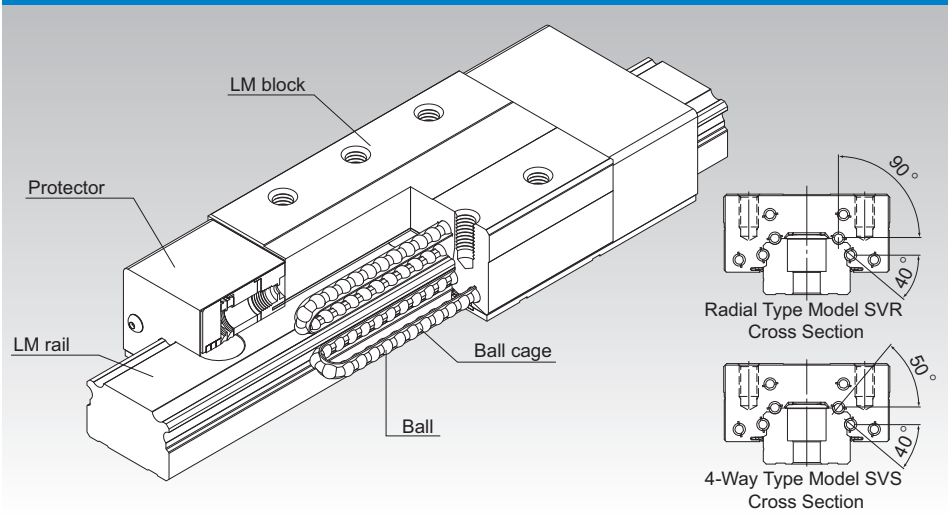
SVR/SVS

Super-Heavy Load Caged Ball LM Guide Model SVR/SVS for Machine Tools



Note: For the ball cage, see A1-90.

Structure and Features

Balls roll in four rows of raceways precision-ground on the LM rail and LM block and are circulated by ball cages and end plates incorporated in the LM block.
Models SVR and SVS have especially high rigidity and load carrying capacity among the Caged Ball LM Guide series. In addition, these models achieve stable LM Guide performance and high reliability by strengthening contamination protection functionality with a broad range of options that take into account the service environments of machine tools, etc.

Note: Models SVR and SVS have extremely high rigidity, which makes it easier for misalignment in the mounting surface or mounting error to negatively impact the product's service life and hinder its performance. If affected by these factors, their service life may be shortened or their motion may be disrupted. When considering using these models, contact THK.

Super-Heavy Load and Increased Damping

The raceways of models SVR and SVS adopt a deep circular-arc groove with a curvature approximate to the ball diameter. Since the ball contact area increases as the applied load increases, a large load carrying capacity is achieved and damping is also improved.

Increased Contamination Protection Performance

The protector's improved ability to remove foreign material strengthens its contamination protection performance. In addition, use of a side scraper reduces the entrance of foreign material into the LM block, thus maintaining the LM Guide performance for a long period even in adverse environments.

High Rigidity

Models SVR and SVS achieve the highest rigidity among the Caged Ball LM Guide series.
Both the radial type SVR and the 4-way type SVS are available in the same sizes. Depending on the intended use, you can select either type.

Wide Array of Options

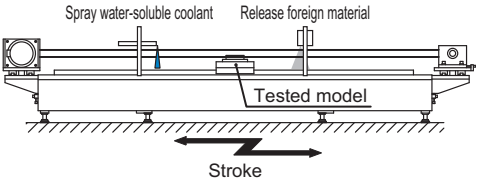
Various options are available, including an end seal, inner seal, side seal, Laminated Contact Scraper LaCS, protector, side scraper, and GC cap, to cope with diversified service environments.

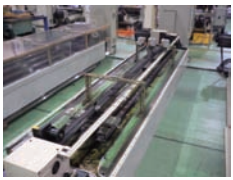
Contamination Protection Performance Evaluation for Models SVR and SVS

Models SVR and SVS maintain their performance under severe conditions with fine particles or liquid contamination.

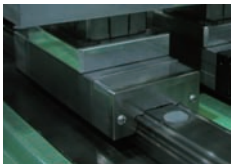
Test conditions

Item		Description
Tested model		SVS45LR1TTHHYYC1+2880LP×2set
Maximum speed		200 m/min
Stroke		2500 mm
Grease used		THK AFB-LF Grease
Environmental conditions	Foreign material	Type: Metal powder (atomized powder) (particle diameter: 125 μm or less)
		Amount: 0.4 g/20 min
	Coolant	Water-soluble coolant
		Amount: 0.2 cc/10 s



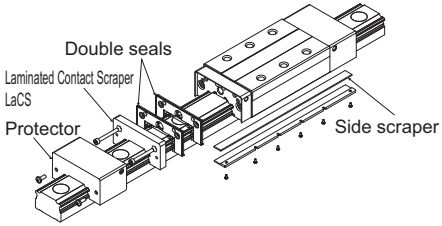


Test equipment



Tested model (before use)

Models SVR and SVS with accessories (TTHHYY option)

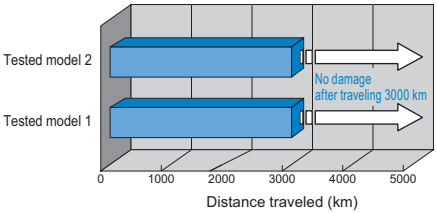


TTHHYY Option:

- Double seals
- Laminated Contact Scraper LaCS
- Protector
- Side scraper

Test result

After traveling 3000 km



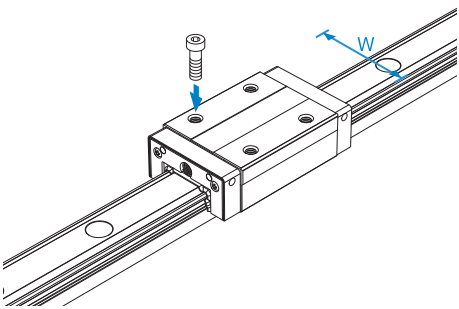
Models SVR and SVS maintain their performance even after traveling 3000 km under severe conditions with exposure to coolant and contamination.

