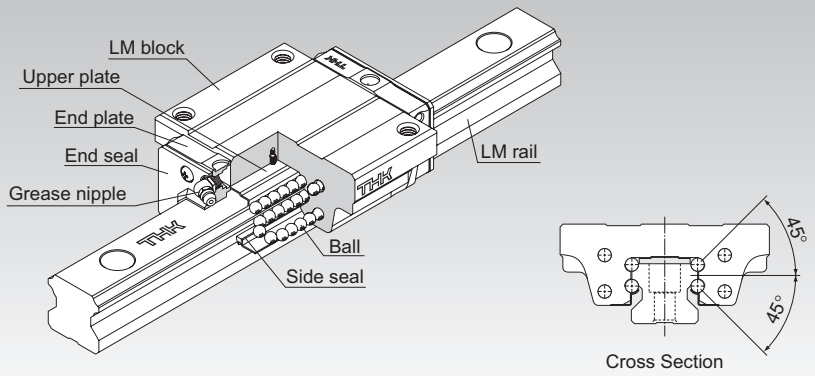
HSR

Global Standard LM Guide Model HSR



Selection Criteria A1-10
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Shoulder Height of the Mounting Base and the Corner Radius A1-493
Reference Error Tolerance for the Mounting Surface A1-498
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Structure and Features

Balls 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 balls to circulate. Since retainer plates hold the balls, they will not fall out even if the LM block is removed from the LM rail (except models HSR 8X, 10X, and 12X). 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 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. The low height of the LM block makes it highly rigid, achieving stable, high-precision linear 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.

High Rigidity

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

Self-Adjustment Capability

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

High Durability

Balls do not undergo differential slip, even under a preload or excessive biased load, allowing for smooth motion. Due to the product's high wear resistance, it maintains long-term accuracy.

Stainless Steel Type also Available

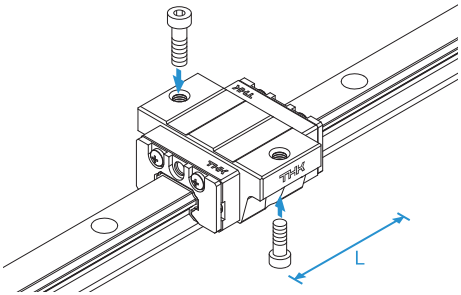
A special type whose LM block, LM rail, and balls are made of stainless steel is also available.

Types

Model HSR-XSC

Dimensional Table⇒A1-190

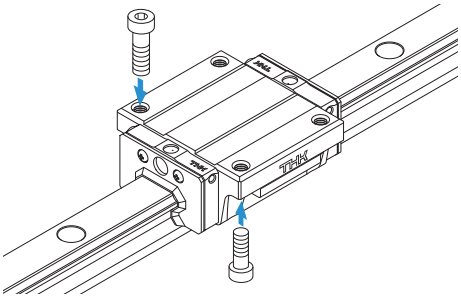
This type has a shorter overall LM block length (L) than the Model HSR-XC.



Models HSR-C/XC

Dimensional Table⇒A1-192

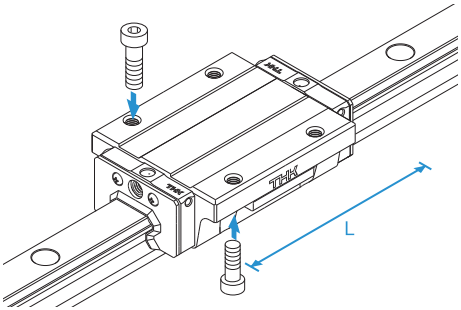
The flange of the LM block has tapped holes. This type can be mounted from the top or the bottom. It is used in places where the table cannot have through holes for mounting bolts.



Models HSR-LC/XLC

Dimensional Table⇒A1-192

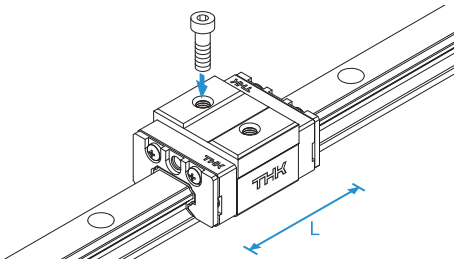
The LM block has the same cross-sectional shape as model HSR-C, but has a longer overall LM block length (L) and a greater load rating.



Model HSR-XSR

Dimensional Table⇒A1-194

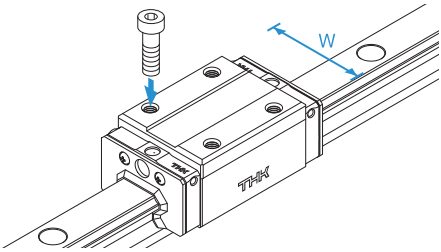
This type has a shorter overall LM block length (L) than the Model HSR-XR.



Models HSR-R/XR

Dimensional Table⇒A1-196

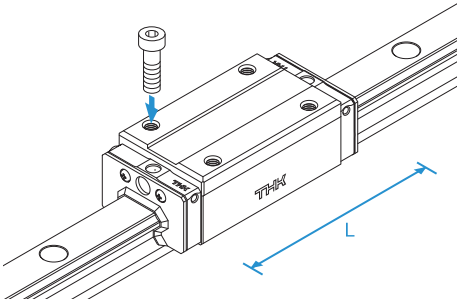
With this type, the LM block has a smaller width (W) and tapped holes. It is used in places where the space for table width is limited.



Models HSR-LR/XLR

Dimensional Table⇒A1-196

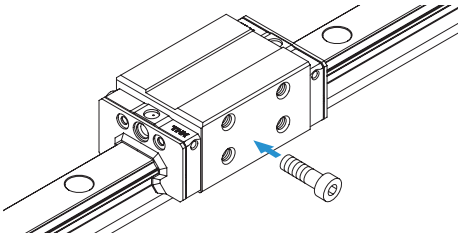
The LM block has the same cross-sectional shape as model HSR-R, but has a longer overall LM block length (L) and a greater load rating.



Models HSR-YR/XYR

Dimensional Table⇒A1-198

If using two conventional LM Guide units facing each other, it takes a long time to machine the table, and is difficult to achieve the desired accuracy and adjust the clearance. With the Model HSR-YR and Model HSR-XYR, the tapped holes on the side of the LM block simplify the structure, which drastically reduces labor time and increases accuracy.



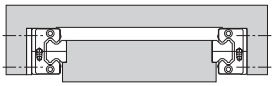


Fig. 1: Conventional Structure

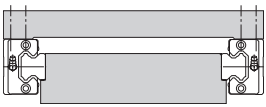
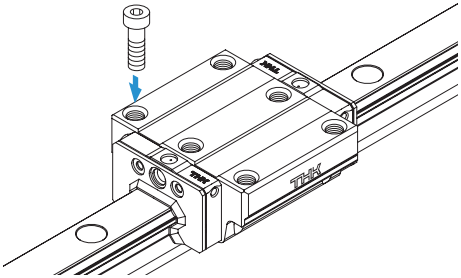


Fig. 2: Mounting Structure for Model HSR-YR

Models HSR-CA/XCA

Dimensional Table⇒A1-200

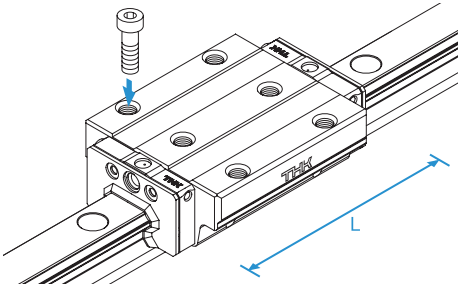
This model has six tapped holes on the LM block.



Models HSR-HA/XHA

Dimensional Table⇒A1-200

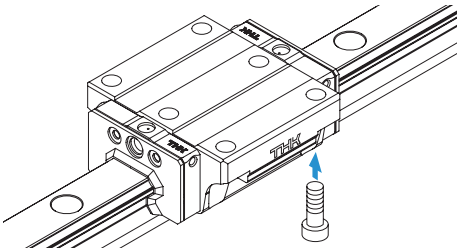
The LM block has the same cross-sectional shape as the Model HSR-CA, but it has a longer overall LM block length (L) and a greater load rating.



Models HSR-CB/XCB

Dimensional Table⇒A1-202

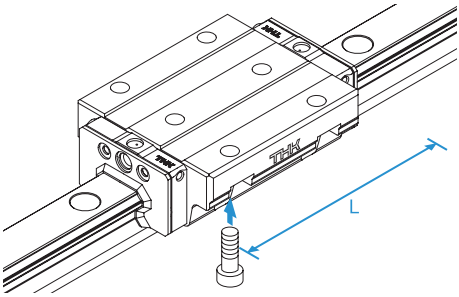
The LM block has six through holes. It is used in places where the table cannot have through holes for mounting bolts.



Models HSR-HB/XHB

Dimensional Table⇒A1-202

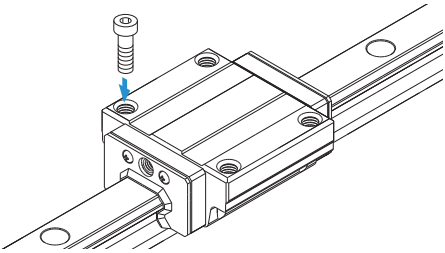
The LM block has the same cross sectional shape as model HSR-CB, but has a longer overall LM block length (L) and a greater load rating.



Model HSR85A

Dimensional Table⇒A1-204

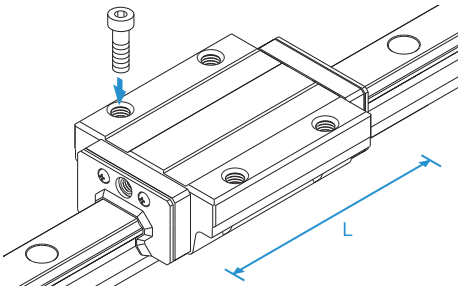
The flange of its LM block has tapped holes.



