desiring a grease nipple for a model attached with QZ, contact THK.



Unit: mm

| LM rail dimensions | | | | | | Basic load rating | | Static permissible moment kN-m* | | | | | Mass | |
|------------------------------|-------|-----------------|--------------|---------------------------|----------------|-------------------|-------------|---------------------------------|------------------|--------------|------------------|--------------|-------------------|--------------------|
| Width W_1 ± 0.05 | W_2 | Height M_1 | Pitch F | $d_1 \times d_2 \times h$ | Length* Max | C kN | C_0 kN | M_a | | M_b | | M_c | LM block kg | LM rail kg/m |
| | | | | | | | | 1 block | Double blocks | 1 block | Double blocks | 1 block | | |
| 15 | 9.5 | 15 | 60 | 4.5×7.5×5.3 | 3000 (1240) | 8.33 | 13.5 | 0.0805 | 0.457 | 0.0805 | 0.457 | 0.0844 | 0.18 | 1.5 |
| 20 | 12 | 18 | 60 | 6×9.5×8.5 | 3000 (1480) | 13.8 | 23.8 | 0.19 | 1.04 | 0.19 | 1.04 | 0.201 | 0.25 | 2.3 |
| 20 | 12 | 18 | 60 | 6×9.5×8.5 | 3000 (1480) | 21.3 | 31.8 | 0.323 | 1.66 | 0.323 | 1.66 | 0.27 | 0.35 | 2.3 |
| 23 | 12.5 | 22 | 60 | 7×11×9 | 3000 (2020) | 19.9 | 34.4 | 0.307 | 1.71 | 0.307 | 1.71 | 0.344 | 0.54 | 3.3 |
| 23 | 12.5 | 22 | 60 | 7×11×9 | 3000 (2020) | 27.2 | 45.9 | 0.529 | 2.74 | 0.529 | 2.74 | 0.459 | 0.67 | 3.3 |
| 28 | 16 | 26 | 80 | 9×14×12 | 3000 (2520) | 28 | 46.8 | 0.524 | 2.7 | 0.524 | 2.7 | 0.562 | 0.9 | 4.8 |
| 28 | 16 | 26 | 80 | 9×14×12 | 3000 (2520) | 37.3 | 62.5 | 0.889 | 4.37 | 0.889 | 4.37 | 0.751 | 1.1 | 4.8 |
| 34 | 18 | 29 | 80 | 9×14×12 | 3000 (2520) | 37.3 | 61.1 | 0.782 | 3.93 | 0.782 | 3.93 | 0.905 | 1.5 | 6.6 |
| 34 | 18 | 29 | 80 | 9×14×12 | 3000 (2520) | 50.2 | 81.5 | 1.32 | 6.35 | 1.32 | 6.35 | 1.2 | 2 | 6.6 |
| 45 | 20.5 | 38 | 105 | 14×20×17 | 3090 | 60 80.4 | 95.6 127 | 1.42 2.44 | 7.92 12.6 | 1.42 2.44 | 7.92 12.6 | 1.83 2.43 | 2.6 3.1 | 11 |
| 53 | 23.5 | 44 | 120 | 16×23×20 | 3060 | 88.5 119 | 137 183 | 2.45 4.22 | 13.2 21.3 | 2.45 4.22 | 13.2 21.3 | 3.2 4.28 | 4.3 5.4 | 15.1 |
| 63 | 31.5 | 53 | 150 | 18×26×22 | 3000 | 141 192 | 215 286 | 4.8 8.72 | 23.5 40.5 | 4.8 8.72 | 23.5 40.5 | 5.82 7.7 | 7.3 9.3 | 22.5 |
| 85 | 35.5 | 65 | 180 | 24×35×28 | 3000 | 210 282 | 310 412 | 8.31 14.2 | 45.6 72.5 | 8.31 14.2 | 45.6 72.5 | 11 14.7 | 13 16 | 35.2 |

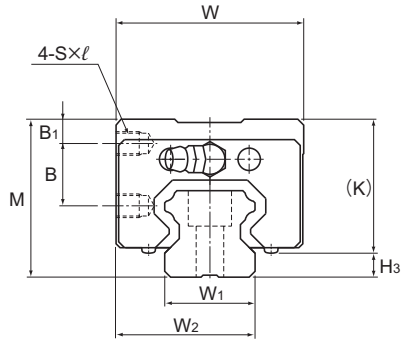
Note) Symbol M indicates that stainless steel is used in the LM block, LM rail and balls. Those models marked with this symbol are therefore highly resistant to corrosion and environment.

The maximum length under "Length*" indicates the standard maximum length of an LM rail. (See **A1-202**.)

Static permissible moment*: 1 block: static permissible moment value with 1 LM block

Double blocks: static permissible moment value with 2 blocks closely contacting with each other