Types and Features

Models SVR-R/SVS-R

Dimensional Table⇒A1-126/A1-128

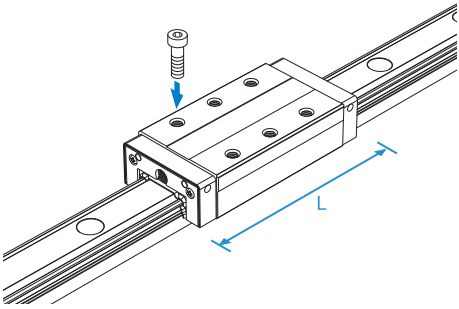
With this type, the LM block has a smaller width (W) and tapped holes.
It is used in places where the space for table width is limited.



Models SVR-LR/SVS-LR

Dimensional Table⇒A1-126/A1-128

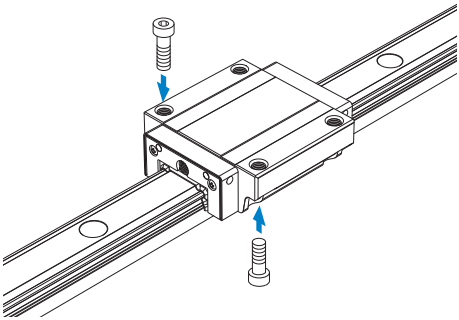
The LM block has the same cross-sectional shape as models SVR and SVS-R, but has a longer overall LM block length (L) and a greater load rating.



Models SVR-C/SVS-C

Dimensional Table⇒A1-130/A1-132

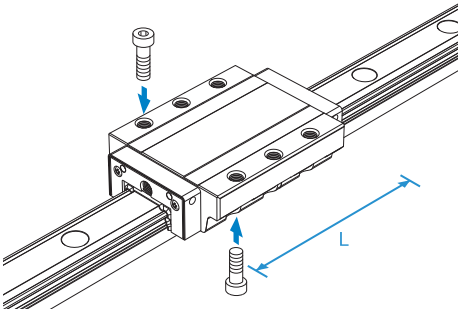
The flange of the LM block has tapped holes.
It can be mounted from the top or the bottom.
It can also be used in places where the table cannot have through holes for mounting bolts.



Models SVR-LC/SVS-LC

Dimensional Table⇒A1-130/A1-132

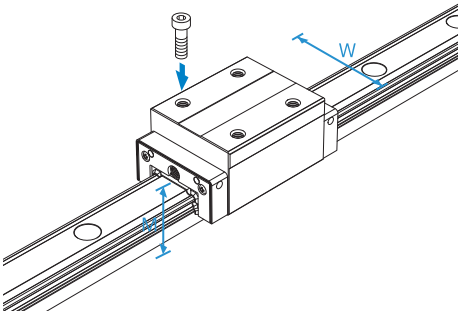
The LM block has the same cross-sectional shape as models SVR and SVS-C, but has a longer overall LM block length (L) and a greater load rating.



Models SVR-RH/SVS-RH

Dimensional Table⇒A1-134

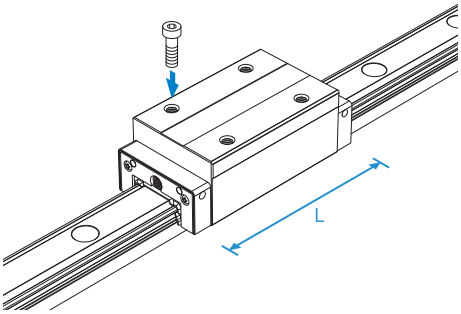
The dimensions are almost the same as those of LM Guide models SHS and HSR, and the LM block has tapped holes. They are used in places where the space for table width is limited.



Models SVR-LRH/SVS-LRH

Dimensional Table⇒A1-134

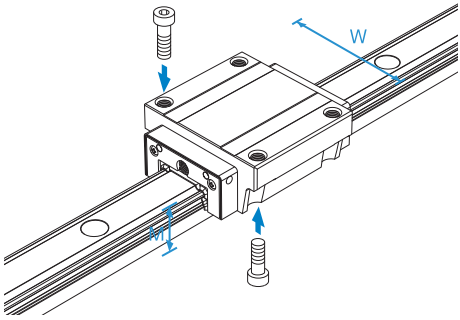
The LM block has the same cross-sectional shape as models SVR and SVS-RH, but has a longer overall LM block length (L) and a greater load rating.



Models SVR-CH/SVS-CH

Dimensional Table⇒A1-136

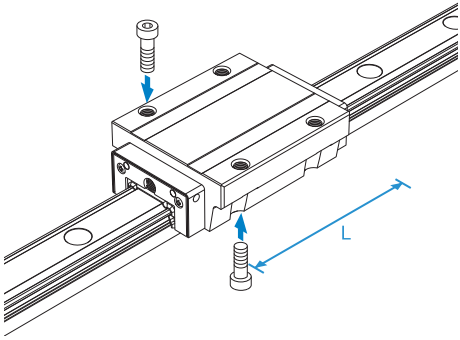
The dimensions are similar to those of LM Guide models SHS and HSR, and the flange of the LM block has tapped holes. It can be mounted from the top or the bottom. It is used in places where the table cannot have through holes for mounting bolts.



