



LM Guide **HSV**

GLOBAL STANDARD MODEL

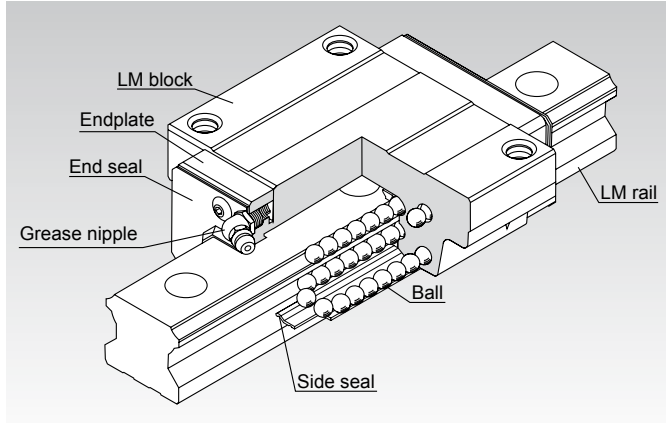
LM rails and LM blocks are individually stocked.



LM Guide HSV

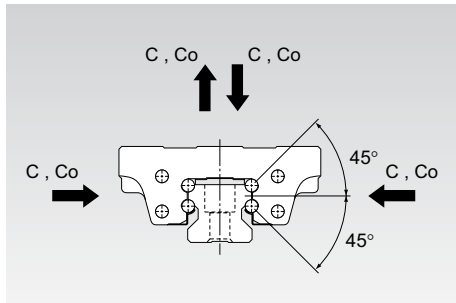
Structure and Features

- 4-way equal load
- Practically a global standard size
- Heavy load, high rigidity
- Superb capability of absorbing mounting errors



| MODEL HSV - C | MODEL HSV - R |
|---|---|
| | |
| The flange of its LM block has tapped holes. Can be mounted from the top or the bottom. | Having a smaller LM block width (W) and tapped holes, this model is optimal for compact design. |

Basic Load Rating



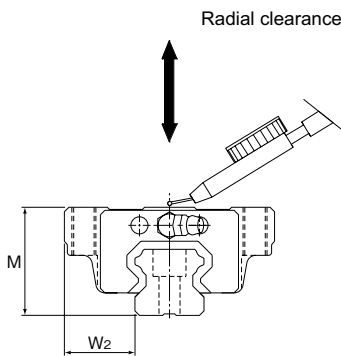
| Model No. | Basic load rating | | Static permissible moment kN-m * | | | | |
|-----------|-------------------|----------|----------------------------------|---------------|---------|---------------|--------|
| | C kN | Co kN | Ma | | Mb | | Mc |
| | | | 1 block | Double blocks | 1 block | Double blocks | |
| HSV15 | 8.33 | 13.5 | 0.0805 | 0.457 | 0.0805 | 0.457 | 0.0844 |
| HSV20 | 13.8 | 23.8 | 0.19 | 1.04 | 0.19 | 1.04 | 0.201 |
| HSV25 | 19.9 | 34.4 | 0.307 | 1.71 | 0.307 | 1.71 | 0.344 |
| HSV30 | 28 | 46.8 | 0.524 | 2.7 | 0.524 | 2.7 | 0.562 |
| HSV35 | 37.3 | 61.1 | 0.782 | 3.93 | 0.782 | 3.93 | 0.905 |
| HSV45 | 60 | 95.6 | 1.42 | 7.92 | 1.42 | 7.92 | 1.83 |

Note) 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

Radial Clearance and Accuracy Standards



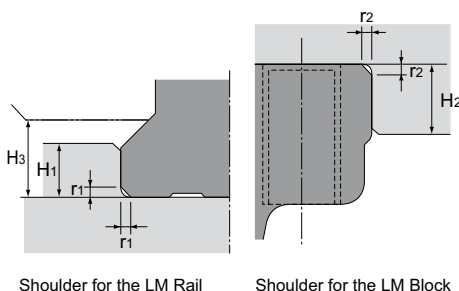
Radial clearance and accuracy standards for model HSV

Unit:mm

| Model No. | Radial clearance (μm) | Height M | | | Width W ₂ | | Running parallelism of surface C(D) against surface A(B) | |
|-----------|-----------------------|-----------------------|------------|----------------------------|-----------------------|------------|--|--------------|
| | | Dimensional tolerance | Difference | Difference (Many rail use) | Dimensional tolerance | Difference | 3000L ~3090L | 4520L ~4560L |
| HSV15 | -4 to +2 | ±0.07 | 0.02 | 0.04 | ±0.06 | 0.02 | 0.021 | 0.024 |
| HSV20 | -5 to +2 | ±0.07 | 0.02 | 0.04 | ±0.06 | 0.02 | | |
| HSV25 | -6 to +3 | ±0.08 | 0.02 | 0.04 | ±0.07 | 0.025 | | |
| HSV30 | -7 to +4 | ±0.08 | 0.02 | 0.04 | ±0.07 | 0.025 | | |
| HSV35 | -8 to +4 | ±0.08 | 0.02 | 0.04 | ±0.07 | 0.025 | | |
| HSV45 | -10 to +5 | ±0.08 | 0.025 | 0.05 | ±0.07 | 0.03 | | |