Models HSR-YR and HSR-YRM



| Model No. | Outer dimensions | | | LM block dimensions | | | | | | | | | Grease nipple | H ₃ |
|-----------------------|------------------|-------|--------|---------------------|------|----|----------|----------------|------|-----|-----|---------|---------------|----------------|
| | Height | Width | Length | B ₁ | B | C | S × l | L ₁ | K | N | E | | | |
| | M | W | L | | | | | | | | | | | |
| HSR 15YR HSR 15YRM | 28 | 33.5 | 56.6 | 4.3 | 11.5 | 18 | M4 × 5 | 38.8 | 23.3 | 8.3 | 5.5 | PB1021B | 4.7 | |
| HSR 20YR HSR 20YRM | 30 | 43.5 | 74 | 4 | 11.5 | 25 | M5 × 6 | 50.8 | 26 | 5 | 12 | B-M6F | 4 | |
| HSR 25YR HSR 25YRM | 40 | 47.5 | 83.1 | 6 | 16 | 30 | M6 × 6 | 59.5 | 34.5 | 10 | 12 | B-M6F | 5.5 | |
| HSR 30YR HSR 30YRM | 45 | 59.5 | 98 | 8 | 16 | 40 | M6 × 9 | 70.4 | 38 | 10 | 12 | B-M6F | 7 | |
| HSR 35YR HSR 35YRM | 55 | 69.5 | 109.4 | 8 | 23 | 43 | M8 × 10 | 80.4 | 47.5 | 15 | 12 | B-M6F | 7.5 | |
| HSR 45YR | 70 | 85.5 | 139 | 10 | 30 | 55 | M10 × 14 | 98 | 60 | 20 | 16 | B-PT1/8 | 10 | |
| HSR 55YR | 80 | 99.5 | 163 | 12 | 32 | 70 | M12 × 15 | 118 | 67 | 21 | 16 | B-PT1/8 | 13 | |
| HSR 65YR | 90 | 124.5 | 186 | 12 | 35 | 85 | M16 × 22 | 147 | 76 | 19 | 16 | B-PT1/8 | 14 | |

Model number coding

HSR25 YR 2 UU C0 M +1200L P T M -II

Model number

Type of LM block

Contamination protection accessory symbol (*1)

Stainless steel LM block

LM rail length (in mm)

Stainless steel LM rail
Symbol for LM rail jointed use

Symbol for No. of rails used on the same plane (*4)

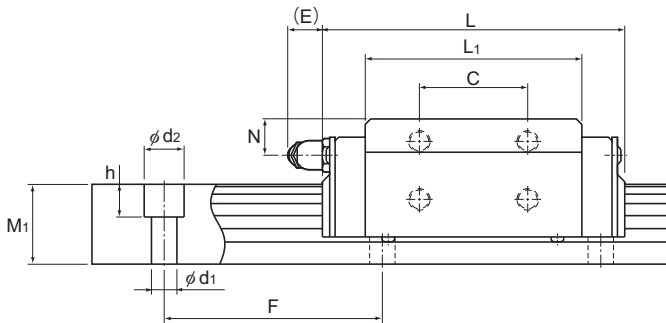
No. of LM blocks used on the same rail

Radial clearance symbol (*2)
Normal (No symbol)
Light preload (C1)
Medium preload (C0)

Accuracy symbol (*3)
Normal grade (No Symbol)/High accuracy grade (H)
Precision grade (P)/Super precision grade (SP)
Ultra precision grade (UP)

(*1) See contamination protection accessory on **A1-496**. (*2) See **A1-71**. (*3) See **A1-76**. (*4) See **A1-13**.

Note) This model number indicates that a single-rail unit constitutes one set. (i.e., required number of sets when 2 rails are used in parallel is 2 at a minimum.)



Unit: mm

| | LM rail dimensions | | | | | Basic load rating | | Static permissible moment kN-m* | | | | | Mass | | |
|--|-------------------------|----------------|----------------|---------|-----------------|-------------------|----------------|-------------------------------------|----------------|-------|----------------|----------|---------|---------|---------------|
| | Width | Height | Pitch | Length* | C | C ₀ | M _A | | M _B | | M _C | LM block | LM rail | | |
| | W ₁ ±0.05 | W ₂ | M ₁ | | | | F | d ₁ × d ₂ × h | Max | kN | kN | | | 1 block | Double blocks |
| | 15 | 24 | 15 | 60 | 4.5 × 7.5 × 5.3 | 3000 (1240) | 8.33 | 13.5 | 0.0805 | 0.457 | 0.0805 | 0.457 | 0.0844 | 0.18 | 1.5 |
| | 20 | 31.5 | 18 | 60 | 6 × 9.5 × 8.5 | 3000 (1480) | 13.8 | 23.8 | 0.19 | 1.04 | 0.19 | 1.04 | 0.201 | 0.25 | 2.3 |
| | 23 | 35 | 22 | 60 | 7 × 11 × 9 | 3000 (2020) | 19.9 | 34.4 | 0.307 | 1.71 | 0.307 | 1.71 | 0.344 | 0.54 | 3.3 |
| | 28 | 43.5 | 26 | 80 | 9 × 14 × 12 | 3000 (2520) | 28 | 46.8 | 0.524 | 2.7 | 0.524 | 2.7 | 0.562 | 0.9 | 4.8 |
| | 34 | 51.5 | 29 | 80 | 9 × 14 × 12 | 3000 (2520) | 37.3 | 61.1 | 0.782 | 3.93 | 0.782 | 3.93 | 0.905 | 1.5 | 6.6 |
| | 45 | 65 | 38 | 105 | 14 × 20 × 17 | 3090 | 60 | 95.6 | 1.42 | 7.92 | 1.42 | 7.92 | 1.83 | 2.6 | 11 |
| | 53 | 76 | 44 | 120 | 16 × 23 × 20 | 3060 | 88.5 | 137 | 2.45 | 13.2 | 2.45 | 13.2 | 3.2 | 4.3 | 15.1 |
| | 63 | 93 | 53 | 150 | 18 × 26 × 22 | 3000 | 141 | 215 | 4.8 | 23.5 | 4.8 | 23.5 | 5.82 | 7.3 | 22.5 |

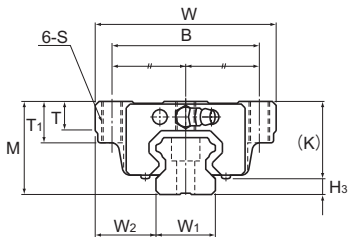
Note) Symbol M indicates that stainless steel is used in the LM block, LM rail and balls. Those models marked with this symbol are therefore highly resistant to corrosion and environment.