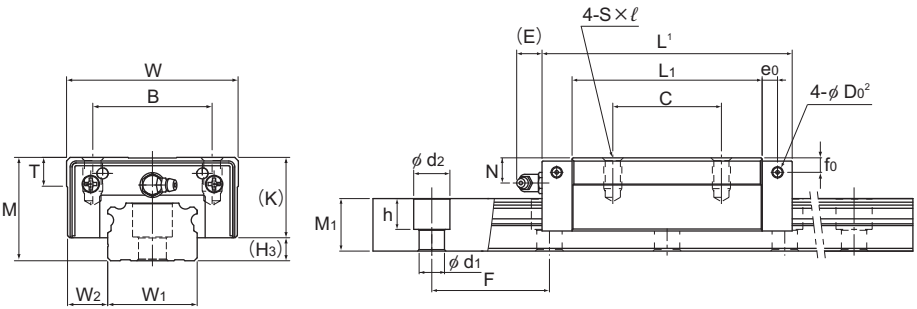
Models SVR-LCH/SVS-LCH

Dimensional Table⇒A1-136

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



Models SVR-R and SVR-LR



SVR-R

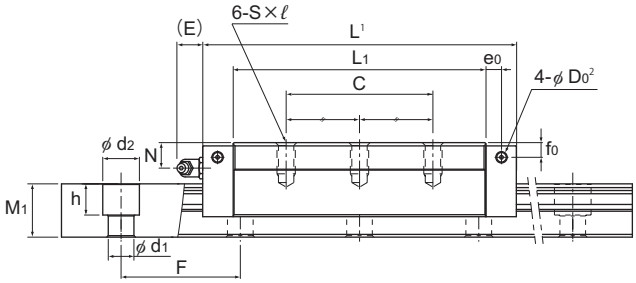
Model No.	Outer dimensions			LM block dimensions									Pilot hole for side nipple			
	Height M	Width W	Length[1] L	B	C	S×ℓ	L1	T	K	N	E	Grease nipple	e0	f0	D0²	H3
SVR 25R SVR 25LR	31	50	82.8 102	32	35 50	M6×8	61.4 80.6	9.7	25.5	7.8	12	B-M6F	4.5	5.1	3.9	5.5
SVR 30R SVR 30LR	38	60	98 120.5	40	40 60	M8×10	72.1 94.6	9.7	31	10.3	12	B-M6F	6.5	7	3.9	7
SVR 35R SVR 35LR	44	70	109.5 135	50	50 72	M8×12	79 104.5	11.7	35	12.1	12	B-M6F	6	8	5.2	9
SVR 45R SVR 45LR	52	86	138.2 171	60	60 80	M10×17	105 137.8	14.7	40.4	13.9	16	B-PT1/8	8.5	8	5.2	11.6
SVR 55R SVR 55LR	63	100	163.3 200.5	65	75 95	M12×18	123.6 160.8	17.7	49	16.6	16	B-PT1/8	10	10	5.2	14
SVR 65R SVR 65LR	75	126	186 246	76	70 110	M16×20	143.6 203.6	21.6	60	19	16	B-PT1/8	8.7	15	8.2	15

Model number coding

SVR45 LR 2 QZ TTHH C0 +1200L P T -II

- SVR45: Model No.
- LR: Type of LM block
- 2: No. of LM blocks used on the same rail
- QZ: With QZ Lubricator
- TTHH: Contamination protection accessory symbol
- C0: Radial clearance symbol — Normal (No symbol), Light preload (C1), Medium preload (C0)
- +1200L: LM rail length (in mm)
- P: Symbol for LM rail jointed use
- T: Accuracy symbol — Normal grade (No Symbol)/High accuracy grade (H), Precision grade (P)/Super precision grade (SP), Ultra precision grade (UP)
- -II: Symbol for No. of rails used on the same plane

Notes: This model number indicates that an LM block and an LM rail constitute one set (i.e., the required number of sets when 2 rails are used in parallel is 2).
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 **A1-547** for contamination protection accessories, see **A1-73** for radial clearance symbol. See **A1-79** for accuracy symbol. See **A1-13** for symbol for number of rails used on the same plane.



SVR-LR

Unit: mm

	LM rail dimensions						Basic load rating[4]		Static permissible moment kN·m [5]					Mass	
	Width		Height	Pitch		Length[3]	C	C_0	M_A		M_B		M_C	LM block	LM rail
	W_1 0 -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
	25	12.5	17	40	6×9.5×8.5	3000	48.2 57	68.1 86.3	0.602 0.944	3.02 4.67	0.365 0.57	1.83 2.81	0.71 0.9	0.4 0.5	2.9
	28	16	21	80	7×11×9	3000	67.9 84	91.6 124	0.907 1.64	4.85 7.92	0.552 0.991	2.94 4.76	1.08 1.47	0.7 0.9	4.2
	34	18	24.5	80	9×14×12	3000	89.6 112	116 160	1.26 2.35	6.91 11.5	0.769 1.42	4.2 6.91	1.64 2.26	1 1.3	6.0
	45	20.5	29	105	14×20×17	3090	138 161	186 233	2.76 4.52	13.7 22.1	1.67 2.74	8.3 13.4	3.5 4.6	1.8 2.3	9.5
	53	23.5	36.5	120	16×23×20	3060	177 214	235 309	3.99 6.8	20.6 32.7	2.42 4.1	12.4 19.7	5.07 6.67	3.3 4.3	14
	63	31.5	43	150	18×26×22	3000	271 339	352 484	7.26 13.5	34.9 62.6	4.4 8.14	21.1 37.6	9 12.4	6.0 8.5	19.6

[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 **A1-138**.)

