































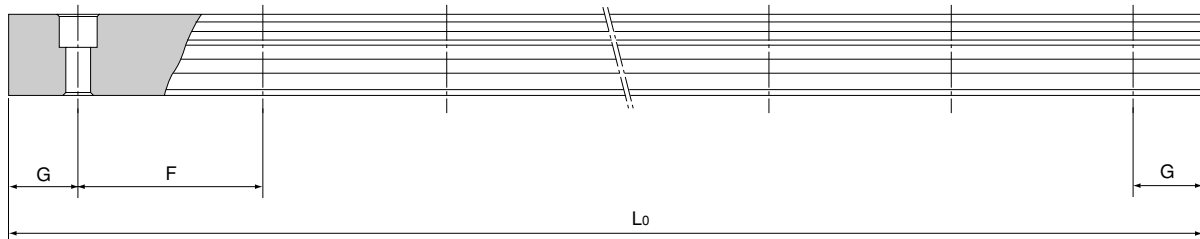


# HR

## Standard Length and Maximum Length of the LM Rail

The table below shows the standard LM rail lengths and the maximum lengths of model HR variations. If the maximum length of the desired LM rail exceeds them, connected 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 adversely affecting accuracy.



Standard Length and Maximum Length of the LM Rail for Model HR

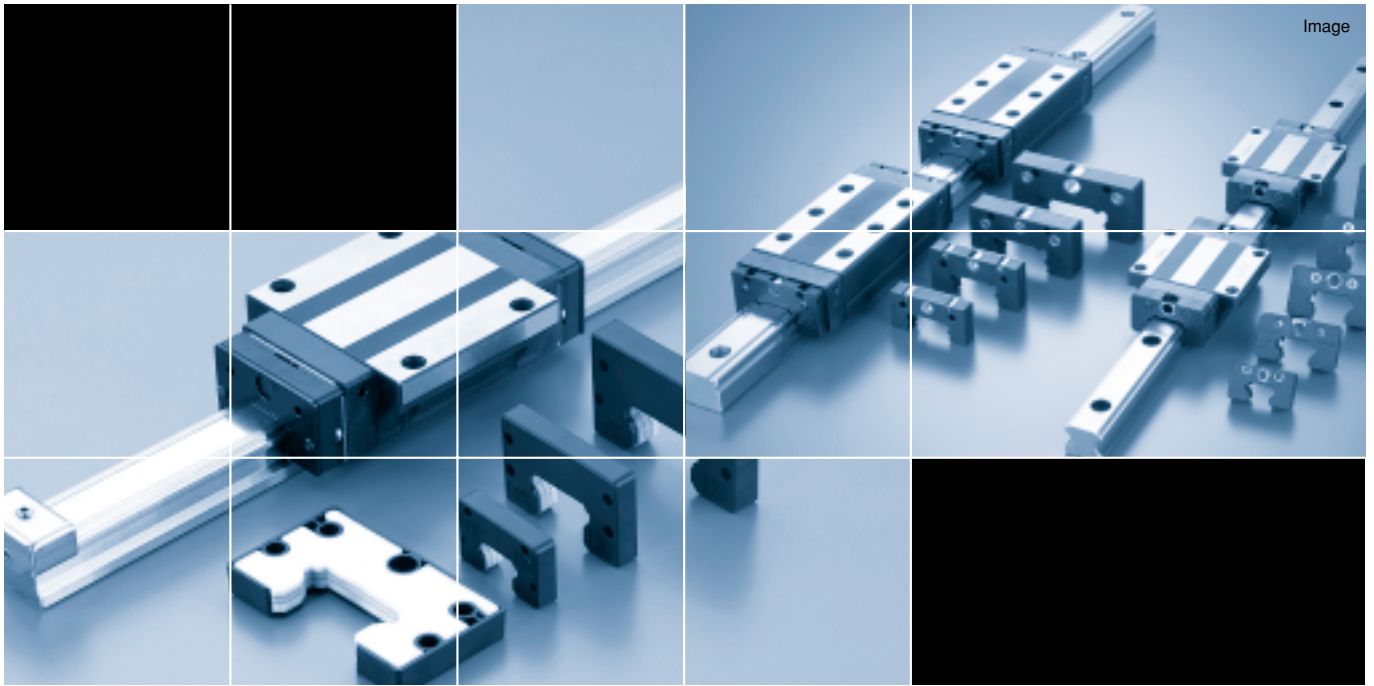
Unit: mm

Model No.	HR 918	HR 1123	HR 1530	HR 2042	HR 2555	HR 3065	HR 3575	HR 4085	HR 50105	HR 60125
Standard LM rail length ( $L_0$ )	70	110	160	220	280	280	570	780	1270	1530
	120	230	280	280	440	440	885	1020	1570	1890
	220	310	340	340	600	600	1200	1260	2020	2250
	295	390	460	460	760	760	1620	1500	2620	2610
			580	640	1000	1000	2040	1980		
Standard pitch F	25	40	60	60	80	80	105	120	150	180
G	10	15	20	20	20	20	22.5	30	35	45
Max length	300	500	1600	2200	2600	3000	3000	3000	3000	3000

Note 1: The maximum length varies with accuracy grades. Contact THK for details.

Note 2: If connected rails are not allowed and a greater length than the maximum values above is required, contact THK.