Model HSR85LA

Dimensional Table⇒A1-204

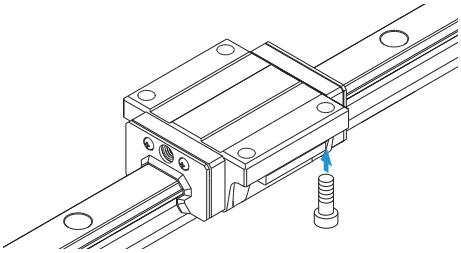
The LM block has the same cross-sectional shape as model HSR85A, but has a longer overall LM block length (L) and a greater load rating.



Model HSR85B

Dimensional Table⇒A1-204

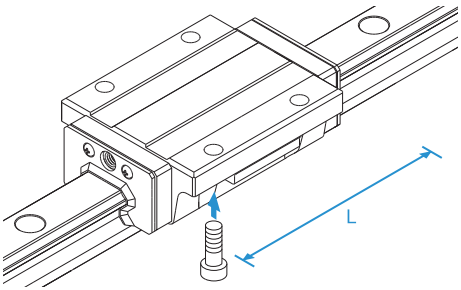
The flange of the LM block has through holes. It is used in places where the table cannot have through holes for mounting bolts.



Model HSR85LB

Dimensional Table⇒A1-204

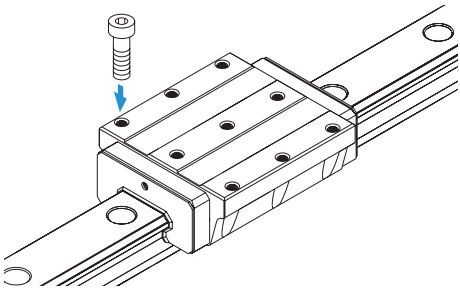
The LM block has the same cross-sectional shape as model HSR85B, but has a longer overall LM block length (L) and a greater load rating.



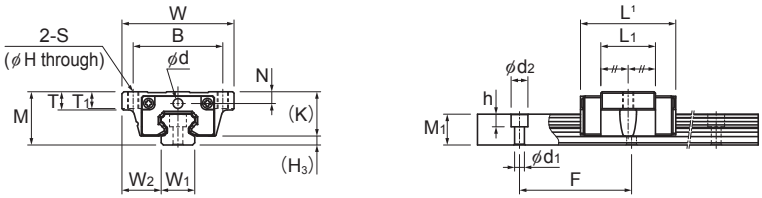
Models HSR 100/120/150 HA/HB/HR

Dimensional Table⇒A1-206

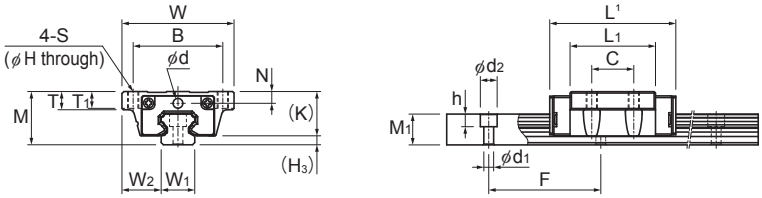
These are large types of model HSR that can be used in large-scale machine tools and building structures.
Models HSR100/120/150HA/HB have nine tapped holes on the LM block. Models HSR100/120/150HR have six tapped holes on the LM block.



Models HSR-XSCM, HSR-XCM, and HSR-XLCM



Models HSR8X SCM and 10X SCM



Models HSR8X CM/LCM and 10X CM/LCM

Model No.	Outer dimensions			LM block dimensions												
	Height	Width	Length[1]			Mounting hole								Lubrication hole	Grease nipple	
	M	W	L	B	C	S	H	L_1	T	T_1	K	N	E	d		H_3
HSR 8XSCM HSR 8XCM HSR 8XLCM	10	24	18 24 30.5	19	— 10 10	M2.3	1.5	9 15 21.5	4	3.5	7.9	1.6	—	2.2	—	2.1
HSR 10XSCM HSR 10XCM HSR 10XLCM	12	30	24 31 40	24	— 12 12	M3	2.5	13.1 20.1 29.1	5	4.5	9.8	2.5	—	2.2	—	2.2
HSR 12XSCM HSR 12XCM HSR 12XLCM	19	40	34 45 58	32	— 15 15	M4	3.3	19.5 30.5 43.5	6.5	6	15.9	4.2	4	—	PB107	3.1

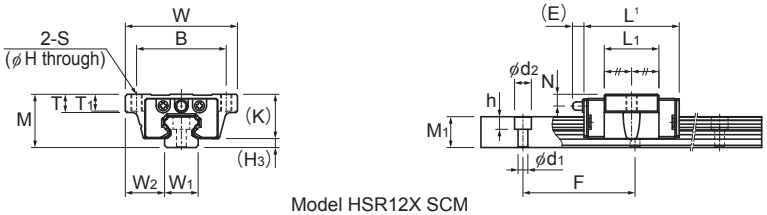
Model number coding

HSR12X C 2 UU C1 M +670L H T M -II

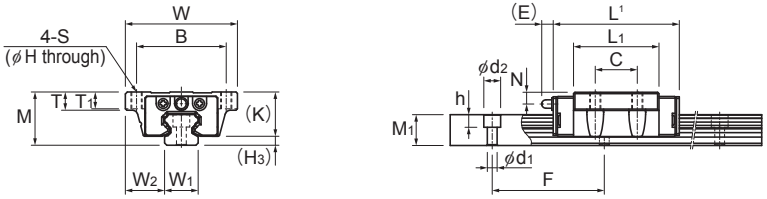
- HSR12X: Model number
- C: Type of LM block
- 2: No. of LM blocks used on the same rail
- UU: Contamination protection accessory symbol
- C1: Radial clearance symbol — Normal (No symbol), Light preload (C1)
- M: Stainless steel LM block
- +670L: LM rail length (in mm)
- H: Accuracy symbol — Normal grade (No Symbol)/High accuracy grade (H), Precision grade (P)/Super precision grade (SP)
- T: Symbol for LM rail jointed use
- M: Stainless steel LM rail
- -II: Symbol for No. of rails used on the same plane

Notes: 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).
See **A1-548** for contamination protection accessories, see **A1-74** for radial clearance symbol. See **A1-79** for accuracy symbol. See **A1-13** for symbol for number of rails used on the same plane.

Download data from the THK Online Services website. https://www.thk.com/



Model HSR12X SCM



Models HSR12X CM/LCM

Unit: mm

	LM rail dimensions						Basic load rating		Static permissible moment kN·m [3]						Mass	
	Width		Height	Pitch		Length [2]	C	C_0	M_A		M_B		M_C		LM block	LM rail
	W_1 ±0.05	W_2	M_1	F	$d_1 \times d_2 \times h$	Max	kN	kN	1 block	2 blocks	1 block	2 blocks	1 block		kg	kg/m
	8	8	6	20	2.4×4.2×2.3	(1000)	0.85 1.2 1.5	1.24 2.02 2.8	0.00179 0.00457 0.00913	0.0148 0.0297 0.0502	0.00179 0.00457 0.00913	0.0148 0.0297 0.0502	0.0043 0.00698 0.00964		0.007 0.013 0.018	0.3
	10	10	7	25	3.5×6×3.3	(1000)	1.54 2.16 2.72	2.18 3.54 4.9	0.00464 0.0114 0.0211	0.0336 0.0659 0.115	0.00464 0.0114 0.0211	0.0336 0.0659 0.115	0.00949 0.0154 0.0213		0.017 0.026 0.038	0.45
	12	14	11	40	3.5×6×4.5	(1480)	3.95 5.54 6.96	5.39 8.75 12.1	0.0171 0.0421 0.0781	0.116 0.234 0.409	0.0171 0.0421 0.0781	0.116 0.234 0.409	0.0277 0.0449 0.0622		0.059 0.092 0.132	0.83

[1] Length L shown in the table is the length with the contamination protection accessories, code UU or SS.
If other contamination protection accessories or lubricant equipment are installed, the total block length will increase. (See **A1-521** or **A1-543**)

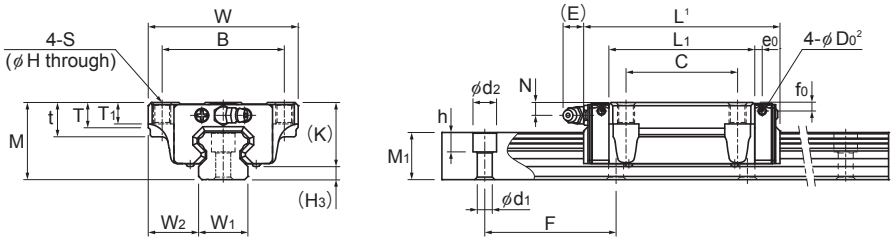
[2] The maximum length indicates the standard maximum length of an LM rail. (See **A1-208**.)

[3] Static permissible moment 1 block: the static permissible moment with one LM block
2 blocks: the static permissible moment with two LM blocks in close contact with each other

Notes: The M in the model number symbol indicates that the LM block, LM rail and balls are made of stainless steel.
The stainless steel provides excellent corrosion and environmental resistance.