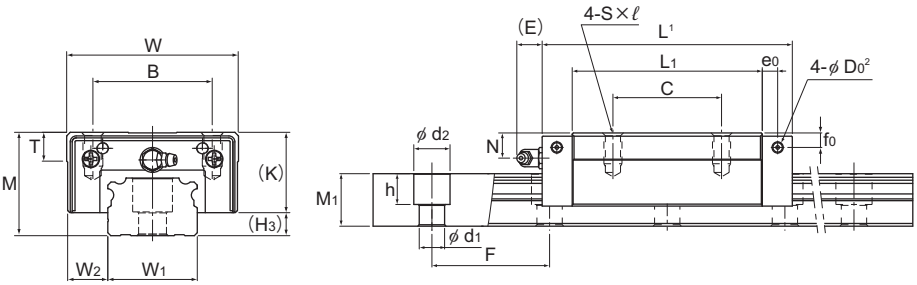
[4] The basic load rating is for a load in the radial direction.
Use **A1-61** on Table 7 to calculate the load rating for loads in the reverse-radial direction or lateral direction.

[5] 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

Note: For oil lubrication, be certain to let THK know the mounting orientation and where the LM block piping joint should be attached.
(Mounting orientation: see **A1-12**, Lubricant: see **A24-2**)

Options⇒A1-507

Models SVS-R and SVS-LR



SVS-R

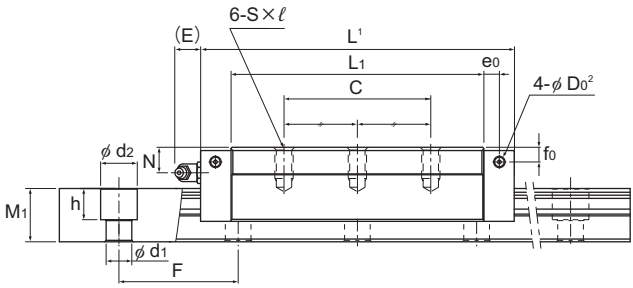
Model No.	Outer dimensions			LM block dimensions									Pilot hole for side nipple			
	Height	Width	Length[1]									Grease nipple				
	M	W	L	B	C	S×ℓ	L_1	T	K	N	E		e_0	f_0	D_0^2	H_3
SVS 25R SVS 25LR	31	50	82.8 102	32	35 50	M6×8	61.4 80.6	9.7	25.5	7.8	12	B-M6F	4.5	5.1	3.9	5.5
SVS 30R SVS 30LR	38	60	98 120.5	40	40 60	M8×10	72.1 94.6	9.7	31	10.3	12	B-M6F	6.5	7	3.9	7
SVS 35R SVS 35LR	44	70	109.5 135	50	50 72	M8×12	79 104.5	11.7	35	12.1	12	B-M6F	6	8	5.2	9
SVS 45R SVS 45LR	52	86	138.2 171	60	60 80	M10×17	105 137.8	14.7	40.4	13.9	16	B-PT1/8	8.5	8	5.2	11.6
SVS 55R SVS 55LR	63	100	163.3 200.5	65	75 95	M12×18	123.6 160.8	17.7	49	16.6	16	B-PT1/8	10	10	5.2	14
SVS 65R SVS 65LR	75	126	186 246	76	70 110	M16×20	143.6 203.6	21.6	60	19	16	B-PT1/8	8.7	15	8.2	15

Model number coding

SVS45 LR 2 QZ TTHH C0 +1200L P T -II

- SVS45: Model No.
- LR: Type of LM block
- 2: No. of LM blocks used on the same rail
- QZ: With QZ Lubricator
- TTHH: Contamination protection accessory symbol
- C0: Radial clearance symbol — Normal (No symbol), Light preload (C1), Medium preload (C0)
- +1200L: 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
- -II: Symbol for No. of rails used on the same plane

Notes: This model number indicates that an LM block and an LM rail constitute one set (i.e., the required number of sets when 2 rails are used in parallel is 2).
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 **A1-547** for contamination protection accessories, see **A1-73** for radial clearance symbol. See **A1-79** for accuracy symbol. See **A1-13** for symbol for number of rails used on the same plane.



SVS-LR

Unit: mm

LM rail dimensions						Basic load rating[4]		Static permissible moment kN·m [5]						Mass	
Width		Height	Pitch		Length[3]	C	C_0	M_A		M_B		M_C		LM block	LM rail
W_1 0 -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
25	12.5	17	40	6×9.5×8.5	3000	37 43.7	52.2 66.1	0.479 0.75	2.41 3.71	0.443 0.693	2.23 3.43	0.525 0.665		0.4 0.5	2.9
28	16	21	80	7×11×9	3000	52 64.4	70.1 95.2	0.722 1.31	3.86 6.3	0.667 1.21	3.58 5.83	0.798 1.08		0.7 0.9	4.2
34	18	24.5	80	9×14×12	3000	68.6 86.1	88.6 123	1 1.88	5.49 9.15	0.927 1.73	5.09 8.46	1.2 1.67		1 1.3	6.0
45	20.5	29	105	14×20×17	3090	105 123	142 178	2.19 3.58	10.9 17.5	2.02 3.31	10.1 16.2	2.6 3.44		1.8 2.3	9.5
53	23.5	36.5	120	16×23×20	3060	136 164	180 237	3.17 5.4	16.4 26	2.93 4.99	15.1 24	3.76 4.96		3.3 4.3	14
63	31.5	43	150	18×26×22	3000	208 260	269 370	5.76 10.7	27.7 49.6	5.33 9.88	25.6 45.8	6.66 9.16		6.0 8.5	19.6

[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 **A1-138**.)

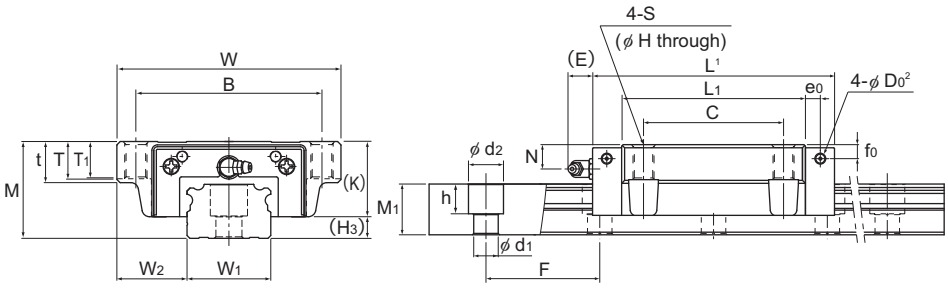
[4] The basic load rating is for a load in the radial direction.
Use **A1-61** on Table 7 to calculate the load rating for loads in the reverse-radial direction or lateral direction.