The maximum length under "Length*" indicates the standard maximum length of an LM rail. (See **A1-202**.)

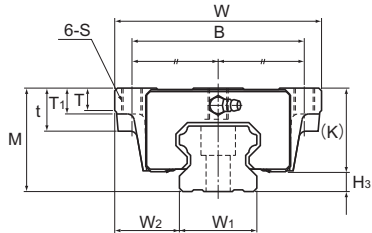
Static permissible moment*: 1 block: static permissible moment value with 1 LM block

Double blocks: static permissible moment value with 2 blocks closely contacting with each other

Models HSR-CA, HSR-CAM, HSR-HA and HSR-HAM



Models HSR20 to 35CA/HA/CAM/HAM



Models HSR45 to 85CA/HA

| Model No. | Outer dimensions | | | LM block dimensions | | | | | | | | | | | Grease nipple | H _s |
|-----------------------|------------------|-------|--------------|---------------------|-----|-----|----------------|----|------|----------------|------|----|----|---------|---------------|----------------|
| | Height | Width | Length | B | C | S | L ₁ | t | T | T ₁ | K | N | E | | | |
| | M | W | L | B | C | S | L ₁ | t | T | T ₁ | K | N | E | | | |
| HSR 20CA HSR 20CAM | 30 | 63 | 74 | 53 | 40 | M6 | 50.8 | — | 9.5 | 10 | 26 | 5 | 12 | B-M6F | 4 | |
| HSR 20HA HSR 20HAM | 30 | 63 | 90 | 53 | 40 | M6 | 66.8 | — | 9.5 | 10 | 26 | 5 | 12 | B-M6F | 4 | |
| HSR 25CA HSR 25CAM | 36 | 70 | 83.1 | 57 | 45 | M8 | 59.5 | — | 11 | 16 | 30.5 | 6 | 12 | B-M6F | 5.5 | |
| HSR 25HA HSR 25HAM | 36 | 70 | 102.2 | 57 | 45 | M8 | 78.6 | — | 11 | 16 | 30.5 | 6 | 12 | B-M6F | 5.5 | |
| HSR 30CA HSR 30CAM | 42 | 90 | 98 | 72 | 52 | M10 | 70.4 | — | 9 | 18 | 35 | 7 | 12 | B-M6F | 7 | |
| HSR 30HA HSR 30HAM | 42 | 90 | 120.6 | 72 | 52 | M10 | 93 | — | 9 | 18 | 35 | 7 | 12 | B-M6F | 7 | |
| HSR 35CA HSR 35CAM | 48 | 100 | 109.4 | 82 | 62 | M10 | 80.4 | — | 12 | 21 | 40.5 | 8 | 12 | B-M6F | 7.5 | |
| HSR 35HA HSR 35HAM | 48 | 100 | 134.8 | 82 | 62 | M10 | 105.8 | — | 12 | 21 | 40.5 | 8 | 12 | B-M6F | 7.5 | |
| HSR 45CA HSR 45HA | 60 | 120 | 139 170.8 | 100 | 80 | M12 | 98 129.8 | 25 | 13 | 15 | 50 | 10 | 16 | B-PT1/8 | 10 | |
| HSR 55CA HSR 55HA | 70 | 140 | 163 201.1 | 116 | 95 | M14 | 118 156.1 | 29 | 13.5 | 17 | 57 | 11 | 16 | B-PT1/8 | 13 | |
| HSR 65CA HSR 65HA | 90 | 170 | 186 245.5 | 142 | 110 | M16 | 147 206.5 | 37 | 21.5 | 23 | 76 | 19 | 16 | B-PT1/8 | 14 | |
| HSR 85CA HSR 85HA | 110 | 215 | 245.6 303 | 185 | 140 | M20 | 178.6 236 | 55 | 28 | 30 | 94 | 23 | 16 | B-PT1/8 | 16 | |

Model number coding

HSR25 HA 2 QZ KKHH C0 M +1300L P T M - II

Model number

Type of LM block

With QZ Lubricator

Contamination protection accessory symbol (*1)

Stainless steel LM rail length (in mm)

Stainless steel LM rail

No. of LM blocks used on the same rail

Radial clearance symbol (*2)
Normal (No symbol)
Light preload (C1)
Medium preload (C0)

Accuracy symbol (*3)
Normal grade (No Symbol)
High accuracy grade (H)
Precision grade (P)
Super precision grade (SP)
Ultra precision grade (UP)

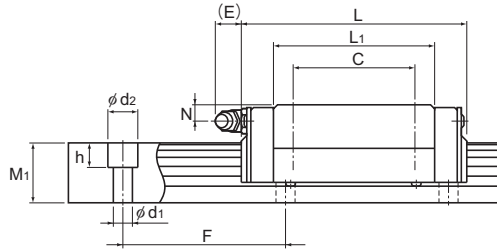
Symbol for LM rail jointed use

Symbol for No. of rails used on the same plane (*4)

(*1) See contamination protection accessory on **A1-496**. (*2) See **A1-71**. (*3) See **A1-76**. (*4) See **A1-13**.

Note) This model number indicates that a single-rail unit constitutes one set. (i.e., required number of sets when 2 rails are used in parallel is 2 at a minimum.)