Options⇒A1-507

Models HSR-C, HSR-CM, HSR-LC, HSR-LCM, HSR-XC, and HSR-XLC



Models HSR15 to 35C/LC/CM/LCM

Model No.	Outer dimensions			LM block dimensions											Grease nipple	Pilot hole for side nipple			
	Height	Width	Length[1]			Mounting hole													
	M	W	L	B	C	S	H	L_1	t	T	T_1	K	N	E		e_0	f_0	D_0[2]	H_3
HSR 15C HSR 15CM	24	47	56.6	38	30	M5	4.4	38.8	11	7	7	19.3	4.3	5.5	PB1021B	3.2	3.9	3	4.7
HSR 15LC HSR 15LCM	24	47	74.6	38	30	M5	4.4	56.8	11	7	7	19.3	4.3	5.5	PB1021B	3.2	3.9	3	4.7
HSR 20C HSR 20CM	30	63	74	53	40	M6	5.4	50.8	10	9.5	10	26	5	12	B-M6F	3.1	3.4	3	4
HSR 20LC HSR 20LCM	30	63	90	53	40	M6	5.4	66.8	10	9.5	10	26	5	12	B-M6F	3.1	3.4	3	4
HSR 25C HSR 25CM	36	70	83.1	57	45	M8	6.8	59.5	16	11	10	30.5	6	12	B-M6F	3.5	4	3	5.5
HSR 25LC HSR 25LCM	36	70	102.2	57	45	M8	6.8	78.6	16	11	10	30.5	6	12	B-M6F	3.5	4	3	5.5
HSR 30C HSR 30CM	42	90	98	72	52	M10	8.5	70.4	18	9	10	35	7	12	B-M6F	5.2	6.2	5.2	7
HSR 30LC HSR 30LCM	42	90	120.6	72	52	M10	8.5	93	18	9	10	35	7	12	B-M6F	5.2	6.2	5.2	7
HSR 35C HSR 35CM	48	100	109.4	82	62	M10	8.5	80.4	21	12	13	40.5	8	12	B-M6F	5.5	5.6	5.2	7.5
HSR 35LC HSR 35LCM	48	100	134.8	82	62	M10	8.5	105.8	21	12	13	40.5	8	12	B-M6F	5.5	5.6	5.2	7.5
HSR 45C HSR 45LC	60	120	138.9 170.7	100	80	M12	10.5	98 129.8	25	13	15	50	10	16	B-PT1/8	6.1	6.6	5.2	10
HSR 55C HSR 55LC	70	140	162.9 201	116	95	M14	12.5	118 156.1	29	13.5	17	57	11	16	B-PT1/8	5.6	7.7	5.2	13
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	6.8	14.6	5.2	14

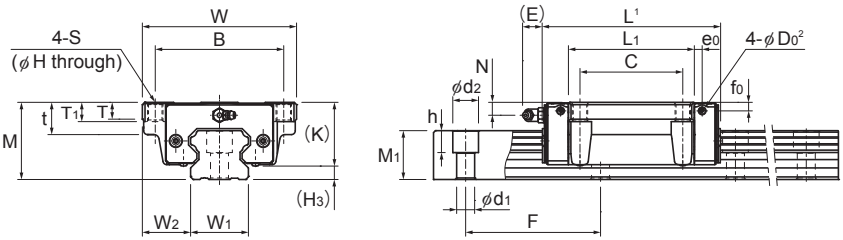
Model number coding

HSR25 C 2 QZ UU C0 M +1240L P T M -II

- HSR25: Model number
- C: Type of LM block
- 2: No. of LM blocks used on the same rail
- QZ: With QZ Lubricator
- UU: Contamination protection accessory symbol
- C0: Radial clearance symbol — Normal (No symbol), Light preload (C1), Medium preload (C0)
- M: Stainless steel LM block
- +1240L: LM rail length (in mm)
- P: Accuracy symbol — Normal grade (No Symbol)/High accuracy grade (H), Precision grade (P)/Super precision grade (SP), Ultra precision grade (UP)
- T: Symbol for LM rail jointed use
- M: Stainless steel LM rail
- -II: Symbol for No. of rails used on the same plane

Notes: 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). Grease nipples are not installed when there is a QZ Lubricator. Contact THK if you want to use a grease nipple for a model with a QZ. See **A1-548** for contamination protection accessories, see **A1-74** for radial clearance symbol. See **A1-79** for accuracy symbol. See **A1-13** for symbol for number of rails used on the same plane.

Download data from the THK Online Services website. https://www.thk.com/



Models HSR45 to 65C/LC/XC/XLC

Unit: mm

	LM rail dimensions						Basic load rating		Static permissible moment kN·m [4]					Mass	
	Width		Height	Pitch		Length[3]	C	C_0	M_A		M_B		M_C	LM block	LM rail
	W_1 ±0.05	W_2	M_1	F	$d_1 \times d_2 \times h$	Max	kN	kN	1 block	2 blocks	1 block	2 blocks	1 block	kg	kg/m
	15	16	15	60	4.5×7.5×5.3	3000 (1240)	10.9	15.7	0.0945	0.527	0.0945	0.527	0.0998	0.2	1.5
	15	16	15	60	4.5×7.5×5.3	3000 (1240)	14.2	22.9	0.194	0.984	0.194	0.984	0.145	0.29	1.5
	20	21.5	18	60	6×9.5×8.5	3000 (1480)	19.8	27.4	0.218	1.2	0.218	1.2	0.235	0.35	2.3
	20	21.5	18	60	6×9.5×8.5	3000 (1480)	23.9	35.8	0.363	1.87	0.363	1.87	0.307	0.47	2.3
	23	23.5	22	60	7×11×9	3000 (2020)	27.6	36.4	0.324	1.8	0.324	1.8	0.366	0.59	3.3
	23	23.5	22	60	7×11×9	3000 (2020)	35.2	51.6	0.627	3.04	0.627	3.04	0.518	0.75	3.3
	28	31	26	80	9×14×12	3000 (2520)	40.5	53.7	0.599	3.1	0.599	3.1	0.652	1.1	4.8
	28	31	26	80	9×14×12	3000 (2520)	48.9	70.2	0.995	4.89	0.995	4.89	0.852	1.3	4.8
	34	33	29	80	9×14×12	3000 (2520)	53.9	70.2	0.895	4.51	0.895	4.51	1.05	1.6	6.6
	34	33	29	80	9×14×12	3000 (2520)	65	91.7	1.49	7.13	1.49	7.13	1.37	2.0	6.6
	45	37.5	38	105	14×20×17	3090	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	11 11
	53	43.5	44	120	16×23×20	3060	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	15.1 15.1
	63	53.5	53	150	18×26×22	3000	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	22.5 22.5

[1] Length L shown in the table is the length with the contamination protection accessories, code UU or SS.
If other contamination protection accessories or lubricant equipment are installed, the total block length will increase. (See **A1-521** or **A1-543**)

[2] D_0 are the pilot holes for when a grease nipple is desired for a product with LaCS or a QZ Lubricator.
Pilot holes are not drilled through for models other than those stated above.
For grease nipple mount machining, contact THK.

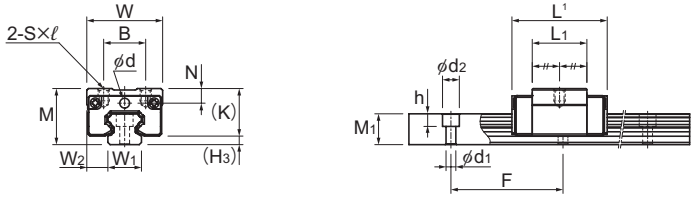
[3] The maximum length indicates the standard maximum length of an LM rail. (See **A1-208**.)

[4] Static permissible moment 1 block: the static permissible moment with one LM block
2 blocks: the static permissible moment with two LM blocks in close contact with each other

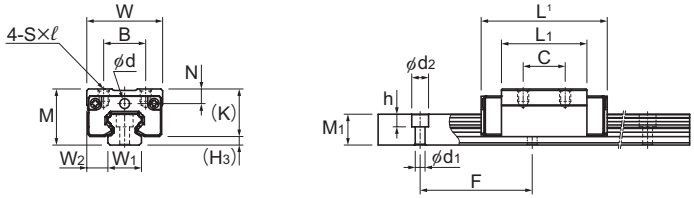
Notes: The M in the model number symbol indicates that the LM block, LM rail and balls are made of stainless steel.
The stainless steel provides excellent corrosion and environmental resistance.

Options⇒A1-507

Models HSR-XSRM, HSR-XRM, and HSR-XLRM



Models HSR8X SRM and 10X SRM



Models HSR8X RM/LRM and 10X RM/LRM

Model No.	Outer dimensions			LM block dimensions										H3
	Height M	Width W	Length[1] L	B	C	S×ℓ	L1	T	K	N	E	Lubrication hole d	Grease nipple	
HSR 8XSRM HSR 8XRM HSR 8XLRM	11	16	18 24 30.5	10	— 10 10	M2×2.5	9 15 21.5	—	8.9	2.6	—	2.2	—	2.1
HSR 10XSRM HSR 10XRM HSR 10XLRM	13	20	24 31 40	13	— 12 12	M2.6×2.5	13.1 20.1 29.1	—	10.8	3.5	—	2.2	—	2.2
HSR 12XSRM HSR 12XRM HSR 12XLRM	20	27	34 45 58	15	— 15 15	M4×4.5	19.5 30.5 43.5	6	16.9	5.2	4	—	PB107	3.1

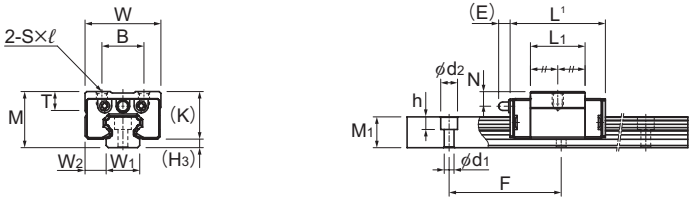
Model number coding

HSR12X R 2 UU C1 M +670L H T M -II

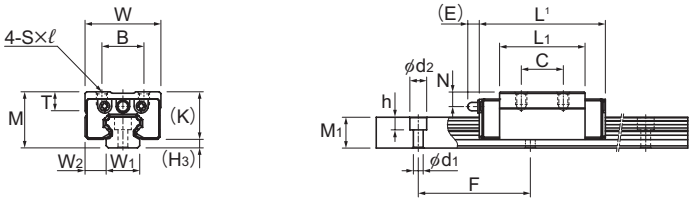
- HSR12X: Model number
- R: Type of LM block
- 2: No. of LM blocks used on the same rail
- UU: Contamination protection accessory symbol
- C1: Radial clearance symbol (Normal (No symbol), Light preload (C1))
- M: Stainless steel LM block
- +670L: LM rail length (in mm)
- H: Accuracy symbol (Normal grade (No Symbol)/High accuracy grade (H), Precision grade (P)/Super precision grade (SP))
- T: Symbol for LM rail jointed use
- M: Stainless steel LM rail
- -II: Symbol for No. of rails used on the same plane

Notes: 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).
See **A1-548** for contamination protection accessories, see **A1-74** for radial clearance symbol. See **A1-79** for accuracy symbol. See **A1-13** for symbol for number of rails used on the same plane.