[5] 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

Note: For oil lubrication, be certain to let THK know the mounting orientation and where the LM block piping joint should be attached.
(Mounting orientation: see **A1-12**, Lubricant: see **A24-2**)

Options⇒A1-507

Models SVR-C and SVR-LC



SVR-C

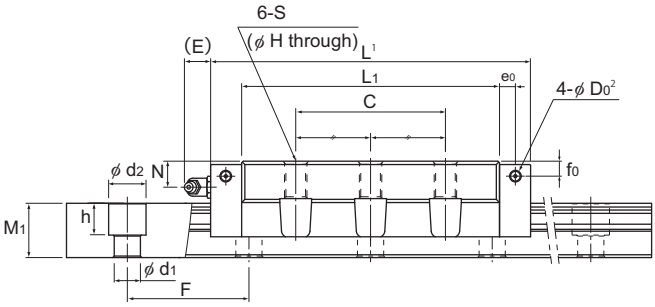
Model No.	Outer dimensions			LM block dimensions												Pilot hole for side nipple			
	Height	Width	Length¹												Grease nipple				
	M	W	L	B	C	S	H	L_1	t	T	T_1	K	N	E		e_0	f_0	D_0^2	H_3
SVR 25C SVR 25LC	31	72	82.8 102	59	45	M8	6.8	61.4 80.6	16	14.8	12	25.5	7.8	12	B-M6F	4.5	5.1	3.9	5.5
SVR 30C SVR 30LC	38	90	98 120.5	72	52	M10	8.5	72.1 94.6	18.1	16.9	14	31	10.3	12	B-M6F	6.5	7	3.9	7
SVR 35C SVR 35LC	44	100	109.5 135	82	62	M10	8.5	79 104.5	20.1	18.9	16	35	12.1	12	B-M6F	6	8	5.2	9
SVR 45C SVR 45LC	52	120	138.2 171	100	80	M12	10.5	105 137.8	22.1	20.6	20	40.4	13.9	16	B-PT1/8	8.5	8	5.2	11.6
SVR 55C SVR 55LC	63	140	163.3 200.5	116	95	M14	12.5	123.6 160.8	24	22.5	22	49	16.6	16	B-PT1/8	10	10	5.2	14
SVR 65C SVR 65LC	75	170	186 246	142	110	M16	14.5	143.6 203.6	28	26	25	60	19	16	B-PT1/8	8.7	15	8.2	15

Model number coding

SVR45 LC 2 QZ TTHH C0 +1200L P T -II

- SVR45: Model No.
- LC: Type of LM block
- 2: No. of LM blocks used on the same rail
- QZ: With QZ Lubricator
- TTHH: Contamination protection accessory symbol
- C0: Radial clearance symbol (Normal (No symbol), Light preload (C1), Medium preload (C0))
- +1200L: 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
- -II: Symbol for No. of rails used on the same plane

Notes: This model number indicates that an LM block and an LM rail constitute one set (i.e., the required number of sets when 2 rails are used in parallel is 2).
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 A1-547 for contamination protection accessories, see A1-73 for radial clearance symbol. See A1-79 for accuracy symbol. See A1-13 for symbol for number of rails used on the same plane.



SVR-LC

Unit: mm

	LM rail dimensions						Basic load rating[4]		Static permissible moment kN·m [5]						Mass	
	Width		Height	Pitch		Length[3]	C	C_0	M_A		M_B		M_C		LM block	LM rail
	W_1 0 -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
	25	23.5	17	40	6×9.5×8.5	3000	48.2 57	68.1 86.3	0.602 0.944	3.02 4.67	0.365 0.57	1.83 2.81	0.71 0.9		0.6 0.8	2.9
	28	31	21	80	7×11×9	3000	67.9 84	91.6 124	0.907 1.64	4.85 7.92	0.552 0.991	2.94 4.76	1.08 1.47		1.1 1.5	4.2
	34	33	24.5	80	9×14×12	3000	89.6 112	116 160	1.26 2.35	6.91 11.5	0.769 1.42	4.2 6.91	1.64 2.26		1.6 2	6.0
	45	37.5	29	105	14×20×17	3090	138 161	186 233	2.76 4.52	13.7 22.1	1.67 2.74	8.3 13.4	3.5 4.6		2.7 3.6	9.5
	53	43.5	36.5	120	16×23×20	3060	177 214	235 309	3.99 6.8	20.6 32.7	2.42 4.1	12.4 19.7	5.07 6.67		4.5 5.9	14
	63	53.5	43	150	18×26×22	3000	271 339	352 484	7.26 13.5	34.9 62.6	4.4 8.14	21.1 37.6	9 12.4		7.8 11.0	19.6

[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.

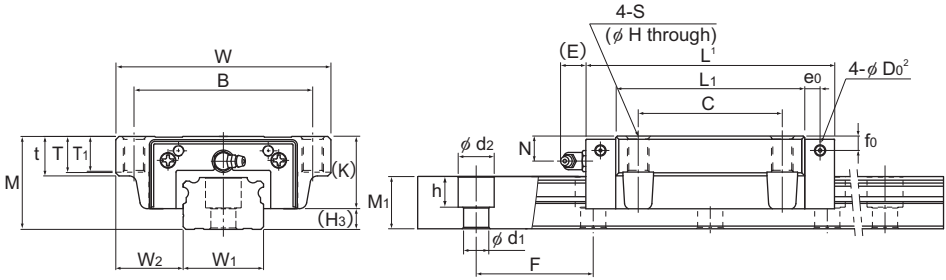
[3] The maximum length indicates the standard maximum length of an LM rail. (See **A1-138**.)