Those models equipped with QZ Lubricator cannot have a grease nipple. When desiring a grease nipple for a model attached with QZ, contact THK.



Unit: mm

| LM rail dimensions | | | | | | Basic load rating | | Static permissible moment kN-m* | | | | | Mass | |
|----------------------------------|----------------|--------------------------|------------|-------------------------------------|----------------|-------------------|----------------|---------------------------------|------------------|----------------|------------------|----------------|-------------------|--------------------|
| Width W ₁ ±0.05 | W ₂ | Height M ₁ | Pitch F | d ₁ × d ₂ × h | Length* Max | C | C ₀ | M _A | | M _B | | M _C | LM block kg | LM rail kg/m |
| | | | | | | | | 1 block | Double blocks | 1 block | Double blocks | 1 block | | |
| 20 | 21.5 | 18 | 60 | 6 × 9.5 × 8.5 | 3000 (1480) | 13.8 | 23.8 | 0.19 | 1.04 | 0.19 | 1.04 | 0.201 | 0.35 | 2.3 |
| 20 | 21.5 | 18 | 60 | 6 × 9.5 × 8.5 | 3000 (1480) | 21.3 | 31.8 | 0.323 | 1.66 | 0.323 | 1.66 | 0.27 | 0.47 | 2.3 |
| 23 | 23.5 | 22 | 60 | 7 × 11 × 9 | 3000 (2020) | 19.9 | 34.4 | 0.307 | 1.71 | 0.307 | 1.71 | 0.344 | 0.59 | 3.3 |
| 23 | 23.5 | 22 | 60 | 7 × 11 × 9 | 3000 (2020) | 27.2 | 45.9 | 0.529 | 2.74 | 0.529 | 2.74 | 0.459 | 0.75 | 3.3 |
| 28 | 31 | 26 | 80 | 9 × 14 × 12 | 3000 (2520) | 28 | 46.8 | 0.524 | 2.7 | 0.524 | 2.7 | 0.562 | 1.1 | 4.8 |
| 28 | 31 | 26 | 80 | 9 × 14 × 12 | 3000 (2520) | 37.3 | 62.5 | 0.889 | 4.37 | 0.889 | 4.37 | 0.751 | 1.3 | 4.8 |
| 34 | 33 | 29 | 80 | 9 × 14 × 12 | 3000 (2520) | 37.3 | 61.1 | 0.782 | 3.93 | 0.782 | 3.93 | 0.905 | 1.6 | 6.6 |
| 34 | 33 | 29 | 80 | 9 × 14 × 12 | 3000 (2520) | 50.2 | 81.5 | 1.32 | 6.35 | 1.32 | 6.35 | 1.2 | 2 | 6.6 |
| 45 | 37.5 | 38 | 105 | 14 × 20 × 17 | 3090 | 60 80.4 | 95.6 127 | 1.42 2.44 | 7.92 12.6 | 1.42 2.44 | 7.92 12.6 | 1.83 2.43 | 2.8 3.3 | 11 |
| 53 | 43.5 | 44 | 120 | 16 × 23 × 20 | 3060 | 88.5 119 | 137 183 | 2.45 4.22 | 13.2 21.3 | 2.45 4.22 | 13.2 21.3 | 3.2 4.28 | 4.5 5.7 | 15.1 |
| 63 | 53.5 | 53 | 150 | 18 × 26 × 22 | 3000 | 141 192 | 215 286 | 4.8 8.72 | 23.5 40.5 | 4.8 8.72 | 23.5 40.5 | 5.82 7.7 | 8.5 10.7 | 22.5 |
| 85 | 65 | 65 | 180 | 24 × 35 × 28 | 3000 | 210 282 | 310 412 | 8.31 14.2 | 45.6 72.5 | 8.31 14.2 | 45.6 72.5 | 11 14.7 | 17 23 | 35.2 |

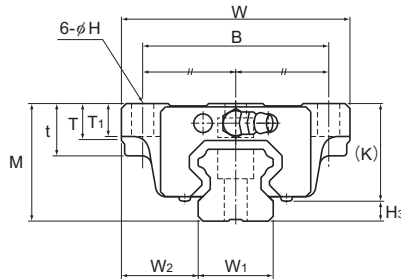
Note) Symbol M indicates that stainless steel is used in the LM block, LM rail and balls. Those models marked with this symbol are therefore highly resistant to corrosion and environment.

The maximum length under "Length*" indicates the standard maximum length of an LM rail. (See **A1-202**.)

Static permissible moment*: 1 block: static permissible moment value with 1 LM block

Double blocks: static permissible moment value with 2 blocks closely contacting with each other