Download data from the THK Online Services website. https://www.thk.com/



Model HSR12X SRM



Models HSR12X RM/LRM

Unit: mm

	LM rail dimensions						Basic load rating		Static permissible moment kN·m [3]					Mass	
	Width		Height	Pitch		Length[2]	C	C_0	M_A		M_B		M_C	LM block	LM rail
	W_1 ±0.05	W_2	M_1	F	$d_1 \times d_2 \times h$	Max	kN	kN	1 block	2 blocks	1 block	2 blocks	1 block	kg	kg/m
	8	4	6	20	2.4×4.2×2.3	(1000)	0.85 1.2 1.5	1.24 2.02 2.8	0.00179 0.00457 0.00913	0.0148 0.0297 0.0502	0.00179 0.00457 0.00913	0.0148 0.0297 0.0502	0.0043 0.00698 0.00964	0.006 0.01 0.015	0.3
	10	5	7	25	3.5×6×3.3	(1000)	1.54 2.16 2.72	2.18 3.54 4.9	0.00464 0.0114 0.0211	0.0336 0.0659 0.115	0.00464 0.0114 0.0211	0.0336 0.0659 0.115	0.00949 0.0154 0.0213	0.014 0.021 0.031	0.45
	12	7.5	11	40	3.5×6×4.5	(1480)	3.95 5.54 6.96	5.39 8.75 12.1	0.0171 0.0421 0.0781	0.116 0.234 0.409	0.0171 0.0421 0.0781	0.116 0.234 0.409	0.0277 0.0449 0.0622	0.045 0.071 0.102	0.83

[1] Length L shown in the table is the length with the contamination protection accessories, code UU or SS. If other contamination protection accessories or lubricant equipment are installed, the total block length will increase. (See A1-521 or A1-543)

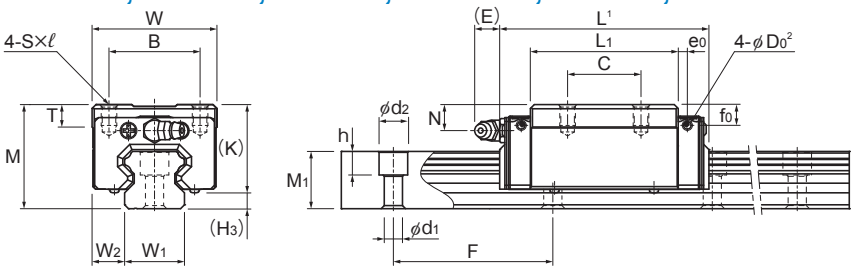
[2] The maximum length indicates the standard maximum length of an LM rail. (See A1-208.)

[3] Static permissible moment 1 block: the static permissible moment with one LM block
2 blocks: the static permissible moment with two LM blocks in close contact with each other

Notes: The M in the model number symbol indicates that the LM block, LM rail and balls are made of stainless steel. The stainless steel provides excellent corrosion and environmental resistance.

Options⇒A1-507

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



Models HSR15 to 35R/LR/RM/LRM

Model No.	Outer dimensions			LM block dimensions									Pilot hole for side nipple			
	Height M	Width W	Length[1] L	B	C	S×ℓ	L1	T	K	N	E	Grease nipple	e0	f0	D0²	H3
HSR 15R HSR 15RM	28	34	56.6	26	26	M4×5	38.8	6	23.3	8.3	5.5	PB1021B	3.2	7.9	3	4.7
HSR 15LR HSR 15LRM	28	34	74.6	26	34	M4×5	56.8	6	23.3	8.3	5.5	PB1021B	3.2	7.9	3	4.7
HSR 20R HSR 20RM	30	44	74	32	36	M5×6	50.8	8	26	5	12	B-M6F	3.1	3.4	3	4
HSR 20LR HSR 20LRM	30	44	90	32	50	M5×6	66.8	8	26	5	12	B-M6F	3.1	3.4	3	4
HSR 25R HSR 25RM	40	48	83.1	35	35	M6×8	59.5	9	34.5	10	12	B-M6F	3.5	8	3	5.5
HSR 25LR HSR 25LRM	40	48	102.2	35	50	M6×8	78.6	9	34.5	10	12	B-M6F	3.5	8	3	5.5
HSR 30R HSR 30RM	45	60	98	40	40	M8×10	70.4	9	38	10	12	B-M6F	5.2	9.2	5.2	7
HSR 30LR HSR 30LRM	45	60	120.6	40	60	M8×10	93	9	38	10	12	B-M6F	5.2	9.2	5.2	7
HSR 35R HSR 35RM	55	70	109.4	50	50	M8×12	80.4	11.7	47.5	15	12	B-M6F	5.5	12.6	5.2	7.5
HSR 35LR HSR 35LRM	55	70	134.8	50	72	M8×12	105.8	11.7	47.5	15	12	B-M6F	5.5	12.6	5.2	7.5
HSR 45R HSR 45LR	70	86	138.9 170.7	60	60 80	M10×17	98 129.8	15	60	20	16	B-PT1/8	6.1	16.6	5.2	10
HSR 55R HSR 55LR	80	100	162.9 201	75	75 95	M12×18	118 156.1	20.5	67	21	16	B-PT1/8	5.6	17.7	5.2	13
HSR 65XR HSR 65XLR	90	126	190.5 250	76	70 120	M16×20	138.5 198	23	76	19	16	B-PT1/8	6.8	14.6	5.2	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

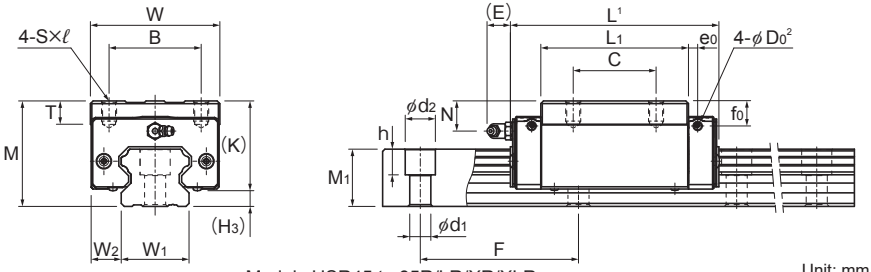
Model number coding

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

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

Notes: 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). Grease nipples are not installed when there is a QZ Lubricator. Contact THK if you want to use a grease nipple for a model with a QZ. See **A1-548** for contamination protection accessories, see **A1-74** for radial clearance symbol. See **A1-79** for accuracy symbol. See **A1-13** for symbol for number of rails used on the same plane.

Download data from the THK Online Services website. https://www.thk.com/



Models HSR45 to 85R/LR/XR/XLR

Unit: mm

	LM rail dimensions						Basic load rating		Static permissible moment kN·m [4]						Mass	
	Width		Height	Pitch		Length [3]	C	C_0	M_A		M_B		M_C		LM block	LM rail
	W_1 ±0.05	W_2	M_1	F	$d_1 \times d_2 \times h$	Max	kN	kN	1 block	2 blocks	1 block	2 blocks	1 block		kg	kg/m
	15	9.5	15	60	4.5×7.5×5.3	3000 (1240)	10.9	15.7	0.0945	0.527	0.0945	0.527	0.0998		0.18	1.5
	15	9.5	15	60	4.5×7.5×5.3	3000 (1240)	14.2	22.9	0.194	0.984	0.194	0.984	0.145		0.26	1.5
	20	12	18	60	6×9.5×8.5	3000 (1480)	19.8	27.4	0.218	1.2	0.218	1.2	0.235		0.25	2.3
	20	12	18	60	6×9.5×8.5	3000 (1480)	23.9	35.8	0.363	1.87	0.363	1.87	0.307		0.35	2.3
	23	12.5	22	60	7×11×9	3000 (2020)	27.6	36.4	0.324	1.8	0.324	1.8	0.366		0.54	3.3
	23	12.5	22	60	7×11×9	3000 (2020)	35.2	51.6	0.627	3.04	0.627	3.04	0.518		0.67	3.3
	28	16	26	80	9×14×12	3000 (2520)	40.5	53.7	0.599	3.1	0.599	3.1	0.652		0.9	4.8
	28	16	26	80	9×14×12	3000 (2520)	48.9	70.2	0.995	4.89	0.995	4.89	0.852		1.1	4.8
	34	18	29	80	9×14×12	3000 (2520)	53.9	70.2	0.895	4.51	0.895	4.51	1.05		1.5	6.6
	34	18	29	80	9×14×12	3000 (2520)	65	91.7	1.49	7.13	1.49	7.13	1.37		2	6.6
	45	20.5	38	105	14×20×17	3090	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	11
	53	23.5	44	120	16×23×20	3060	121 148	146 194	2.6 4.46	14.1 22.7	2.6 4.46	14.1 22.7	3.43 5.4		4.3 5.4	15.1
	63	31.5	53	150	18×26×22	3000	195 249	228 323	5.08 9.81	25 45.6	5.08 9.81	25 45.6	6.2 8.79		7.3 9.7	22.5 22.5
	85	35.5	65	180	24×35×28	3000	304 367	355 464	10.2 16.9	51.2 81	10.2 16.9	51.2 81	12.8 16.7		13 16	35.2

[1] Length L shown in the table is the length with the contamination protection accessories, code UU or SS.
If other contamination protection accessories or lubricant equipment are installed, the total block length will increase. (See **A1-521** or **A1-543**)

[2] D_0 are the pilot holes for when a grease nipple is desired for a product with LaCS or a QZ Lubricator.
Pilot holes are not drilled through for models other than those stated above.
For grease nipple mount machining, contact THK.