[4] The basic load rating is for a load in the radial direction.
Use **A1-61** on Table 7 to calculate the load rating for loads in the reverse-radial direction or lateral direction.

[5] 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

Note: For oil lubrication, be certain to let THK know the mounting orientation and where the LM block piping joint should be attached.
(Mounting orientation: see **A1-12**, Lubricant: see **A24-2**)

Models SVS-C and SVS-LC



SVS-C

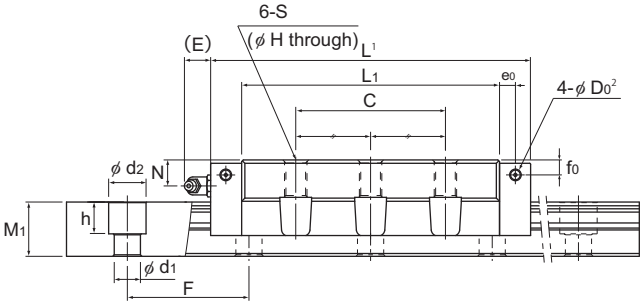
Model No.	Outer dimensions			LM block dimensions												Pilot hole for side nipple			
	Height	Width	Length[1]												Grease nipple				
	M	W	L	B	C	S	H	L_1	t	T	T_1	K	N	E		e_0	f_0	D_0^2	H_3
SVS 25C SVS 25LC	31	72	82.8 102	59	45	M8	6.8	61.4 80.6	16	14.8	12	25.5	7.8	12	B-M6F	4.5	5.1	3.9	5.5
SVS 30C SVS 30LC	38	90	98 120.5	72	52	M10	8.5	72.1 94.6	18.1	16.9	14	31	10.3	12	B-M6F	6.5	7	3.9	7
SVS 35C SVS 35LC	44	100	109.5 135	82	62	M10	8.5	79 104.5	20.1	18.9	16	35	12.1	12	B-M6F	6	8	5.2	9
SVS 45C SVS 45LC	52	120	138.2 171	100	80	M12	10.5	105 137.8	22.1	20.6	20	40.4	13.9	16	B-PT1/8	8.5	8	5.2	11.6
SVS 55C SVS 55LC	63	140	163.3 200.5	116	95	M14	12.5	123.6 160.8	24	22.5	22	49	16.6	16	B-PT1/8	10	10	5.2	14
SVS 65C SVS 65LC	75	170	186 246	142	110	M16	14.5	143.6 203.6	28	26	25	60	19	16	B-PT1/8	8.7	15	8.2	15

Model number coding

SVS45 LC 2 QZ TTHH C0 +1200L P T -II

- SVS45: Model No.
- LC: Type of LM block
- 2: No. of LM blocks used on the same rail
- QZ: With QZ Lubricator
- TTHH: Contamination protection accessory symbol
- C0: Radial clearance symbol (Normal (No symbol), Light preload (C1), Medium preload (C0))
- +1200L: 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
- -II: Symbol for No. of rails used on the same plane

Notes: This model number indicates that an LM block and an LM rail constitute one set (i.e., the required number of sets when 2 rails are used in parallel is 2).
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 A1-547 for contamination protection accessories, see A1-73 for radial clearance symbol. See A1-79 for accuracy symbol. See A1-13 for symbol for number of rails used on the same plane.



SVS-LC

Unit: mm

LM rail dimensions						Basic load rating[4]		Static permissible moment kN·m [5]					Mass	
Width		Height	Pitch		Length[3]	C	C_0	M_A		M_B		M_C	LM block	LM rail
W_1 0 -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
25	23.5	17	40	6×9.5×8.5	3000	37 43.7	52.2 66.1	0.479 0.75	2.41 3.71	0.443 0.693	2.23 3.43	0.525 0.665	0.6 0.8	2.9
28	31	21	80	7×11×9	3000	52 64.4	70.1 95.2	0.722 1.31	3.86 6.3	0.667 1.21	3.58 5.83	0.798 1.08	1.1 1.5	4.2
34	33	24.5	80	9×14×12	3000	68.6 86.1	88.6 123	1 1.88	5.49 9.15	0.927 1.73	5.09 8.46	1.2 1.67	1.6 2	6.0
45	37.5	29	105	14×20×17	3090	105 123	142 178	2.19 3.58	10.9 17.5	2.02 3.31	10.1 16.2	2.6 3.44	2.7 3.6	9.5
53	43.5	36.5	120	16×23×20	3060	136 164	180 237	3.17 5.4	16.4 26	2.93 4.99	15.1 24	3.76 4.96	4.5 5.9	14
63	53.5	43	150	18×26×22	3000	208 260	269 370	5.76 10.7	27.7 49.6	5.33 9.88	25.6 45.8	6.66 9.16	7.8 11.0	19.6

[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 **A1-138**.)

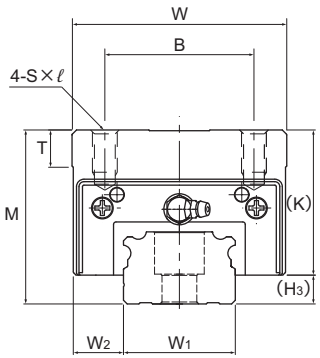
[4] The basic load rating is for a load in the radial direction.
Use **A1-61** on Table 7 to calculate the load rating for loads in the reverse-radial direction or lateral direction.