Models HSR-CB, HSR-CBM, HSR-HB and HSR-HBM



| Model No. | Outer dimensions | | | LM block dimensions | | | | | | | | | | Grease nipple | H _s |
|-----------------------|------------------|------------|--------------|---------------------|-----|----|----------------|----|------|----------------|------|----|----|---------------|----------------|
| | Height M | Width W | Length L | B | C | H | L ₁ | t | T | T ₁ | K | N | E | | |
| HSR 20CB HSR 20CBM | 30 | 63 | 74 | 53 | 40 | 6 | 50.8 | 10 | 9.5 | 10 | 26 | 5 | 12 | B-M6F | 4 |
| HSR 20HB HSR 20HBM | 30 | 63 | 90 | 53 | 40 | 6 | 66.8 | 10 | 9.5 | 10 | 26 | 5 | 12 | B-M6F | 4 |
| HSR 25CB HSR 25CBM | 36 | 70 | 83.1 | 57 | 45 | 7 | 59.5 | 16 | 11 | 10 | 30.5 | 6 | 12 | B-M6F | 5.5 |
| HSR 25HB HSR 25HBM | 36 | 70 | 102.2 | 57 | 45 | 7 | 78.6 | 16 | 11 | 10 | 30.5 | 6 | 12 | B-M6F | 5.5 |
| HSR 30CB HSR 30CBM | 42 | 90 | 98 | 72 | 52 | 9 | 70.4 | 18 | 9 | 10 | 35 | 7 | 12 | B-M6F | 7 |
| HSR 30HB HSR 30HBM | 42 | 90 | 120.6 | 72 | 52 | 9 | 93 | 18 | 9 | 10 | 35 | 7 | 12 | B-M6F | 7 |
| HSR 35CB HSR 35CBM | 48 | 100 | 109.4 | 82 | 62 | 9 | 80.4 | 21 | 12 | 13 | 40.5 | 8 | 12 | B-M6F | 7.5 |
| HSR 35HB HSR 35HBM | 48 | 100 | 134.8 | 82 | 62 | 9 | 105.8 | 21 | 12 | 13 | 40.5 | 8 | 12 | B-M6F | 7.5 |
| HSR 45CB HSR 45HB | 60 | 120 | 139 170.8 | 100 | 80 | 11 | 98 129.8 | 25 | 13 | 15 | 50 | 10 | 16 | B-PT1/8 | 10 |
| HSR 55CB HSR 55HB | 70 | 140 | 163 201.1 | 116 | 95 | 14 | 118 156.1 | 29 | 13.5 | 17 | 57 | 11 | 16 | B-PT1/8 | 13 |
| HSR 65CB HSR 65HB | 90 | 170 | 186 245.5 | 142 | 110 | 16 | 147 206.5 | 37 | 21.5 | 23 | 76 | 19 | 16 | B-PT1/8 | 14 |
| HSR 85CB HSR 85HB | 110 | 215 | 245.6 303 | 185 | 140 | 18 | 178.6 236 | 55 | 28 | 30 | 94 | 23 | 16 | B-PT1/8 | 16 |

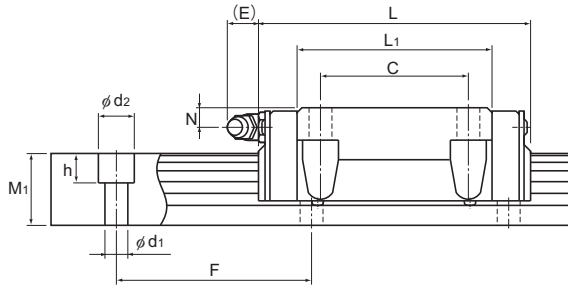
Model number coding

| Model number | Type of LM block | With QZ Lubricator | Contamination protection accessory symbol (*1) | Stainless steel LM block | LM rail length (in mm) | Stainless steel LM rail | Symbol for LM rail jointed use | Symbol for No. of rails used on the same plane (*4) | | | |
|--------------|--|---|--|--|------------------------|-------------------------|--------------------------------|---|---|---|------|
| HSR35 | CB | 2 | QZ | ZZHH | C0 | M | +1400L | P | T | M | - II |
| | No. of LM blocks used on the same rail | Radial clearance symbol (*2) Normal (No symbol) Light preload (C1) Medium preload (C0) | | Accuracy symbol (*3) Normal grade (No Symbol) High accuracy grade (H) Precision grade (P) Super precision grade (SP) Ultra precision grade (UP) | | | | | | | |

(*1) See contamination protection accessory on **A1-496**. (*2) See **A1-71**. (*3) See **A1-76**. (*4) See **A1-13**.

Note) This model number indicates that a single-rail unit constitutes one set. (i.e., required number of sets when 2 rails are used in parallel is 2 at a minimum.)

Those models equipped with QZ Lubricator cannot have a grease nipple. When desiring a grease nipple for a model attached with QZ, contact THK.