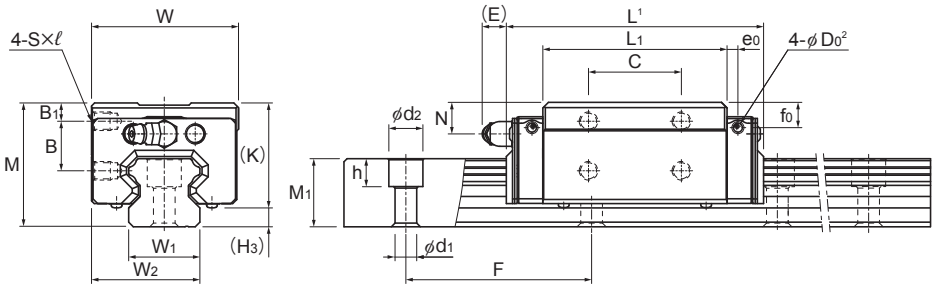
[3] The maximum length indicates the standard maximum length of an LM rail. (See **A1-208**.)

[4] Static permissible moment 1 block: the static permissible moment with one LM block
2 blocks: the static permissible moment with two LM blocks in close contact with each other

Notes: The M in the model number symbol indicates that the LM block, LM rail and balls are made of stainless steel.
The stainless steel provides excellent corrosion and environmental resistance.

Options⇒A1-507

Models HSR-YR, HSR-YRM, and HSR-XYR



Models HSR15 to 35YR/YRM

Model No.	Outer dimensions			LM block dimensions								Grease nipple	Pilot hole for side nipple			
	Height M	Width W	Length[1] L	B_1	B	C	S×ℓ	L_1	K	N	E		e_0	f_0	D_0^2	H_3
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	3.2	7.9	3	4.7
HSR 20YR HSR 20YRM	30	43.5	74	4	11.5	25	M5×6	50.8	26	5	12	B-M6F	3.1	3.4	3	4
HSR 25YR HSR 25YRM	40	47.5	83.1	6	16	30	M6×6	59.5	34.5	10	12	B-M6F	3.5	8	3	5.5
HSR 30YR HSR 30YRM	45	59.5	98	8	16	40	M6×9	70.4	38	10	12	B-M6F	5.2	9.2	5.2	7
HSR 35YR HSR 35YRM	55	69.5	109.4	8	23	43	M8×10	80.4	47.5	15	12	B-M6F	5.5	12.6	5.2	7.5
HSR 45XYR	70	85.5	138.9	10	30	55	M10×12	98	60	20	16	B-PT1/8	6.1	16.6	5.2	10
HSR 45YR	70	85.5	138.9	10	30	55	M10×14	98	60	20	16	B-PT1/8	—	—	—	10
HSR 55XYR	80	99.5	162.9	12	32	70	M12×13	118	67	21	16	B-PT1/8	5.6	17.7	5.2	13
HSR 55YR	80	99.5	162.9	12	32	70	M12×15	118	67	21	16	B-PT1/8	—	—	—	13
HSR 65XYR	90	124.5	190.5	12	35	85	M16×18	138.5	76	19	16	B-PT1/8	6.8	14.6	5.2	14

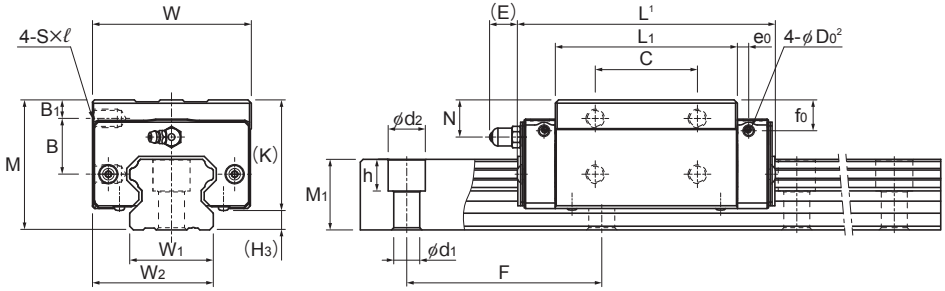
Model number coding

HSR25 YR 2 UU C0 M +1240L P T M -II

- HSR25: Model number
- YR: Type of LM block
- 2: No. of LM blocks used on the same rail
- UU: Contamination protection accessory symbol
- C0: Radial clearance symbol — Normal (No symbol), Light preload (C1), Medium preload (C0)
- M: Stainless steel LM block
- +1240L: LM rail length (in mm)
- P: Accuracy symbol — Normal grade (No Symbol)/High accuracy grade (H), Precision grade (P)/Super precision grade (SP), Ultra precision grade (UP)
- T: Symbol for LM rail jointed use
- M: Stainless steel LM rail
- -II: Symbol for No. of rails used on the same plane

Notes: 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).
Grease nipples are not installed when there is a QZ Lubricator. Contact THK if you want to use a grease nipple for a model with a QZ.
See **A1-548** for contamination protection accessories, see **A1-74** for radial clearance symbol. See **A1-79** for accuracy symbol. See **A1-13** for symbol for number of rails used on the same plane.

Download data from the THK Online Services website. https://www.thk.com/



Models HSR45 to 65YR/XYR

Unit: mm

	LM rail dimensions						Basic load rating		Static permissible moment kN·m [4]						Mass	
	Width		Height	Pitch		Length [3]	C	C_0	M_A		M_B		M_C		LM block	LM rail
	W_1 ±0.05	W_2	M_1	F	$d_1 \times d_2 \times h$	Max	kN	kN	1 block	2 blocks	1 block	2 blocks	1 block		kg	kg/m
	15	24	15	60	4.5×7.5×5.3	3000 (1240)	10.9	15.7	0.0945	0.527	0.0945	0.527	0.0998		0.18	1.5
	20	31.5	18	60	6×9.5×8.5	3000 (1480)	19.8	27.4	0.218	1.2	0.218	1.2	0.235		0.25	2.3
	23	35	22	60	7×11×9	3000 (2020)	27.6	36.4	0.324	1.8	0.324	1.8	0.366		0.54	3.3
	28	43.5	26	80	9×14×12	3000 (2520)	40.5	53.7	0.599	3.1	0.599	3.1	0.652		0.9	4.8
	34	51.5	29	80	9×14×12	3000 (2520)	53.9	70.2	0.895	4.51	0.895	4.51	1.05		1.5	6.6
	45	65	38	105	14×20×17	3090	82.2	101	1.5	8.37	1.5	8.37	1.94		2.6	11
	45	65	38	105	14×20×17	3090	82.2	101	1.5	8.37	1.5	8.37	1.94		2.6	11
	53	76	44	120	16×23×20	3060	121	146	2.6	14.1	2.6	14.1	3.43		4.3	15.1
	53	76	44	120	16×23×20	3060	121	146	2.6	14.1	2.6	14.1	3.43		4.3	15.1
	63	93	53	150	18×26×22	3000	195	228	5.08	25	5.08	25	6.2		7.3	22.5

[1] Length L shown in the table is the length with the contamination protection accessories, code UU or SS.
If other contamination protection accessories or lubricant equipment are installed, the total block length will increase. (See **A1-521** or **A1-543**)

[2] D_0 are the pilot holes for when a grease nipple is desired for a product with LaCS or a QZ Lubricator.
Pilot holes are not drilled through for models other than those stated above.
For grease nipple mount machining, contact THK.

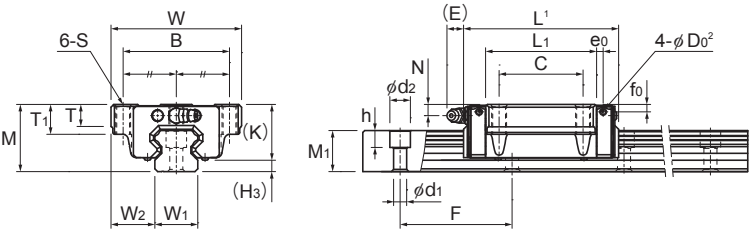
[3] The maximum length indicates the standard maximum length of an LM rail. (See **A1-208**.)

[4] Static permissible moment 1 block: the static permissible moment with one LM block
2 blocks: the static permissible moment with two LM blocks in close contact with each other

Notes: The M in the model number symbol indicates that the LM block, LM rail and balls are made of stainless steel.
The stainless steel provides excellent corrosion and environmental resistance.
See **A1-483** or **A1-485** for how to install models HSR-YR/YRM.