Shoulder Height of the Mounting Base and the Corner Radius

Normally, the mounting base for the LM rail and the LM block has a reference-surface on the side face of the shoulder of the base in order to allow easy installation and highly accurate positioning.

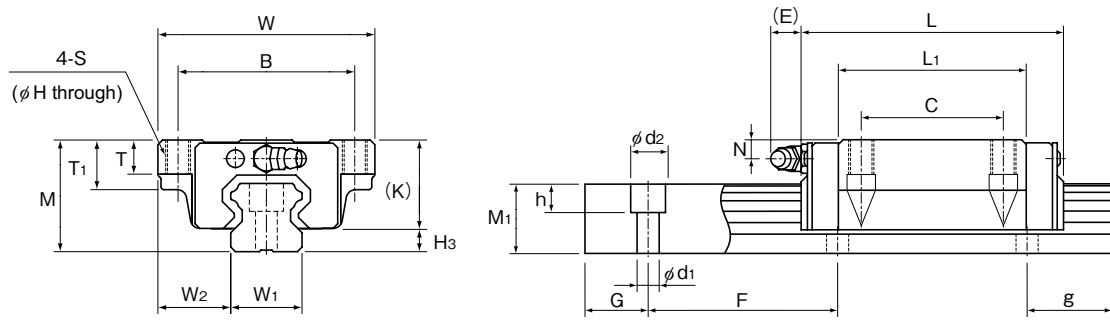


Unit:mm

| Model No. | Corner radius for the LM rail r ₁ (max) | Corner radius for the LM block r ₂ (max) | Shoulder height for the LM rail H ₁ | Shoulder height for the LM block H ₂ | H ₃ |
|-----------|--|---|--|---|----------------|
| HSV15 | 0.5 | 0.5 | 3 | 4 | 4.2 |
| HSV20 | 0.5 | 0.5 | 3.5 | 5 | 5 |
| HSV25 | 1 | 1 | 5 | 5 | 6.5 |
| HSV30 | 1 | 1 | 5 | 5 | 8 |
| HSV35 | 1 | 1 | 6 | 6 | 9.4 |
| HSV45 | 1 | 1 | 8 | 8 | 11.5 |

Global Standard Model

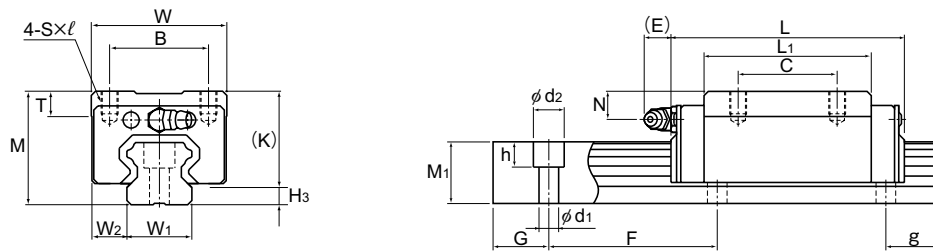
Model HSV-C



Unit:mm

| Model No. | Outer dimensions | | | LM block dimensions | | | | | | | | | | | Grease nipple | H ₃ | Mass kg |
|-----------|------------------|---------|----------|---------------------|-----|----|-----|------|----------------|-----|----------------|------|-----|-----|---------------|----------------|---------|
| | Height M | Width W | Length L | W ₂ | B | C | S | H | L ₁ | T | T ₁ | K | N | E | | | |
| HSV15C | 24 | 47 | 56.6 | 16 | 38 | 30 | M5 | 4.4 | 38.8 | 6.9 | 11 | 19.8 | 4.3 | 5.5 | PB1021B | 4.2 | 0.2 |
| HSV20C | 30 | 63 | 74 | 21.5 | 53 | 40 | M6 | 5.4 | 50.8 | 10 | 10 | 25 | 5 | 12 | B-M6F | 5 | 0.35 |
| HSV25C | 36 | 70 | 83.1 | 23.5 | 57 | 45 | M8 | 6.8 | 59.5 | 10 | 16 | 29.5 | 6 | 12 | B-M6F | 6.5 | 0.59 |
| HSV30C | 42 | 90 | 98 | 31 | 72 | 52 | M10 | 8.5 | 70.4 | 10 | 18 | 34 | 7 | 12 | B-M6F | 8 | 1.1 |
| HSV35C | 48 | 100 | 109.4 | 33 | 82 | 62 | M10 | 8.5 | 80.4 | 13 | 21 | 38.6 | 8 | 12 | B-M6F | 9.4 | 1.6 |
| HSV45C | 60 | 120 | 139 | 37.5 | 100 | 80 | M12 | 10.5 | 98 | 15 | 25 | 48.5 | 10 | 16 | B-R1/8 | 11.5 | 2.8 |