Unit: mm

| LM rail dimensions | | | | | | Basic load rating | | Static permissible moment kN-m* | | | | | Mass | |
|-------------------------|----------------|----------------|-----|-------------------------------------|----------------|-------------------|----------------|---------------------------------|----------------|--------------|----------------|--------------|-------------|------|
| Width | Height | Pitch | | Length* | C | C ₀ | M _A | | M _B | | M _C | LM block | LM rail | |
| W ₁ ±0.05 | W ₂ | M ₁ | F | d ₁ × d ₂ × h | Max | kN | kN | 1 block | Double blocks | 1 block | Double blocks | 1 block | kg | kg/m |
| 20 | 21.5 | 18 | 60 | 6 × 9.5 × 8.5 | 3000 (1480) | 13.8 | 23.8 | 0.19 | 1.04 | 0.19 | 1.04 | 0.201 | 0.35 | 2.3 |
| 20 | 21.5 | 18 | 60 | 6 × 9.5 × 8.5 | 3000 (1480) | 21.3 | 31.8 | 0.323 | 1.66 | 0.323 | 1.66 | 0.27 | 0.47 | 2.3 |
| 23 | 23.5 | 22 | 60 | 7 × 11 × 9 | 3000 (2020) | 19.9 | 34.4 | 0.307 | 1.71 | 0.307 | 1.71 | 0.344 | 0.59 | 3.3 |
| 23 | 23.5 | 22 | 60 | 7 × 11 × 9 | 3000 (2020) | 27.2 | 45.9 | 0.529 | 2.74 | 0.529 | 2.74 | 0.459 | 0.75 | 3.3 |
| 28 | 31 | 26 | 80 | 9 × 14 × 12 | 3000 (2520) | 28 | 46.8 | 0.524 | 2.7 | 0.524 | 2.7 | 0.562 | 1.1 | 4.8 |
| 28 | 31 | 26 | 80 | 9 × 14 × 12 | 3000 (2520) | 37.3 | 62.5 | 0.889 | 4.37 | 0.889 | 4.37 | 0.751 | 1.3 | 4.8 |
| 34 | 33 | 29 | 80 | 9 × 14 × 12 | 3000 (2520) | 37.3 | 61.1 | 0.782 | 3.93 | 0.782 | 3.93 | 0.905 | 1.6 | 6.6 |
| 34 | 33 | 29 | 80 | 9 × 14 × 12 | 3000 (2520) | 50.2 | 81.5 | 1.32 | 6.35 | 1.32 | 6.35 | 1.2 | 2 | 6.6 |
| 45 | 37.5 | 38 | 105 | 14 × 20 × 17 | 3090 | 60 80.4 | 95.6 127 | 1.42 2.44 | 7.92 12.6 | 1.42 2.44 | 7.92 12.6 | 1.83 2.43 | 2.8 3.3 | 11 |
| 53 | 43.5 | 44 | 120 | 16 × 23 × 20 | 3060 | 88.5 119 | 137 183 | 2.45 4.22 | 13.2 21.3 | 2.45 4.22 | 13.2 21.3 | 3.2 4.28 | 4.5 5.7 | 15.1 |
| 63 | 53.5 | 53 | 150 | 18 × 26 × 22 | 3000 | 141 192 | 215 286 | 4.8 8.72 | 23.5 40.5 | 4.8 8.72 | 23.5 40.5 | 5.82 7.7 | 8.5 10.7 | 22.5 |
| 85 | 65 | 65 | 180 | 24 × 35 × 28 | 3000 | 210 282 | 310 412 | 8.31 14.2 | 45.6 72.5 | 8.31 14.2 | 45.6 72.5 | 11 14.7 | 17 23 | 35.2 |

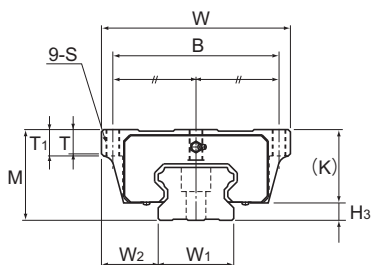
Note) Symbol M indicates that stainless steel is used in the LM block, LM rail and balls. Those models marked with this symbol are therefore highly resistant to corrosion and environment.

The maximum length under "Length*" indicates the standard maximum length of an LM rail. (See **A1-202**.)

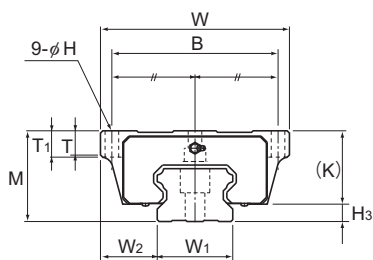
Static permissible moment*: 1 block: static permissible moment value with 1 LM block

Double blocks: static permissible moment value with 2 blocks closely contacting with each other

Models HSR-HA, HSR-HB and HSR-HR



Models HSR100 to 150HA



Models HSR100 to 150HB

| Model No. | Outer dimensions | | | LM block dimensions | | | | | | | | | | Grease nipple | H ₃ |
|-------------------------------------|------------------|-------------------|--------|---------------------|-----|--------------|-----------------------|----------------|------------------|----------------|-----|------|----|---------------|----------------|
| | Height | Width | Length | B | C | H | S × ℓ | L _i | T | T _i | K | N | E | | |
| | M | W | L | | | | | | | | | | | | |
| HSR 100HA HSR 100HB HSR 100HR | 120 | 250 250 200 | 334 | 220 220 130 | 200 | 20 — | M18* — M18 × 27 | 261 | 32 32 33 | 35 35 — | 100 | 23 | 16 | B-PT1/4 | 20 |
| HSR 120HA HSR 120HB HSR 120HR | 130 | 290 290 220 | 365 | 250 250 146 | 210 | — 22 — | M20* — M20 × 30 | 287 | 34 34 33.7 | 38 38 — | 110 | 26.5 | 16 | B-PT1/4 | 20 |
| HSR 150HA HSR 150HB HSR 150HR | 145 | 350 350 266 | 396 | 300 300 180 | 230 | — 26 — | M24* — M24 × 35 | 314 | 36 36 33 | 40 40 — | 123 | 29 | 16 | B-PT1/4 | 22 |

Note) "*" indicates a through hole.

Model number coding

HSR150 HR 2 UU C1 +2350L H T - II

Model number

Type of LM block

Contamination protection accessory symbol (*1)

LM rail length (in mm)

Symbol for LM rail jointed use

Symbol for No. of rails used on the same plane (*4)

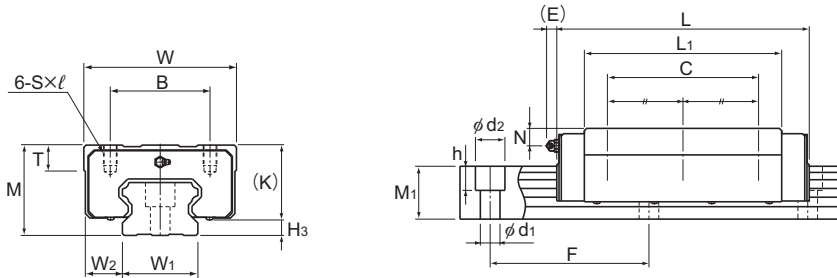
No. of LM blocks used on the same rail

Radial clearance symbol (*2)
Normal (No symbol)
Light preload (C1)
Medium preload (C0)

Accuracy symbol (*3)
Normal grade (No Symbol)/High accuracy grade (H)
Precision grade (P)/Super precision grade (SP)
Ultra precision grade (UP)

(*1) See contamination protection accessory on [A1-496](#). (*2) See [A1-71](#). (*3) See [A1-76](#). (*4) See [A1-13](#).