Options⇒A1-507

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



Models HSR20 to 35CA/HA/CAM/HAM

Model No.	Outer dimensions			LM block dimensions										Pilot hole for side nipple			
	Height	Width	Length[1]										Grease nipple				
	M	W	L	B	C	S	L_1	t	T	T_1	K	N	E	e_0	f_0	D_0^2	H_3
HSR 20CA HSR 20CAM	30	63	74	53	40	M6	50.8	—	9.5	10	26	5	12	B-M6F	3.1	3.4	3	4
HSR 20HA HSR 20HAM	30	63	90	53	40	M6	66.8	—	9.5	10	26	5	12	B-M6F	3.1	3.4	3	4
HSR 25CA HSR 25CAM	36	70	83.1	57	45	M8	59.5	—	11	16	30.5	6	12	B-M6F	3.5	4	3	5.5
HSR 25HA HSR 25HAM	36	70	102.2	57	45	M8	78.6	—	11	16	30.5	6	12	B-M6F	3.5	4	3	5.5
HSR 30CA HSR 30CAM	42	90	98	72	52	M10	70.4	—	9	18	35	7	12	B-M6F	5.2	6.2	5.2	7
HSR 30HA HSR 30HAM	42	90	120.6	72	52	M10	93	—	9	18	35	7	12	B-M6F	5.2	6.2	5.2	7
HSR 35CA HSR 35CAM	48	100	109.4	82	62	M10	80.4	—	12	21	40.5	8	12	B-M6F	5.5	5.6	5.2	7.5
HSR 35HA HSR 35HAM	48	100	134.8	82	62	M10	105.8	—	12	21	40.5	8	12	B-M6F	5.5	5.6	5.2	7.5
HSR 45CA HSR 45HA	60	120	138.9 170.7	100	80	M12	98 129.8	25	13	15	50	10	16	B-PT1/8	6.1	6.6	5.2	10
HSR 55CA HSR 55HA	70	140	162.9 201	116	95	M14	118 156.1	29	13.5	17	57	11	16	B-PT1/8	5.6	7.7	5.2	13
HSR 65XCA HSR 65XHA	90	170	190.5 250	142	110	M16	138.5 198	37	21.5	23	76	19	16	B-PT1/8	6.8	14.6	5.2	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

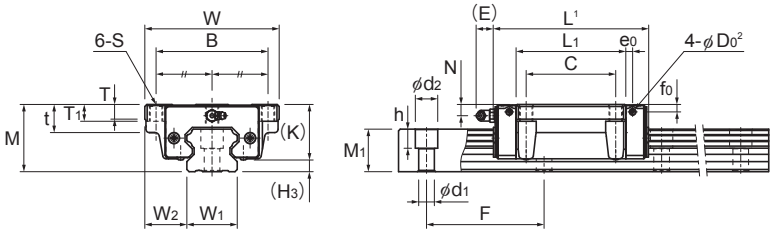
Model number coding

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

- HSR25: Model number
- HA: Type of LM block
- 2: No. of LM blocks used on the same rail
- QZ: With QZ Lubricator
- KKHH: Contamination protection accessory symbol
- C0: Radial clearance symbol — Normal (No symbol), Light preload (C1), Medium preload (C0)
- M: Stainless steel LM block
- +1300L: LM rail length (in mm)
- P: Accuracy symbol — Normal grade (No Symbol), High accuracy grade (H), Precision grade (P), Super precision grade (SP), Ultra precision grade (UP)
- T: Symbol for LM rail jointed use
- M: Stainless steel LM rail
- -II: Symbol for No. of rails used on the same plane

Notes: 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).
Grease nipples are not installed when there is a QZ Lubricator. Contact THK if you want to use a grease nipple for a model with a QZ.
See A1-548 for contamination protection accessories, see A1-74 for radial clearance symbol. See A1-79 for accuracy symbol. See A1-13 for symbol for number of rails used on the same plane.

Download data from the THK Online Services website. https://www.thk.com/



Models HSR45 to 85CA/HA/XCA/XHA

Unit: mm

	LM rail dimensions						Basic load rating		Static permissible moment kN·m [4]						Mass	
	Width		Height	Pitch		Length [3]	C	C_0	M_A		M_B		M_C		LM block	LM rail
	W_1 ±0.05	W_2	M_1	F	$d_1 \times d_2 \times h$	Max	kN	kN	1 block	2 blocks	1 block	2 blocks	1 block		kg	kg/m
	20	21.5	18	60	6×9.5×8.5	3000 (1480)	19.8	27.4	0.218	1.2	0.218	1.2	0.235		0.35	2.3
	20	21.5	18	60	6×9.5×8.5	3000 (1480)	23.9	35.8	0.363	1.87	0.363	1.87	0.307		0.47	2.3
	23	23.5	22	60	7×11×9	3000 (2020)	27.6	36.4	0.324	1.8	0.324	1.8	0.366		0.59	3.3
	23	23.5	22	60	7×11×9	3000 (2020)	35.2	51.6	0.627	3.04	0.627	3.04	0.518		0.75	3.3
	28	31	26	80	9×14×12	3000 (2520)	40.5	53.7	0.599	3.1	0.599	3.1	0.652		1.1	4.8
	28	31	26	80	9×14×12	3000 (2520)	48.9	70.2	0.995	4.89	0.995	4.89	0.852		1.3	4.8
	34	33	29	80	9×14×12	3000 (2520)	53.9	70.2	0.895	4.51	0.895	4.51	1.05		1.6	6.6
	34	33	29	80	9×14×12	3000 (2520)	65	91.7	1.49	7.13	1.49	7.13	1.37		2	6.6
	45	37.5	38	105	14×20×17	3090	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	11
	53	43.5	44	120	16×23×20	3060	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	15.1
	63	53.5	53	150	18×26×22	3000	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	22.5
	85	65	65	180	24×35×28	3000	304 367	355 464	10.2 16.9	51.2 81	10.2 16.9	51.2 81	12.8 16.7		17 23	35.2

[1] Length L shown in the table is the length with the contamination protection accessories, code UU or SS.
If other contamination protection accessories or lubricant equipment are installed, the total block length will increase. (See **A1-521** or **A1-543**)

[2] D_0 are the pilot holes for when a grease nipple is desired for a product with LaCS or a QZ Lubricator.
Pilot holes are not drilled through for models other than those stated above.
For grease nipple mount machining, contact THK.

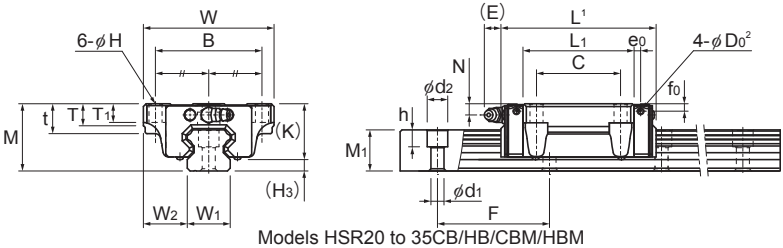
[3] The maximum length indicates the standard maximum length of an LM rail. (See **A1-208**.)

[4] Static permissible moment 1 block: the static permissible moment with one LM block
2 blocks: the static permissible moment with two LM blocks in close contact with each other

Notes: The M in the model number symbol indicates that the LM block, LM rail and balls are made of stainless steel.
The stainless steel provides excellent corrosion and environmental resistance.

Options⇒A1-507

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



Models HSR20 to 35CB/HB/CBM/HBM

Model No.	Outer dimensions			LM block dimensions										Grease nipple	Pilot hole for side nipple			
	Height M	Width W	Length[1] L	B	C	H	L_1	t	T	T_1	K	N	E		e_0	f_0	D_0^2	H_3
HSR 20CB HSR 20CBM	30	63	74	53	40	6	50.8	10	9.5	10	26	5	12	B-M6F	3.1	3.4	3	4
HSR 20HB HSR 20HBM	30	63	90	53	40	6	66.8	10	9.5	10	26	5	12	B-M6F	3.1	3.4	3	4
HSR 25CB HSR 25CBM	36	70	83.1	57	45	7	59.5	16	11	10	30.5	6	12	B-M6F	3.5	4	3	5.5
HSR 25HB HSR 25HBM	36	70	102.2	57	45	7	78.6	16	11	10	30.5	6	12	B-M6F	3.5	4	3	5.5
HSR 30CB HSR 30CBM	42	90	98	72	52	9	70.4	18	9	10	35	7	12	B-M6F	5.2	6.2	5.2	7
HSR 30HB HSR 30HBM	42	90	120.6	72	52	9	93	18	9	10	35	7	12	B-M6F	5.2	6.2	5.2	7
HSR 35CB HSR 35CBM	48	100	109.4	82	62	9	80.4	21	12	13	40.5	8	12	B-M6F	5.5	5.6	5.2	7.5
HSR 35HB HSR 35HBM	48	100	134.8	82	62	9	105.8	21	12	13	40.5	8	12	B-M6F	5.5	5.6	5.2	7.5
HSR 45CB HSR 45HB	60	120	138.9 170.7	100	80	11	98 129.8	25	13	15	50	10	16	B-PT1/8	6.1	6.6	5.2	10
HSR 55CB HSR 55HB	70	140	162.9 201	116	95	14	118 156.1	29	13.5	17	57	11	16	B-PT1/8	5.6	7.7	5.2	13
HSR 65XCB HSR 65XHB	90	170	190.5 250	142	110	16	138.5 198	37	21.5	23	76	19	16	B-PT1/8	6.8	14.6	5.2	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

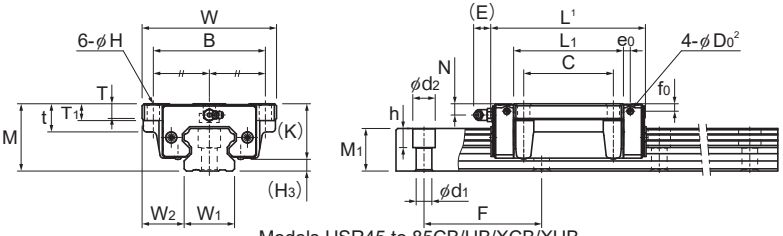
Model number coding

HSR35 CB 2 QZ ZZHH C0 M +1400L P T M -II

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

Notes: 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).
Grease nipples are not installed when there is a QZ Lubricator. Contact THK if you want to use a grease nipple for a model with a QZ.
See A1-548 for contamination protection accessories, see A1-74 for radial clearance symbol. See A1-79 for accuracy symbol. See A1-13 for symbol for number of rails used on the same plane.

