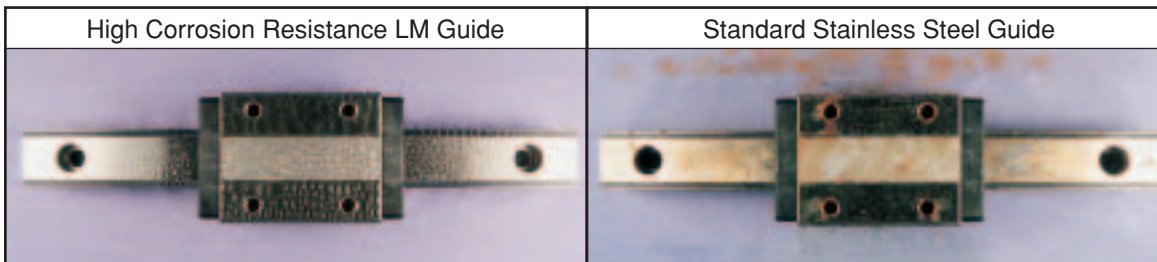
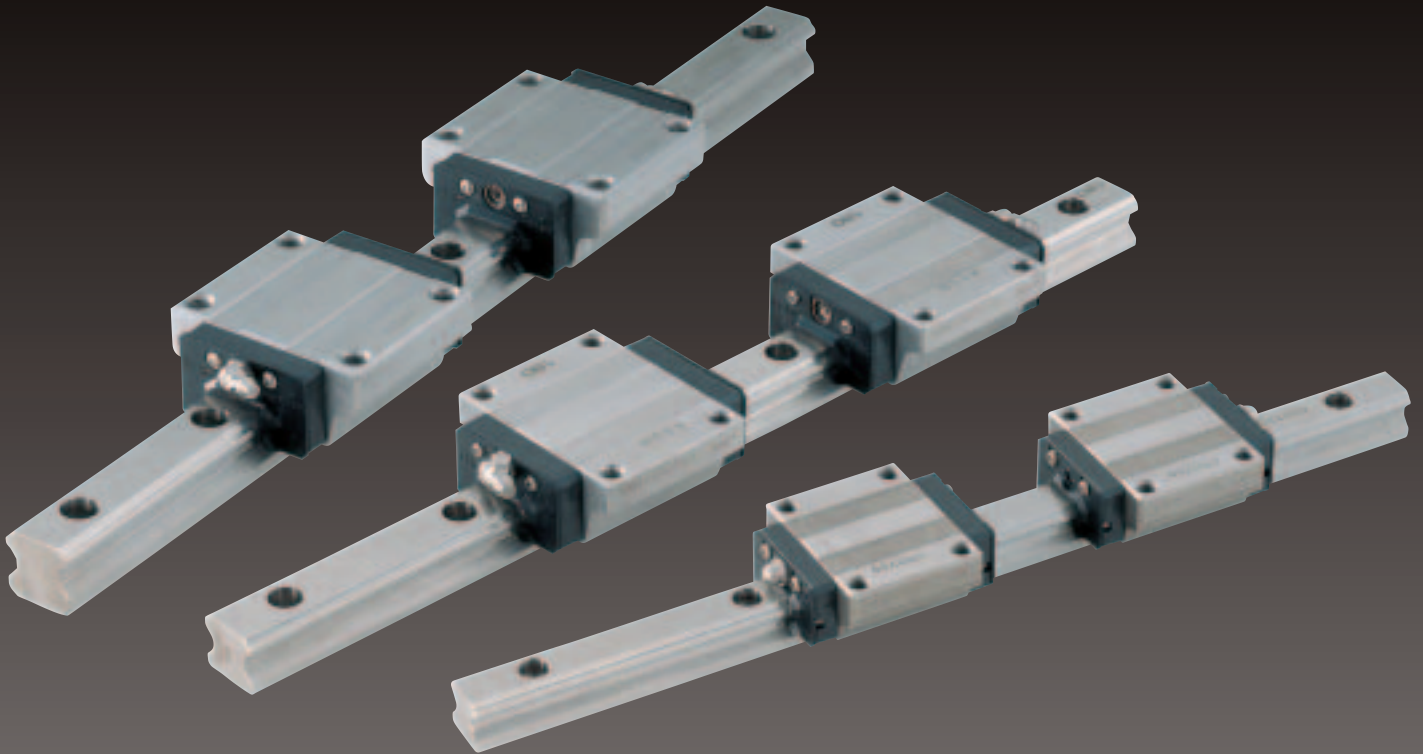




High Corrosion Resistance LM Guide

Employing High Corrosion Resistance
Stainless Steel for a Considerable
Improvement in Corrosion Resistance

HSR-M2



Test conditions: 24 hours at different combinations of temperature and humidity (humidity: 95%, temperature: 25-65°C) x 8 cycles