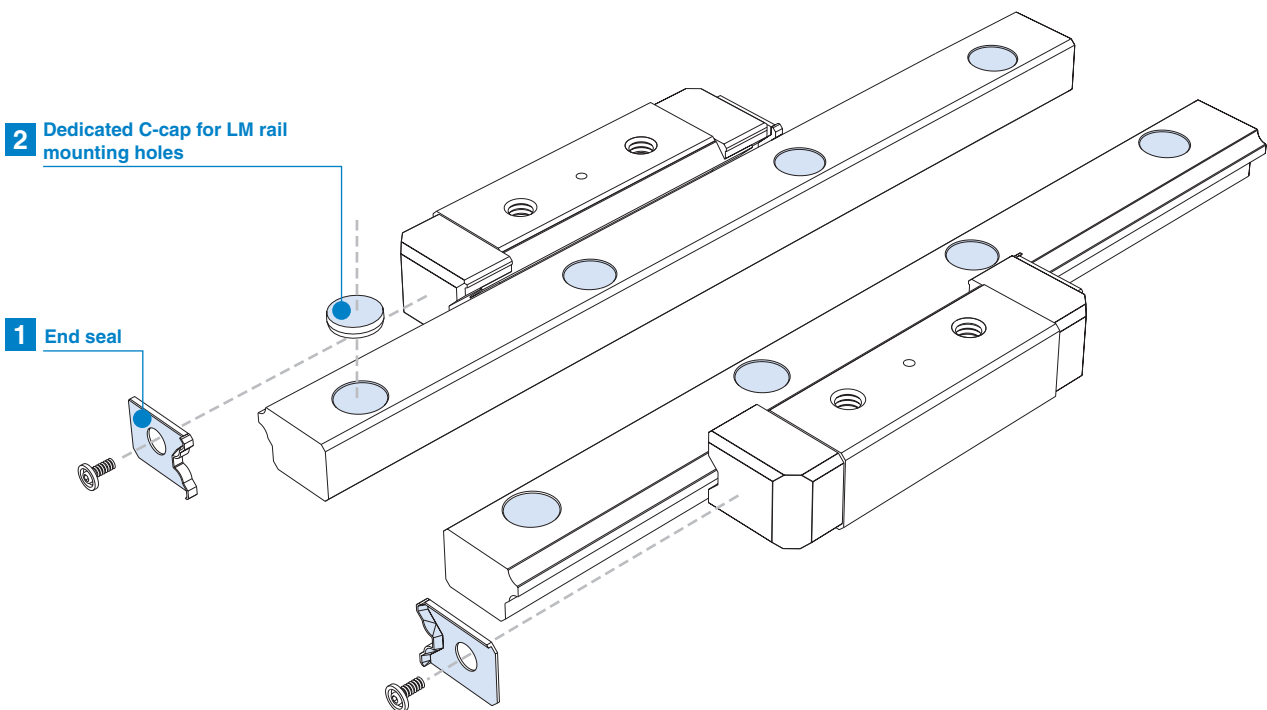




# HR OPTIONS

## Options

For model HR, dust-prevention accessories are available. Make a selection according to the application and the installation site.

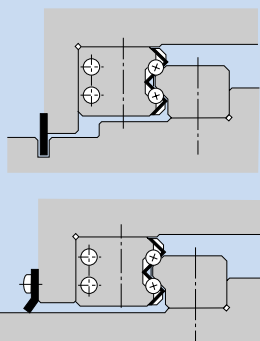
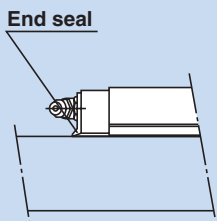


## Dust Prevention Accessories

When foreign matter enters an LM system, it will cause abnormal wear or shorten the service life. It is necessary to prevent foreign matter from entering the system. Therefore, when possible entrance of foreign matter is predicted, it is important to select an effective sealing device or dust-prevention device that meets the working conditions.

### 1 End seal

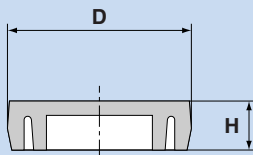
Used in locations exposed to dust.



Dust Prevention Method

### 2 Dedicated C-cap

It prevents cutting chips from entering the LM rail mounting holes.



### 1 Seals

Highly wear-resistant end seals made of special synthetic rubber are available.

If desiring a dust-prevention accessory, specify it with the corresponding symbol indicated in table 2.

For the supported model numbers for dust-prevention accessories and the overall LM block length with a dust-prevention accessory attached (dimension L), see table 3.

#### Seal resistance value

For the maximum seal resistance value per LM block when a lubricant is applied on seals HR ... UU, refer to the corresponding value provided in table 1.