Download data from the THK Online Services website. https://www.thk.com/



Models HSR45 to 85CB/HB/XCB/XHB

Unit: mm

	LM rail dimensions						Basic load rating		Static permissible moment kN·m [4]						Mass	
	Width		Height	Pitch		Length [3]	C	C0	MA		MB		MC		LM block	LM rail
	W1 ±0.05	W2	M1	F	d1×d2×h	Max	kN	kN	1 block	2 blocks	1 block	2 blocks	1 block		kg	kg/m
	20	21.5	18	60	6×9.5×8.5	3000 (1480)	19.8	27.4	0.218	1.2	0.218	1.2	0.235		0.35	2.3
	20	21.5	18	60	6×9.5×8.5	3000 (1480)	23.9	35.8	0.363	1.87	0.363	1.87	0.307		0.47	2.3
	23	23.5	22	60	7×11×9	3000 (2020)	27.6	36.4	0.324	1.8	0.324	1.8	0.366		0.59	3.3
	23	23.5	22	60	7×11×9	3000 (2020)	35.2	51.6	0.627	3.04	0.627	3.04	0.518		0.75	3.3
	28	31	26	80	9×14×12	3000 (2520)	40.5	53.7	0.599	3.1	0.599	3.1	0.652		1.1	4.8
	28	31	26	80	9×14×12	3000 (2520)	48.9	70.2	0.995	4.89	0.995	4.89	0.852		1.3	4.8
	34	33	29	80	9×14×12	3000 (2520)	53.9	70.2	0.895	4.51	0.895	4.51	1.05		1.6	6.6
	34	33	29	80	9×14×12	3000 (2520)	65	91.7	1.49	7.13	1.49	7.13	1.37		2	6.6
	45	37.5	38	105	14×20×17	3090	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	11
	53	43.5	44	120	16×23×20	3060	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	15.1
	63	53.5	53	150	18×26×22	3000	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	22.5
	85	65	65	180	24×35×28	3000	304 367	355 464	10.2 16.9	51.2 81	10.2 16.9	51.2 81	12.8 16.7		17 23	35.2

[1] Length L shown in the table is the length with the contamination protection accessories, code UU or SS.
If other contamination protection accessories or lubricant equipment are installed, the total block length will increase. (See **A1-521** or **A1-543**)

[2] D0 are the pilot holes for when a grease nipple is desired for a product with LaCS or a QZ Lubricator.
Pilot holes are not drilled through for models other than those stated above.
For grease nipple mount machining, contact THK.

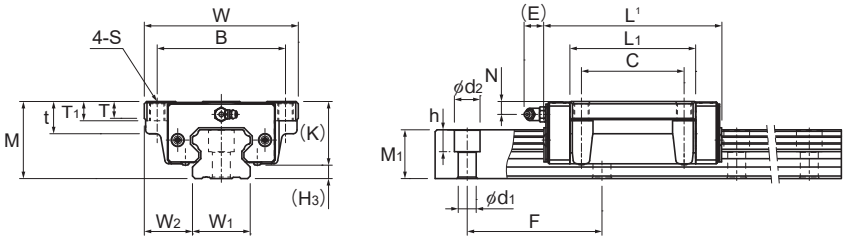
[3] The maximum length indicates the standard maximum length of an LM rail. (See **A1-208**.)

[4] Static permissible moment 1 block: the static permissible moment with one LM block
2 blocks: the static permissible moment with two LM blocks in close contact with each other

Notes: The M in the model number symbol indicates that the LM block, LM rail and balls are made of stainless steel.
The stainless steel provides excellent corrosion and environmental resistance.

Options⇒A1-507

Models HSR85A, HSR85LA, HSR85B, and HSR85LB



Models HSR85A/LA

Model No.	Outer dimensions			LM block dimensions												H3
	Height M	Width W	Length[1] L	B	C	H	S	L1	t	T	T1	K	N	E	Grease nipple	
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
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

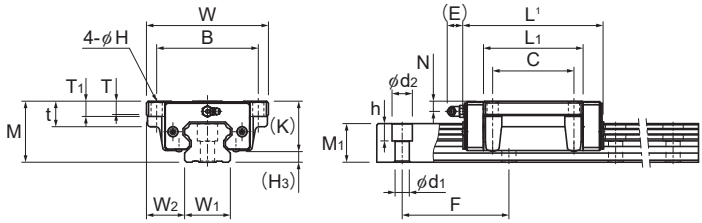
Model number coding

HSR85 A 2 UU C0 +2250L H T -II

- HSR85: Model number
- A: Type of LM block
- 2: No. of LM blocks used on the same rail
- UU: Contamination protection accessory symbol
- C0: Radial clearance symbol
  Normal (No symbol)
  Light preload (C1)
  Medium preload (C0)
- +2250L: LM rail length (in mm)
- H: Accuracy symbol
  Normal grade (No Symbol)/High accuracy grade (H)
  Precision grade (P)/Super precision grade (SP)
  Ultra precision grade (UP)
- T: Symbol for LM rail jointed use
- -II: Symbol for No. of rails used on the same plane

Notes: 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).
See **A1-548** for contamination protection accessories, see **A1-74** for radial clearance symbol. See **A1-79** for accuracy symbol. See **A1-13** for symbol for number of rails used on the same plane.

Download data from the THK Online Services website. https://www.thk.com/



Models HSR85B/LB

Unit: mm

	LM rail dimensions						Basic load rating		Static permissible moment kN·m [3]					Mass	
	Width		Height	Pitch		Length [2]	C	C_0	M_A		M_B		M_C	LM block	LM rail
	W_1 ±0.05	W_2	M_1	F	$d_1 \times d_2 \times h$	Max	kN	kN	1 block	2 blocks	1 block	2 blocks	1 block	kg	kg/m
	85	65	65	180	24×35×28	3000	304 367	355 464	10.2 16.9	51.2 81	10.2 16.9	51.2 81	12.8 16.7	17 23	35.2
	85	65	65	180	24×35×28	3000	304 367	355 464	10.2 16.9	51.2 81	10.2 16.9	51.2 81	12.8 16.7	17 23	35.2

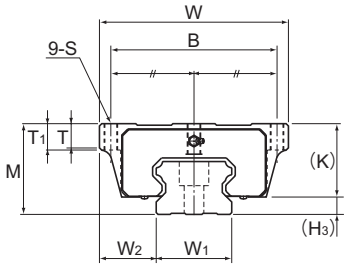
[1] Length L shown in the table is the length with the contamination protection accessories, code UU or SS.
If other contamination protection accessories or lubricant equipment are installed, the total block length will increase. (See **A1-521** or **A1-543**)

[2] The maximum length indicates the standard maximum length of an LM rail. (See **A1-208**.)

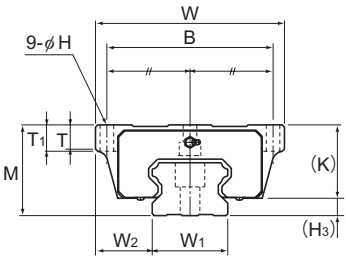
[3] Static permissible moment 1 block: the static permissible moment with one LM block
2 blocks: the static permissible moment with two LM blocks in close contact with each other

Options⇒A1-507

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



Models HSR100 to 150HA



Models HSR100 to 150HB

Model No.	Outer dimensions			LM block dimensions											H_3
	Height M	Width W	Length[1] L	B	C	H	S×ℓ	L_1	T	T_1	K	N	E	Grease nipple	
HSR 100HA	120	250	334	220	200	—	M18 through	261	32	35	100	23	16	B-PT1/4	20
HSR 100HB		250		220		20	—		32	35					
HSR 100HR		200		130		—	M18×27		33	—					
HSR 120HA	130	290	365	250	210	—	M20 through	287	34	38	110	26.5	16	B-PT1/4	20
HSR 120HB		290		250		22	—		34	38					
HSR 120HR		220		146		—	M20×30		33.7	—					
HSR 150HA	145	350	396	300	230	—	M24 through	314	36	40	123	29	16	B-PT1/4	22
HSR 150HB		350		300		26	—		36	40					
HSR 150HR		266		180		—	M24×35		33	—					

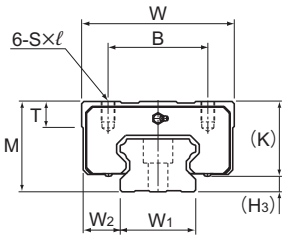
Model number coding

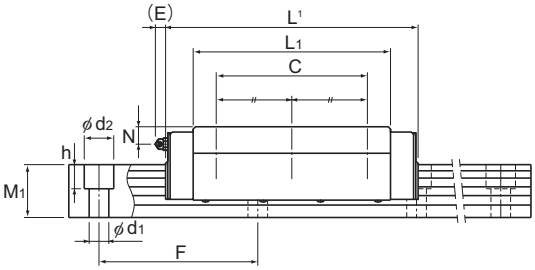
HSR150 HR 2 UU C1 +2350L H T -II

- HSR150: Model number
- HR: Type of LM block
- 2: No. of LM blocks used on the same rail
- UU: Contamination protection accessory symbol
- C1: Radial clearance symbol — Normal (No symbol); Light preload (C1); Medium preload (C0)
- +2350L: LM rail length (in mm)
- H: Accuracy symbol — Normal grade (No Symbol)/High accuracy grade (H); Precision grade (P)/Super precision grade (SP); Ultra precision grade (UP)
- T: Symbol for LM rail jointed use
- -II: Symbol for No. of rails used on the same plane

Notes: 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).
See **A1-548** for contamination protection accessories, see **A1-74** for radial clearance symbol. See **A1-79** for accuracy symbol. See **A1-13** for symbol for number of rails used on the same plane.