Note) This model number indicates that a single-rail unit constitutes one set. (i.e., required number of sets when 2 rails are used in parallel is 2 at a minimum.)



Models HSR100 to 150HR

Unit: mm

| | | LM rail dimensions | | | | | Basic load rating | | Static permissible moment kN-m* | | | | | Mass | |
|-------------------------|------------------|--------------------|---------|-------------------------------------|----------------|----------------|-------------------|----------------|---------------------------------|----------------|----------|---------|----|------|--|
| Width | Height | Pitch | Length* | C | C ₀ | M _A | | M _B | | M _C | LM block | LM rail | | | |
| | | | | | | 1 block | Double blocks | 1 block | Double blocks | 1 block | | | kg | kg/m | |
| W ₁ ±0.05 | W ₂ | M ₁ | F | d ₁ × d ₂ × h | Max | kN | kN | | | | | | | | |
| 100 | 75 75 50 | 70 | 210 | 26 × 39 × 32 | 3000 | 351 | 506 | 19.4 | 98.2 | 19.4 | 98.2 | 22.4 | 32 | 49 | |
| 114 | 88 88 53 | 75 | 230 | 33 × 48 × 43 | 3000 | 429 | 612 | 25.9 | 129 | 25.9 | 129 | 31.1 | 43 | 61 | |
| 144 | 103 103 61 | 85 | 250 | 39 × 58 × 46 | 3000 | 518 | 728 | 33.6 | 167 | 33.6 | 167 | 45.2 | 62 | 87 | |

Note) The maximum length under "Length*" indicates the standard maximum length of an LM rail. (See **A1-202**.)

Static permissible moment*: 1 block: static permissible moment value with 1 LM block

Double blocks: static permissible moment value with 2 blocks closely contacting with each other

Standard Length and Maximum Length of the LM Rail

Table1 shows the standard lengths and the maximum lengths of model HSR variations. If the maximum length of the desired LM rail exceeds them, jointed rails will be used. Contact THK for details. For the G dimension when a special length is required, we recommend selecting the corresponding G value from the table. The longer the G dimension is, the less stable the G area may become after installation, thus causing an adverse impact to accuracy.

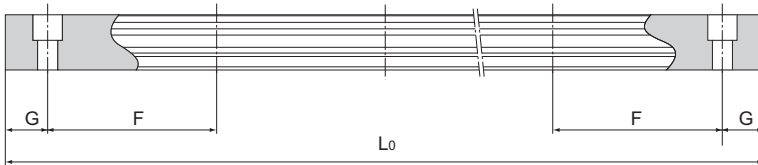


Table1 Standard Length and Maximum Length of the LM Rail for Model HSR

Unit: mm

| Model No. | HSR 8 | HSR 10 | HSR 12 | HSR 15 | HSR 20 | HSR 25 | HSR 30 | HSR 35 | HSR 45 | HSR 55 | HSR 65 | HSR 85 | HSR 100 | HSR 120 | HSR 150 |
|---|-------|--------|--------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|--------|--------|--------|--------|---------|---------|---------|
| LM rail standard length (L ₀) | 35 | 45 | 70 | 160 | 160 | 220 | 280 | 280 | 570 | 780 | 1270 | 1530 | 1340 | 1470 | 1600 |
| | 55 | 70 | 110 | 220 | 220 | 280 | 360 | 360 | 675 | 900 | 1570 | 1890 | 1760 | 1930 | 2100 |
| | 75 | 95 | 150 | 280 | 280 | 340 | 440 | 440 | 780 | 1020 | 2020 | 2250 | 2180 | 2390 | 2350 |
| | 95 | 120 | 190 | 340 | 340 | 400 | 520 | 520 | 885 | 1140 | 2620 | 2610 | 2600 | | |
| | 115 | 145 | 230 | 400 | 400 | 460 | 600 | 600 | 990 | 1260 | | | | | |
| | 135 | 170 | 270 | 460 | 460 | 520 | 680 | 680 | 1095 | 1380 | | | | | |
| | 155 | 195 | 310 | 520 | 520 | 580 | 760 | 760 | 1200 | 1500 | | | | | |
| | 175 | 220 | 350 | 580 | 580 | 640 | 840 | 840 | 1305 | 1620 | | | | | |
| | 195 | 245 | 390 | 640 | 640 | 700 | 920 | 920 | 1410 | 1740 | | | | | |
| | 215 | 270 | 430 | 700 | 700 | 760 | 1000 | 1000 | 1515 | 1860 | | | | | |
| | 235 | 295 | 470 | 760 | 760 | 820 | 1080 | 1080 | 1620 | 1980 | | | | | |
| | 255 | 320 | 510 | 820 | 820 | 940 | 1160 | 1160 | 1725 | 2100 | | | | | |
| | 275 | 345 | 550 | 940 | 940 | 1000 | 1240 | 1240 | 1830 | 2220 | | | | | |
| | | 370 | 590 | 1000 | 1000 | 1060 | 1320 | 1320 | 1935 | 2340 | | | | | |
| | | 395 | 630 | 1060 | 1060 | 1120 | 1400 | 1400 | 2040 | 2460 | | | | | |
| | | 420 | 670 | 1120 | 1120 | 1180 | 1480 | 1480 | 2145 | 2580 | | | | | |
| | | 445 | | 1180 | 1180 | 1240 | 1560 | 1560 | 2250 | 2700 | | | | | |
| | | 470 | | 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 | | | | | | | | | | |
| Standard pitch F | 20 | 25 | 40 | 60 | 60 | 60 | 80 | 80 | 105 | 120 | 150 | 180 | 210 | 230 | 250 |
| G | 7.5 | 10 | 15 | 20 | 20 | 20 | 20 | 20 | 22.5 | 30 | 35 | 45 | 40 | 45 | 50 |
| Max length | (975) | (995) | (1240) | ³⁰⁰⁰ (1240) | ³⁰⁰⁰ (1480) | ³⁰⁰⁰ (2020) | ³⁰⁰⁰ (2520) | ³⁰⁰⁰ (2520) | 3090 | 3060 | 3000 | 3000 | 3000 | 3000 | 3000 |