Table 1 Maximum Seal Resistance Value of Seals HR ... UU Unit: N

Model No.	Seal resistance value
918	0.5
1123	0.7
1530	1.0
2042	2.0
2555	2.9
3065	3.4
3575	3.9
4085	4.4
50105	5.9
60125	9.8

Table 2 Symbol of Dust Prevention Accessory for Model HR

Symbol	Dust prevention accessory
UU	With end seal

Table 3 Overall LM Block Length (Dimension L) of Model HR with a Dust Prevention Accessory Attached Unit: mm

Model No.	UU	Model No.	UU
918	45	3575	154.8
1123	52	3575T	182.5
1530	69	4085	177.8
2042	91.6	4085T	215.9
2042T	110.7	50105	227
2555	121	50105T	274.5
2555T	146.4	60125	329
3065	145		
3065T	173.5		

### 2 Dedicated C-cap for LM Rail Mounting Holes

If any of the LM rail mounting holes of an LM Guide is filled with cutting chips or foreign matter, they may enter the LM block structure. Entrance of such foreign matter can be prevented by covering each LM rail mounting hole with the dedicated cap so that the top of the mounting holes is on the same level as the LM rail top face.

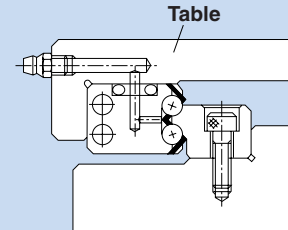
The dedicated C-cap for LM rail mounting holes is highly durable since it uses a special synthetic resin with high oil resistance and high wear resistance.

When placing an order, specify the desired cap type with the corresponding cap number indicated in the table on the right.