Download data from the THK Online Services website. https://www.thk.com/





Models HSR100 to 150HR

Unit: mm

	LM rail dimensions						Basic load rating		Static permissible moment kN·m [3]					Mass	
	Width		Height	Pitch		Length [2]	C	C_0	M_A		M_B		M_C	LM block	LM rail
	W_1 ±0.05	W_2	M_1	F	$d_1 \times d_2 \times h$	Max	kN	kN	1 block	2 blocks	1 block	2 blocks	1 block	kg	kg/m
	100	75 75 50	70	210	26×39×32	3000	441	540	20.7	105	20.7	105	24.1	32	49
	114	88 88 53	75	230	33×48×43	3000	540	653	27.5	138	27.5	138	33.3	43	61
	144	103 103 61	85	250	39×58×46	3000	518	728	33.6	167	33.6	167	45.2	62	87

[1] Length L shown in the table is the length with the contamination protection accessories, code UU or SS.
If other contamination protection accessories or lubricant equipment are installed, the total block length will increase. (See **A1-521** or **A1-543**)

[2] The maximum length indicates the standard maximum length of an LM rail. (See **A1-208**.)

[3] Static permissible moment 1 block: the static permissible moment with one LM block
2 blocks: the static permissible moment with two LM blocks in close contact with each other

Options⇒A1-507

Standard Lengths and Maximum Lengths of LM Rails

Table 1 shows the standard lengths and the maximum lengths of model HSR variations. If the maximum length of the desired LM rail exceeds these values, jointed rails will be used. Contact THK for details.
For special rail lengths, it is recommended to use a value corresponding to the G and g dimensions from the table. As the G and g dimensions increase, this portion becomes less stable, and the accuracy performance is severely impacted.

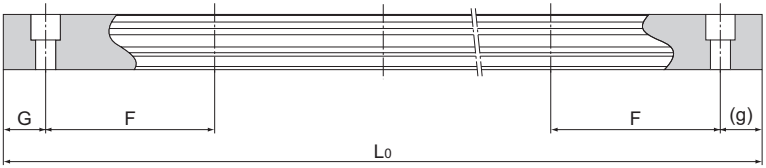


Table 1: Standard Lengths and Maximum Lengths of LM Rails for Model HSR

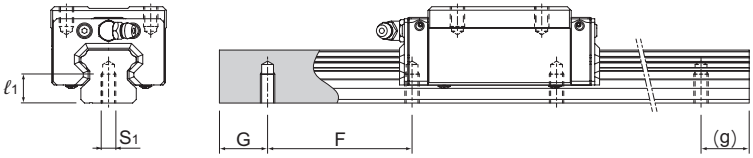
Unit: mm

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 lengths (L_o)	35 55 75 95 115 135 155 175 195 215 235 255 275	45 70 95 120 145 170 195 220 245 270 295 320 345 370 395 420 445 470	70 110 150 190 230 270 310 350 390 430 470 510 550 590 630 670	160 220 280 340 400 460 520 580 640 700 760 820 940 1000 1060 1120 1180 1240 1360 1480 1600	160 220 280 340 400 460 520 580 640 700 760 820 940 1000 1060 1120 1180 1240 1360 1480 1600 1720 1840 1960 2080 2200	220 280 340 400 460 520 580 640 700 760 820 940 1000 1060 1120 1180 1240 1300 1360 1420 1480 1540 1600 1720 1840 1960 2080 2200 2320 2440	280 360 440 520 600 680 760 840 920 1000 1080 1160 1240 1320 1400 1480 1560 1640 1720 1800 1880 1960 2040 2200 2360 2520 2680 2840 3000	280 360 440 520 600 680 760 840 920 1000 1080 1160 1240 1320 1400 1480 1560 1640 1720 1800 1880 1960 2040 2200 2360 2520 2680 2840 3000	570 675 780 885 990 1095 1200 1305 1410 1515 1620 1725 1830 1935 2040 2145 2250 2355 2460 2565 2670 2775 2880 2985 3090	780 900 1020 1140 1260 1380 1500 1620 1740 1860 1980 2100 2220 2340 2460 2580 2700 2820 2940 3060	1270 1570 2020 2620	1530 1890 2250 2610	1340 1760 2180 2600	1470 1930 2390	1600 2100 2350
Standard pitch F	20	25	40	60	60	60	80	80	105	120	150	180	210	230	250
G, g	7.5	10	15	20	20	20	20	20	22.5	30	35	45	40	45	50
Max length	(1000)	(1000)	(1480)	3000 (1240)	3000 (1480)	3000 (2020)	3000 (2520)	3000 (2520)	3090	3060	3000	3000	3000	3000	3000

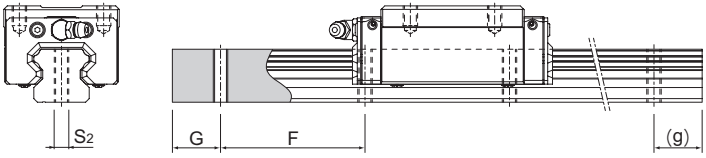
Notes: The maximum length varies with accuracy grades. Contact THK for details.
If jointed rails are not allowed and a greater length than the maximum values above is required, contact THK.
The figures in the parentheses indicate the maximum lengths of stainless steel made models.

Tapped-Hole Type LM Rail

Model HSR 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.



K Type



W Type

(1) A tapped-hole LM rail type is available only for Precision grade or lower grades.
(2) A tapped-hole LM rail type is also available for models HSR-YR and HSR-XYR.
(3) For standard pitches of the taps and the G and g dimensions, see Table 1 on A1-208.

Table 2: Dimensions of the LM Rail Tap

Unit: mm

Model No.	K Type		W Type
	S_1	Effective tap depth ℓ_1	S_2
HSR 8X	—	—	M2 through
HSR 10X	—	—	M3 through
HSR 12X	—	—	M3 through
HSR 15	M5	8	M5 through
HSR 20	M6	10	M6 through
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

HSR30R2UU+1000LH K

Symbol for
tapped-hole LM rail (K/W)

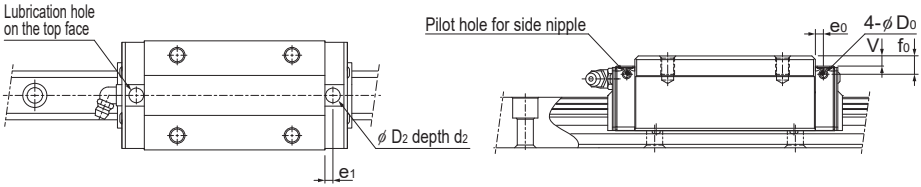
Preventing the LM Block from Falling off of the LM Rail

In miniature Model HSR, the balls fall out if the LM block comes off the LM rail.
For this reason, LM Guide assemblies are delivered with a part which prevents the LM block from coming off the rail. If you remove this part when using the product, please take precautions to avoid overrunning the blocks off of the rail.

Lubrication Hole

Lubrication Hole for Model HSR

The Model HSR LM block can be lubricated from the side or top surface. In order to prevent foreign material from entering the LM block, lubrication holes are not through holes in blocks with regular specifications. Contact THK if these will be used.
In addition, contact THK if you will use an upper surface greasing hole with a Model HSR-R/XR/LR/XLR/YR/XYR, as a lubrication adapter is required.
The lubricant may not reach the raceway if the LM Guide is not installed in a horizontal orientation. Be sure to let THK know the mounting orientation and the position where the grease nipple or plumbing fixture will be attached to each LM block.
See **A1-12** for the mounting orientation and **A24-2** for lubrication.



Notes: Upper surface lubrication is oil lubrication only. Contact THK if you are considering using the lubrication hole on the top face for grease lubrication.

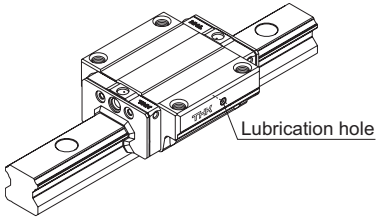
Unit: mm

Model No.		Pilot hole for side nipple			Applicable nipple	Lubrication hole on the top face				
		e_0	f_0	D_0		D_2	(O-ring)	V	e_1	d_2
HSR	15C 15LC 15CA 15HA 15CB 15HB	3.2	3.9	3	PB107	5.1	SS4	0.3	3.2	0.65
	15R 15LR 15YR	3.2	7.9	3				4.3		
	20C 20LC 20CA 20HA 20CB 20HB	3.1	3.4	3		6	SS5	0.2	4.3	0.6
	20R 20LR 20YR	3.1	3.4	3				0.2		

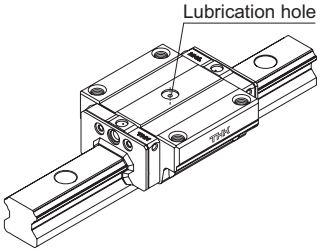
Model No.		Pilot hole for side nipple			Applicable nipple	Lubrication hole on the top face				
		e_0	f_0	D_0		D_2	(O-ring)	V	e_1	d_2
HSR	25C 25LC 25CA 25HA 25CB 25HB	3.5	4	3	PB107	6.2	P3	0.4	3.9	1
	25R 25LR 25YR	3.5	8	3				4.4		
	30C 30LC 30CA 30HA 30CB 30HB	5.2	6.2	5.2	M6F	6.2	P3	0.4	5.2	1
	30R 30LR 30YR	5.2	9.2	5.2				3.4		
	35C 35LC 35CA 35HA 35CB 35HB	5.5	5.6	5.2		6.2	P3	0.4	5.5	1
	35R 35LR 35YR	5.5	12.6	5.2				7.4		
	45C 45LC 45CA 45HA 45CB 45HB	6.1	6.6	5.2		10.2	P7	0.4	8.2	1
	45R 45LR 45XYR	6.1	16.6	5.2				10.4		
	55C 55LC 55CA 55HA 55CB 55HB	5.6	7.7	5.2		10.2	P7	0.4	9.1	1
	55R 55LR 55XYR	5.6	17.7	5.2				10.4		
	65XC 65XLC 65XCA 65XHA 65XCB 65XHB	6.8	14.6	5.2		10.2	P7	5.9	9.5	1
	65XR 65XLR 65XYR	6.8	14.6	5.2				5.9		

Semi-Standard Lubrication Hole for Model HSR

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



Type with a Lubrication Hole Drilled on the Side Surface



Type with a Lubrication Hole Drilled on the Top Face