[5] 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

Note: For oil lubrication, be certain to let THK know the mounting orientation and where the LM block piping joint should be attached.
(Mounting orientation: see **A1-12**, Lubricant: see **A24-2**)

Options⇒A1-507

Models SVR-RH, SVR-LRH, SVS-RH, and SVS-LRH



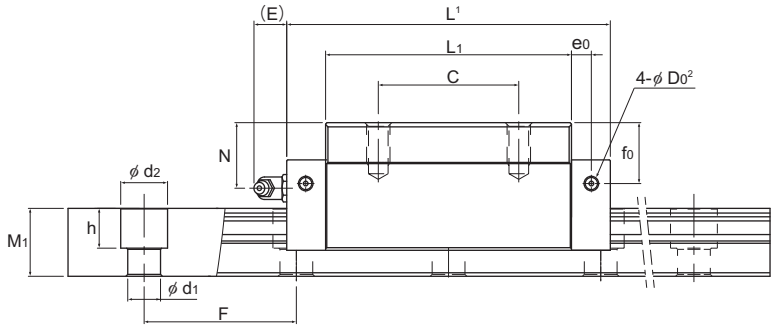
Model No.	Outer dimensions			LM block dimensions									Pilot hole for side nipple			
	Height M	Width W	Length[1] L	B	C	S×ℓ	L_1	T	K	N	E	Grease nipple	e_0	f_0	D_0[2]	H_3
SVR 35RH SVS 35RH	55	70	109.5	50	50	M8×12	79	11.7	46	23.1	12	B-M6F	6	19	5.2	9
SVR 35LRH SVS 35LRH	55	70	135	50	72	M8×12	104.5	11.7	46	23.1	12	B-M6F	6	19	5.2	9
SVR 45RH SVS 45RH	70	86	138.2	60	60	M10×17	105	14.7	58.4	31.9	16	B-PT1/8	8.5	26	5.2	11.6
SVR 45LRH SVS 45LRH	70	86	171	60	80	M10×17	137.8	14.7	58.4	31.9	16	B-PT1/8	8.5	26	5.2	11.6
SVR 55RH SVS 55RH	80	100	163.3	75	75	M12×18	123.6	17.7	66	33.6	16	B-PT1/8	10	27	5.2	14
SVR 55LRH SVS 55LRH	80	100	200.5	75	95	M12×18	160.8	17.7	66	33.6	16	B-PT1/8	10	27	5.2	14

Model number coding

SVR35 RH 2 QZ TTHH C0 +920L H T -II

- SVR35: Model No.
- RH: Type of LM block
- 2: No. of LM blocks used on the same rail
- QZ: With QZ Lubricator
- TTHH: Contamination protection accessory symbol
- C0: LM rail length (in mm); Radial clearance symbol: Normal (No symbol), Light preload (C1), Medium preload (C0)
- +920L: 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 an LM block and an LM rail constitute one set (i.e., the required number of sets when 2 rails are used in parallel is 2).
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 A1-547 for contamination protection accessories, see A1-73 for radial clearance symbol. See A1-79 for accuracy symbol. See A1-13 for symbol for number of rails used on the same plane.



Unit: mm

	LM rail dimensions						Basic load rating[4]		Static permissible moment kN·m [5]						Mass	
	Width		Height	Pitch		Length[3]	C	C_0	M_A		M_B		M_C		LM block	LM rail
	W_1 0 -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
	34	18	24.5	80	9×14×12	3000	89.6 68.6	116 88.6	1.26 1	6.91 5.49	0.769 0.927	4.2 5.09	1.64 1.2		1.5	6.0
	34	18	24.5	80	9×14×12	3000	112 86.1	160 123	2.35 1.88	11.5 9.15	1.42 1.73	6.91 8.46	2.26 1.67		2	6.0
	45	20.5	29	105	14×20×17	3090	138 105	186 142	2.76 2.19	13.7 10.9	1.67 2.02	8.3 10.1	3.5 2.6		3.1	9.5
	45	20.5	29	105	14×20×17	3090	161 123	233 178	4.52 3.58	22.1 17.5	2.74 3.31	13.4 16.2	4.6 3.44		4.1	9.5
	53	23.5	36.5	120	16×23×20	3060	177 136	235 180	3.99 3.17	20.6 16.4	2.42 2.93	12.4 15.1	5.07 3.76		4.7	14
	53	23.5	36.5	120	16×23×20	3060	214 164	309 237	6.8 5.4	32.7 26	4.1 4.99	19.7 24	6.67 4.96		6.2	14

[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 A**1-521** or A**1-543**)

[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.

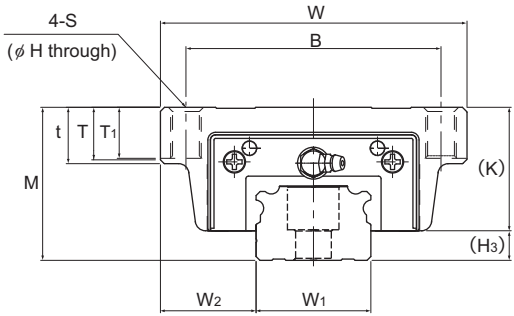
[3] The maximum length indicates the standard maximum length of an LM rail. (See A**1-138**.)

[4] The basic load rating is for a load in the radial direction.
Use A**1-61** on Table 7 to calculate the load rating for loads in the reverse-radial direction or lateral direction.