Model No.	C-cap model No.	Bolt used	Major dimensions mm	
			D	H
1123	C 3	M 3	6.3	1.2
1530	C 3	M 3	6.3	1.2
2042	C 5	M 5	9.8	2.4
2555	C 8	M 8	14.4	3.7
3065	C 8	M 8	14.4	3.7
3575	C10	M10	18.0	3.7
4085	C12	M12	20.5	4.7
50105	C16	M16	26.5	5.7

## Lubrication

The LM block has a greasing hole in the center of its top face. To provide lubrication through this hole, the table must be machined to also have a greasing hole as shown in the figure on the right and attach a grease nipple or the like. When using oil lubrication, it is necessary to identify the lubrication route. Contact THK for details.



Example of Machining a Greasing Hole

## Dedicated Mounting Bolt

Normally, when mounting the LM block with which to adjust a clearance, use the tapped hole provided on the LM block to secure it as shown in Fig. 1.

In this case, the hole must be machined so that its diameters  $d_1$  and  $D_1$  are larger by the adjustment allowance.

If it is inevitable to use the mounting method as indicated by Fig. 2 for a structural reason. The dedicated mounting bolt as shown in Fig. 3 is required for securing the LM block. Be sure to specify that the dedicated mounting bolt is required when ordering the LM Guide.

Dedicated Mounting Bolt

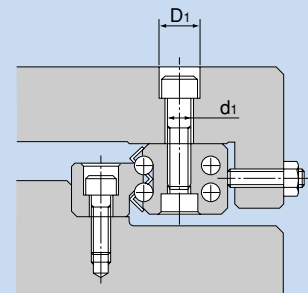


Fig. 1

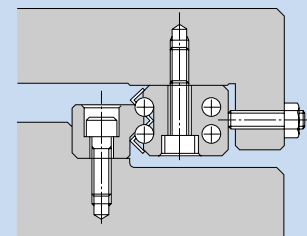


Fig. 2

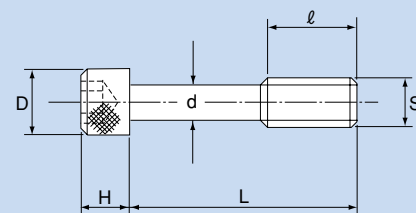


Fig. 3

Dedicated Mounting Bolt

Unit: mm

Model No.	S	d	D	H	L	$l$	Supported model
B 3	M3	2.4	5.5	3	17	5	HR 1530
B 5	M5	4.1	8.5	5	22	7	HR 2042
B 6	M6	4.9	10	6	28	9	HR 2555
B 8	M8	6.6	13	8	34	12	HR 3065
B10	M10	8.3	16	10	39	15	HR 3575
B12	M12	10.1	18	12	45	18	HR 4085
B14	M14	11.8	21	14	55	21	HR 50105
B16	M16	13.8	24	16	66	24	HR 60125

# THK LM Guide Model HR

## Precautions on use

### ● Handling

- Disassembling components may cause dust to enter the system or degrade mounting accuracy of parts. Do not disassemble the product.
- Tilting an LM block or LM rail may cause them to fall by their own weight.
- Dropping or hitting the LM Guide may damage it. Giving an impact to the LM Guide could also cause damage to its function even if the guide looks intact.

### ● Lubrication

- Thoroughly remove anti-corrosion oil and feed lubricant before using the product.
- Do not mix lubricants of different physical properties.
- In locations exposed to constant vibrations or in special environments such as clean rooms, vacuum and low/high temperature, normal lubricants may not be used. Contact THK for details.
- When planning to use a special lubricant, contact THK before using it.
- When adopting oil lubrication, the lubricant may not be distributed throughout the LM system depending on the mounting orientation of the system. Contact THK for details.
- Lubrication interval varies according to the service conditions. Contact THK for details.