Model HSV-R



Unit:mm

| Model No. | Outer dimensions | | | LM block dimensions | | | | | | | | | | | Grease nipple | H ₃ | Mass kg |
|-----------|------------------|---------|----------|---------------------|----|----|----------|----------------|----|------|-----|-----|---------|------|---------------|----------------|---------|
| | Height M | Width W | Length L | W ₂ | B | C | S × l | L ₁ | T | K | N | E | | | | | |
| HSV15R | 28 | 34 | 56.6 | 9.5 | 26 | 26 | M4 × 5 | 38.8 | 6 | 23.8 | 8.3 | 5.5 | PB1021B | 4.2 | 0.18 | | |
| HSV20R | 30 | 44 | 74 | 12 | 32 | 36 | M5 × 6 | 50.8 | 8 | 25 | 5 | 12 | B-M6F | 5 | 0.25 | | |
| HSV25R | 40 | 48 | 83.1 | 12.5 | 35 | 35 | M6 × 8 | 59.5 | 9 | 33.5 | 10 | 12 | B-M6F | 6.5 | 0.54 | | |
| HSV30R | 45 | 60 | 98 | 16 | 40 | 40 | M8 × 10 | 70.4 | 9 | 37 | 10 | 12 | B-M6F | 8 | 0.9 | | |
| HSV35R | 55 | 70 | 109.4 | 18 | 50 | 50 | M8 × 12 | 80.4 | 12 | 45.6 | 15 | 12 | B-M6F | 9.4 | 1.5 | | |
| HSV45R | 70 | 86 | 139 | 20.5 | 60 | 60 | M10 × 17 | 98 | 15 | 58.5 | 20 | 16 | B-R1/8 | 11.5 | 2.6 | | |

LM Rail Dimensions

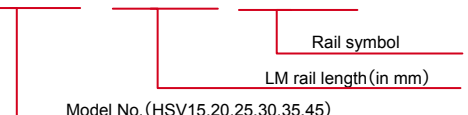
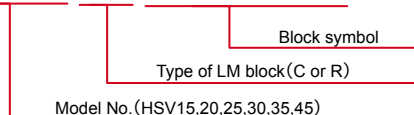
Unit:mm

| Model No. | Width W ₁ ^{0/-0.05} | Height M ₁ | Pitch F | d ₁ × d ₂ × h | LM rail length (G,g) | | Mass kg/m |
|-----------|---|-----------------------|---------|-------------------------------------|----------------------|-----------------|-----------|
| HSV15 | 15 | 15 | 60 | 4.5 × 7.5 × 5.3 | 3000(20,40) | — | 1.5 |
| HSV20 | 20 | 18 | 60 | 6 × 9.5 × 8.5 | 3000(20,40) | 4540(20,20) | 2.3 |
| HSV25 | 23 | 22 | 60 | 7 × 11 × 9 | 3000(20,40) | 4540(20,20) | 3.3 |
| HSV30 | 28 | 26 | 80 | 9 × 14 × 12 | 3000(20,20) | 4520(20,20) | 4.8 |
| HSV35 | 34 | 29 | 80 | 9 × 14 × 12 | 3000(20,20) | 4520(20,20) | 6.6 |
| HSV45 | 45 | 38 | 105 | 14 × 20 × 17 | 3000(20,40) | 4560(22.5,22.5) | 11 |

Model Number Coding


Block: **HSV35 C 1SS BLOCK**

Rail : **HSV35 - 3000L RAIL**



Please contact your dealer regarding the LM rail length.

THK LM Guide Model HSV

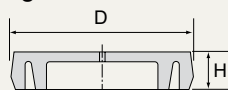
 For the precautions on using the LM Guide, see General Catalog or THK WEB SITE, respectively.

CAP C (Option)

The correspondence of the options, please contact your dealer.