High Corrosion Resistance LM Guide HSR-M2

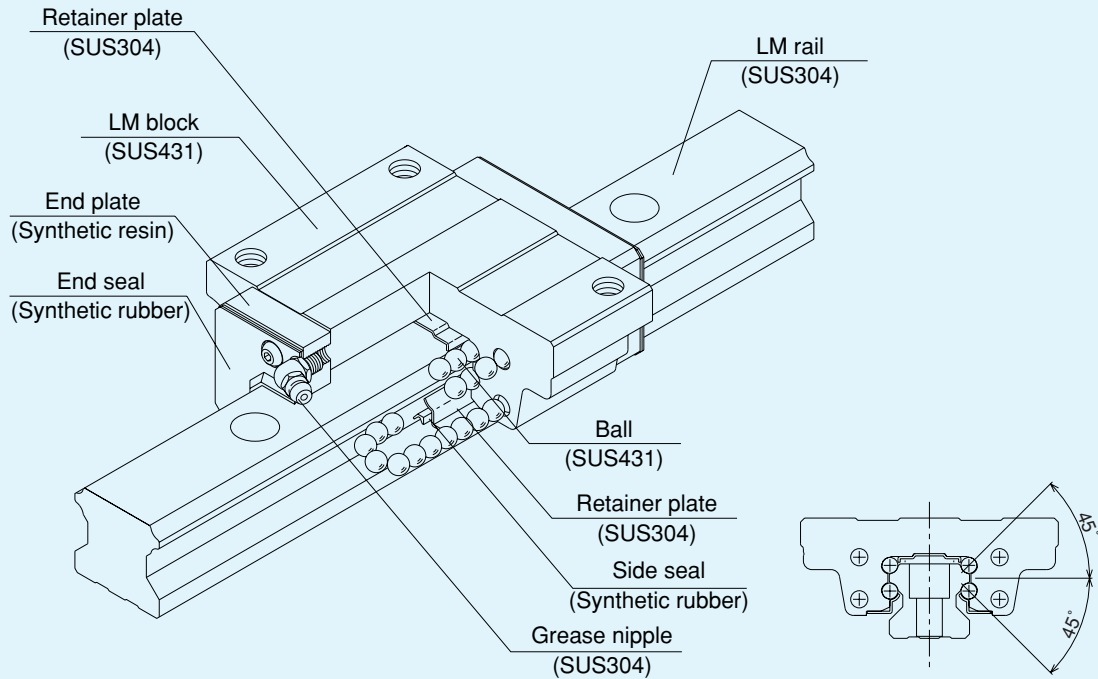


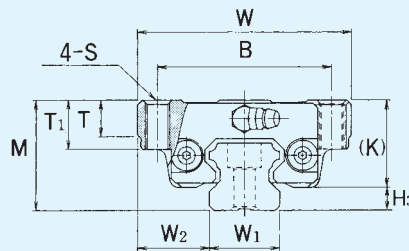
Fig. 1 Structural Drawing of High Corrosion Resistance LM Guide Model HSR-M2A

Structure and Features

■High Corrosion Resistance

The LM rail, LM block and balls are made of highly corrosion resistant stainless steel and the other metal parts are made of stainless steel, allowing superb corrosion resistance to be achieved. As a result, the need for surface treatment is eliminated.

■Corrosion resistance test: Refer to the cover.



| Model No. | Outer dimensions | | | LM block dimensions | | | | | | | | | | |
|-----------|------------------|------------|-------------|---------------------|----|----|----------------|-----|----------------|------|-----|-----|------------------|----------------|
| | Height M | Width W | Length L | B | C | S | L ₁ | T | T ₁ | K | N | E | Grease nipple | H ₃ |
| HSR 15M2A | 24 | 47 | 56.6 | 38 | 30 | M5 | 38.8 | 6.5 | 11 | 19.3 | 4.3 | 5.5 | PB1021B | 3.5 |
| HSR 20M2A | 30 | 63 | 74 | 53 | 40 | M6 | 50.8 | 9.5 | 10 | 26 | 5 | 12 | B-M6F | 4 |
| HSR 25M2A | 36 | 70 | 83.1 | 57 | 45 | M8 | 59.5 | 11 | 16 | 30.5 | 6 | 12 | B-M6F | 5.5 |

Note: For the high corrosion resistance type LM Guide, a stainless steel end plate is optionally available. (symbol... I)

Radial clearance / Accuracy grade

The radial clearances of the high corrosion resistance LM Guide Model HSR-M2 are shown in Table 1. In addition, precision symbols are shown in Table 2.