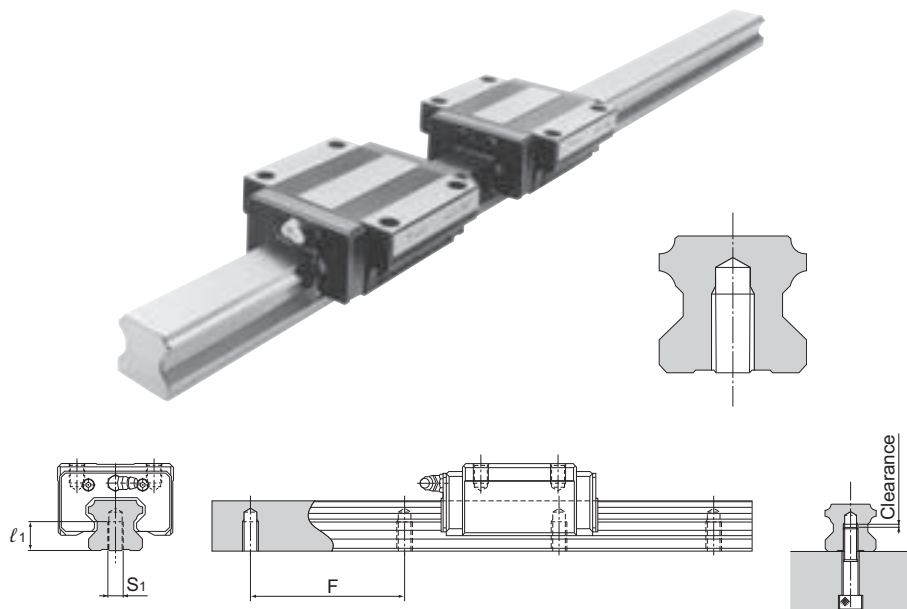
Note1) The maximum length varies with accuracy grades. Contact THK for details.

Note2) If jointed rails are not allowed and a greater length than the maximum values above is required, contact THK.

Note3) The figures in the parentheses indicate the maximum lengths of stainless steel made models.

Tapped-hole LM Rail Type of Model HSR

HSR model rails also include a type where the LM rail is tapped from the bottom. This type is useful when mounting from the bottom of the base and when increased contamination protection is desired.



- (1) Determine the bolt length so that a clearance of 2 to 5 mm is secured between the bolt end and the bottom of the tap (effective tap depth). (See figure above.)
- (2) A tapped-hole LM rail type is available also for model HSR-YR.
- (3) For standard pitches of the taps, see Table1 on **A1-202**.

Table2 Dimensions of the LM Rail Tap

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 45 | M12 | 24 |
| HSR 55 | M14 | 24 |
| HSR 65 | M20 | 30 |

Model number coding

HSR30A2UU +1000LH K

↑
Symbol for
tapped-hole LM rail type

Stopper

In miniature model HSR, the balls fall out if the LM block comes off the LM rail.

For this reason, they are delivered with a stopper fitted to prevent the LM block from coming off the rail. If you remove the stopper when using the product, take care to ensure that overrun does not occur. Also, be aware that if the stopper is fitted when the product is installed, it may become misaligned due to vibration, shocks, etc.

Table3 Model HSR stopper (C type) specification table

Unit: mm

| Model No. | A | B | C |
|-----------|----|---|----|
| 8 | 13 | 6 | 10 |
| 10 | 16 | 6 | 11 |
| 12 | 20 | 7 | 15 |

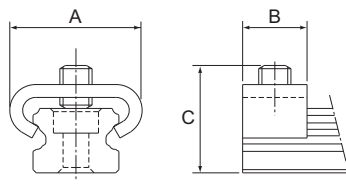
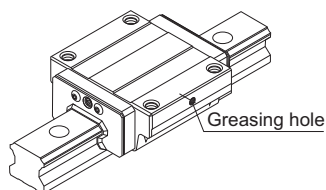


Fig.1 Model HSR stopper (C type)

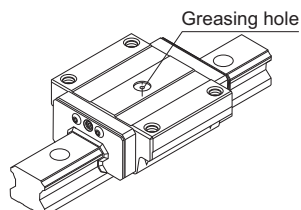
Greasing Hole

[Semi-standard Greasing Hole for Model HSR]

For model HSR, a semi-standard greasing hole is available. Specify the appropriate model number according to the application.



Type with a Greasing Hole Drilled on the Side Surface



Type with a Greasing Hole Drilled on the Top Face