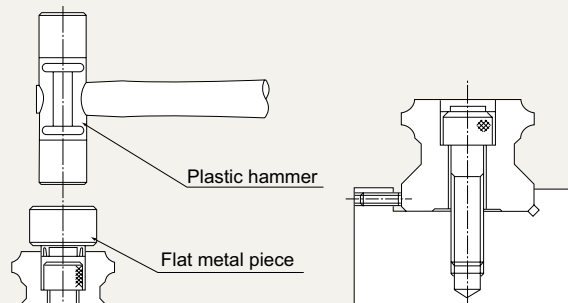
If any of the LM rail mounting holes of an LM Guide is filled with cutting chips or foreign material, they may enter the LM block structure.

Entrance of such foreign material can be prevented by covering the LM rail mounting hole with the dedicated cap.



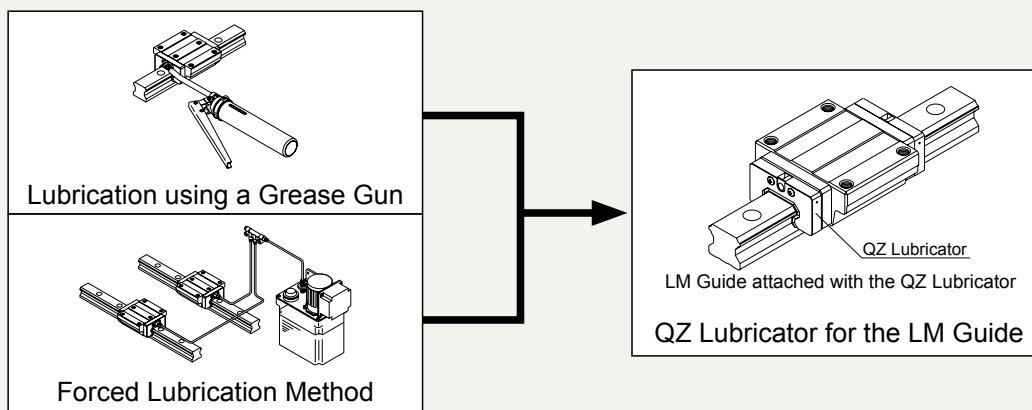
The Dedicated Cap C for LM Rail Mounting Holes


| Model No. | Bolt used | Main dimensions (mm) | | Supported model number |
|-----------|-----------|----------------------|-----|------------------------|
| | | D | H | |
| C4 | M4 | 7.8 | 1.0 | HSV15 |
| C5 | M5 | 9.8 | 2.4 | HSV20 |
| C6 | M6 | 11.4 | 2.7 | HSV25 |
| C8 | M8 | 14.4 | 3.7 | HSV30 |
| C8 | M8 | 14.4 | 3.7 | HSV35 |
| C12 | M12 | 20.5 | 4.7 | HSV45 |



QZ Lubricator (Option)

QZ Lubricator feeds the right amount of lubricant to the raceway on the LM rail. This allows an oil film to continuously be formed between the rolling element and the raceway, and drastically extends the lubrication and maintenance intervals.



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THK CO., LTD.

Head Office 3-11-6 Nishigotanda, Shinagawa-ku, Tokyo 141-8503 JAPAN
 International Sales Department Phone:+81-3-5434-0351 Fax:+81-3-5434-0353
 Global site : <http://www.thk.com/>

EUROPE
 THK GmbH
 ●EUROPEAN HEADQUARTERS
 Phone:+49-2102-7425-555
 Fax:+49-2102-7425-556
 ●DÜSSELDORF OFFICE
 Phone:+49-2102-7425-0
 Fax:+49-2102-7425-299
 ●STUTTGART OFFICE
 Phone:+49-7141-4988-500
 Fax:+49-7141-4988-888
 ●U.K. OFFICE
 Phone:+44-1384-47-1550
 Fax:+44-1384-47-1551
 ●ITALY OFFICE
 Phone:+39-02-9901-1801
 Fax:+39-02-9901-1881
 ●SWEDEN OFFICE
 Phone:+46-8-445-7630
 Fax:+46-8-445-7639
 ●AUSTRIA OFFICE
 Phone:+43-7229-51400
 Fax:+43-7229-51400-79

●SPAIN OFFICE
 Phone:+34-93-652-5740
 Fax:+34-93-652-5746
 ●TURKEY OFFICE
 Phone:+90-216-362-4050
 Fax:+90-216-569-7150
 ●PRAGUE OFFICE
 Phone:+420-2-41025-100
 Fax:+420-2-41025-199
 ●MOSCOW OFFICE
 Phone:+7-495-649-80-47
 Fax:+7-495-649-80-44
 THK Europe B.V.
 ●EINDHOVEN OFFICE
 Phone:+31-040-290-9500
 Fax:+31-040-290-9599
 THK France S.A.S.
 ●PARIS OFFICE
 Phone:+33-1-7425-3800
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