Table 1 Radial clearances Unit: μm

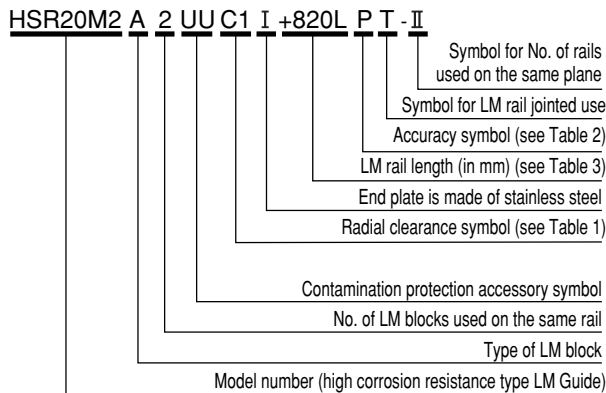
| Model No. | Symbol | Normal | Light preload |
|-----------|-----------|------------|---------------|
| | No symbol | | C1 |
| HSR 15M2 | | - 4 to + 2 | - 12 to - 4 |
| HSR 20M2 | | - 5 to + 2 | - 14 to - 5 |
| HSR 25M2 | | - 6 to + 3 | - 16 to - 6 |

Table 2 Accuracy Symbols

| Accuracy grade | Normal | High accuracy | Precision | Super-precision | Ultra-precision |
|-----------------|-----------|---------------|-----------|-----------------|-----------------|
| Accuracy symbol | No symbol | H | P | SP | UP |

Please refer to the general catalog for other details.

Model number coding



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

Standard and maximum lengths of LM rails

Standard lengths and maximum lengths are shown in Table 3. Even in the case of designating special lengths, the dimensions in the table are recommended to be used for dimension G. If dimension G is too long, there may be a detrimental effect on precision due to inadequate anchoring of the end of the shaft. If the maximum length of the desired LM rail exceeds them, jointed rails will be used. Contact THK for details.

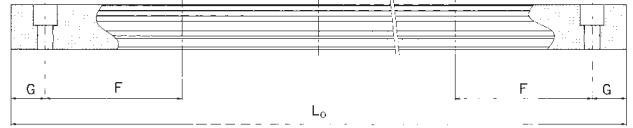


Table 3 Standard and maximum LM rail lengths

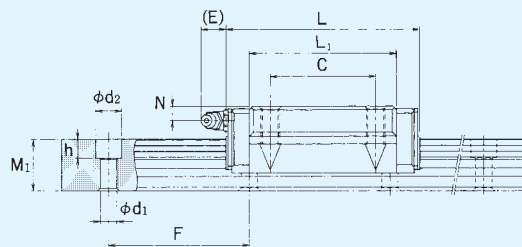
Unit: mm

| Model No. | HSR 15M2 | HSR 20M2 | HSR 25M2 |
|-----------------------------------|----------|----------|----------|
| LM rail standard length (L_0) | 160 | 280 | 280 |
| | 280 | 460 | 460 |
| | 460 | 640 | 640 |
| | 640 | 820 | 820 |
| | | | 1000 |
| Standard pitch F | 60 | 60 | 60 |
| G | 20 | 20 | 20 |
| Max length | 1000 | 1000 | 1000 |

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.

Selection and Service Life Calculation of LM Guides

Please consider conditions of use after referring to the general catalog.



Unit: mm

| LM rail dimensions | | | | | Length*1 Max | Basic load rating*2 | | Static permissible moment N·m*3 | | | | | Mass | |
|------------------------------|----------------|-----------------|------------|---------------------------|-----------------|---------------------|-------------|---------------------------------|------|-------------------------------|------|------------------|----------------|-----------------|
| Width W_1 ± 0.05 | Width W_2 | Height M_1 | Pitch F | $d_1 \times d_2 \times h$ | | C kN | C_0 kN | M_A 1 block Double block | | M_B 1 block Double block | | M_C 1 block | LM block kg | LM rail kg/m |
| 15 | 16 | 15 | 60 | 4.5 x 7.5 x 5.3 | 1000 | 2.33 | 2.03 | 12.3 | 70.3 | 12.3 | 70.3 | 10.8 | 0.2 | 1.5 |
| 20 | 21.5 | 18 | 60 | 6 x 9.5 x 8.5 | 1000 | 3.86 | 3.57 | 29 | 160 | 29 | 160 | 26.5 | 0.35 | 2.3 |
| 23 | 23.5 | 22 | 60 | 7 x 11 x 9 | 1000 | 5.57 | 5.16 | 46.9 | 261 | 46.9 | 261 | 45.1 | 0.59 | 3.3 |

1 The maximum length under "Length" indicates the standard maximum length of an LM rail.

*2 The basic load rating of the high corrosion resistance type LM Guide is smaller than ordinary stainless steel LM Guides.

*3 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

THK High Corrosion Resistance LM Guide HSR-M2

Precautions During Use

*Handling

- * Please handle this product with care. Dropping of this product or subjecting to strong impacts can result in damage.
- * Careless disassembly of this product can cause entry of foreign objects and deterioration of precision. Do not disassemble unless absolutely necessary.
- * Tilting the LM rail on an angle can cause the LM block to move and drop off. Be careful so that the LM block does not come off.

*Rated Load


- * Please note that the rated load of high corrosion resistance LM Guides is smaller than that of conventional stainless steel guides.

*Working Temperature Range

- * Avoid using this product at temperatures above 80°C. Please inquire to THK in the case of using at temperatures above 80°C.

*Use and Lubrication in Special Environments

- * Please inquire to THK in the case of using the product in locations continually subjected to vibrations or in special environments such as clean rooms, vacuum or locations of considerable temperature extremes.

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 - The appearance and specifications of the product are subject to change without notice. Contact THK before placing an order.
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