### ● Precautions on Use

- Entrance of foreign matter may cause damage to the ball circulating path or functional loss. Prevent foreign matter, such as dust or cutting chips, from entering the system.
- When planning to use the LM system in an environment where coolant penetrates the LM block, it may cause trouble to product functions depending on the type of coolant. Contact THK for details.
- Do not use the LM system at temperature of 80°C or higher. When desiring to use the system at temperature of 80°C or higher, contact THK in advance.
- If foreign matter adheres to the LM system, replenish the lubricant after cleaning the product. For available types of detergent, contact THK.
- When using the LM Guide with an inverted mount, breakage of the endplate due to an accident or the like may cause balls to fall out and the LM block to come off from the LM rail and fall. In these cases, take preventive measures such as adding a safety mechanism for preventing such falls.
- When using the LM system in locations exposed to constant vibrations or in special environments such as clean rooms, vacuum and low/high temperature, contact THK in advance.
- 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.

### ● Storage

- When storing the LM Guide, enclose it in a package designated by THK and store it in a horizontal orientation while avoiding high temperature, low temperature and high humidity.

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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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# THK CO., LTD.

HEAD OFFICE 3-11-6, NISHI-GOTANDA, SHINAGAWA-KU, TOKYO 141-8503 JAPAN

ASIA PACIFIC SALES DEPARTMENT PHONE:(03)5434-0351 FAX:(03)5434-0353

#### NORTH AMERICA

##### CHICAGO

PHONE:(847)310-1111 FAX:(847)310-1182

##### NEW JERSEY

PHONE:(201)529-1950 FAX:(201)529-1962

##### ATLANTA

PHONE:(770)840-7990 FAX:(770)840-7897

##### LOS ANGELES

PHONE:(714)891-6752 FAX:(714)894-9315

##### SAN FRANCISCO

PHONE:(925)455-8948 FAX:(925)455-8965

##### BOSTON

PHONE:(781)575-1151 FAX:(781)575-9295

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PHONE:(905)712-2922 FAX:(905)712-2925

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PHONE:(011)3767-0100 FAX:(011)3767-0101

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##### STUTTGART

PHONE:0049-(0)7150-9199-0 FAX:0049-(0)7150-9199-888

##### MÜNCHEN

PHONE:0049-(0)89-3706160 FAX:0049-(0)89-37061626

##### U.K.

PHONE:0044-(0)1908-303050 FAX:0044-(0)1908-303070

##### MILANO

PHONE:0039-039-2842079 FAX:0039-039-2842527

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PHONE:0039-051-6412211 FAX:0039-051-6412230

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PHONE:0046-(0)8-4457630 FAX:0046-(0)8-4457639

##### AUSTRIA

PHONE:0043-(0)7229-51400 FAX:0043-(0)7229-51400-79

##### SPAIN

PHONE:0034-93-652-5740 FAX:0034-93-652-5746

##### THK FRANCE S. A. S.

PHONE:0033-(0)4-37491400 FAX:0033-(0)4-37491401

##### SOUTH AFRICA

PHONE:0027-(0)44-2720020 FAX:0027-(0)44-2720020

#### CHINA

##### THK SHANGHAI CO.,LTD.

PHONE:(21)6334-5131 FAX:(21)6334-5137

##### BEIJING

PHONE:(10)6590-3259 FAX:(10)6590-3557

##### THK SHOUZAN CO.,LTD.

PHONE:2376-1091 FAX:2376-0749

#### TAIWAN

##### TAIPEI

PHONE:(02)2888-3818 FAX:(02)2888-3819

##### TAICHUNG

PHONE:(04)2359-1505 FAX:(04)2359-1506

##### SOUTHERN

PHONE:(06)289-7668 FAX:(06)289-7669

#### KOREA (SEOUL)

PHONE:(02)3468-4351 FAX:(02)3468-4353

#### MALAYSIA (KUALA LUMPUR)

PHONE:(03)9287-1137 FAX:(03)9287-8071

#### INDIA (BANGALORE)

PHONE:(080)2330-1524 FAX:(080)2330-1524