[5] 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

Note: For oil lubrication, be certain to let THK know the mounting orientation and where the LM block piping joint should be attached.
(Mounting orientation: see A**1-12**, Lubricant: see A**24-2**)

Models SVR-CH, SVR-LCH, SVS-CH, and SVS-LCH



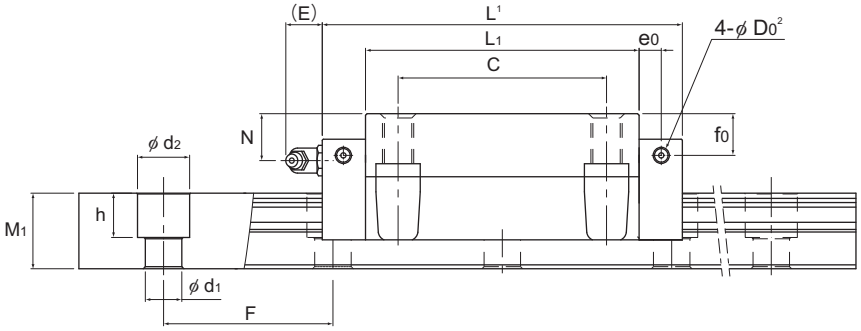
Model No.	Outer dimensions			LM block dimensions												Pilot hole for side nipple			
	Height	Width	Length[1]												Grease nipple				
	M	W	L	B	C	S	H	L_1	t	T	T_1	K	N	E		e_0	f_0	D_0[2]	H_3
SVR 35CH SVS 35CH	48	100	109.5	82	62	M10	8.5	79	20	19	16	39	16.1	12	B-M6F	6	12	5.2	9
SVR 35LCH SVS 35LCH	48	100	135	82	62	M10	8.5	104.5	20	19	16	39	16.1	12	B-M6F	6	12	5.2	9
SVR 45CH SVS 45CH	60	120	138.2	100	80	M12	10.5	105	22	20.5	20	48.4	21.9	16	B-PT1/8	8.5	16	5.2	11.6
SVR 45LCH SVS 45LCH	60	120	171	100	80	M12	10.5	137.8	22	20.5	20	48.4	21.9	16	B-PT1/8	8.5	16	5.2	11.6
SVR 55CH SVS 55CH	70	140	163.3	116	95	M14	12.5	123.6	24	22.5	22	56	23.6	16	B-PT1/8	10	17	5.2	14
SVR 55LCH SVS 55LCH	70	140	200.5	116	95	M14	12.5	160.8	24	22.5	22	56	23.6	16	B-PT1/8	10	17	5.2	14

Model number coding

SVR45 LCH 2 QZ TTHH C0 +1200L P T -II

- SVR45: Model No.
- LCH: Type of LM block
- 2: No. of LM blocks used on the same rail
- QZ: With QZ Lubricator
- TTHH: Contamination protection accessory symbol
- C0: LM rail length (in mm)
  - Radial clearance symbol
  - Normal (No symbol)
  - Light preload (C1)
  - Medium preload (C0)
- +1200L: LM rail length (in mm)
- P: Symbol for LM rail jointed use
  - Accuracy symbol
  - Normal grade (No Symbol)/High accuracy grade (H)
  - Precision grade (P)/Super precision grade (SP)
  - Ultra precision grade (UP)
- T: Symbol for No. of rails used on the same plane
- -II

Notes: This model number indicates that an LM block and an LM rail constitute one set (i.e., the required number of sets when 2 rails are used in parallel is 2).
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 **A1-547** for contamination protection accessories, see **A1-73** for radial clearance symbol. See **A1-79** for accuracy symbol. See **A1-13** for symbol for number of rails used on the same plane.



Unit: mm

	LM rail dimensions						Basic load rating[4]		Static permissible moment kN·m [5]					Mass	
	Width		Height	Pitch		Length[3]	C	C_0	M_A		M_B		M_C	LM block	LM rail
	W_1 0 -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
	34	33	24.5	80	9×14×12	3000	89.6 68.6	116 88.6	1.26 1	6.91 5.49	0.769 0.927	4.2 5.09	1.64 1.2	1.7	6.0
	34	33	24.5	80	9×14×12	3000	112 86.1	160 123	2.35 1.88	11.5 9.15	1.42 1.73	6.91 8.46	2.26 1.67	2.2	6.0
	45	37.5	29	105	14×20×17	3090	138 105	186 142	2.76 2.19	13.7 10.9	1.67 2.02	8.3 10.1	3.5 2.6	3.3	9.5
	45	37.5	29	105	14×20×17	3090	161 123	233 178	4.52 3.58	22.1 17.5	2.74 3.31	13.4 16.2	4.6 3.44	4.3	9.5
	53	43.5	36.5	120	16×23×20	3060	177 136	235 180	3.99 3.17	20.6 16.4	2.42 2.93	12.4 15.1	5.07 3.76	5.1	14
	53	43.5	36.5	120	16×23×20	3060	214 164	309 237	6.8 5.4	32.7 26	4.1 4.99	19.7 24	6.67 4.96	6.6	14

[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 **A1-138**.)

[4] The basic load rating is for a load in the radial direction.
Use **A1-61** on Table 7 to calculate the load rating for loads in the reverse-radial direction or lateral direction.

[5] 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

Note: For oil lubrication, be certain to let THK know the mounting orientation and where the LM block piping joint should be attached.
(Mounting orientation: see **A1-12**, Lubricant: see **A24-2**)

Standard Lengths and Maximum Lengths of LM Rails

Table 1 shows the standard lengths and the maximum lengths of model SVR/SVS 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.

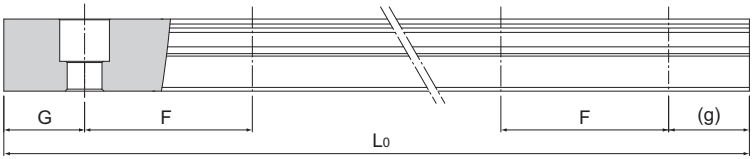


Table 1: Standard Lengths and Maximum Lengths of LM Rails for Models SVR/SVS

Unit: mm

Model No.	SVR/SVS 25	SVR/SVS 30	SVR/SVS 35	SVR/SVS 45	SVR/SVS 55	SVR/SVS 65
LM rail standard lengths (L_o)	230 270 350 390 470 510 590 630 710 750 830 950 990 1070 1110 1190 1230 1310 1350 1430 1470 1550 1590 1710 1830 1950 2070 2190 2310 2430 2470	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
Standard pitch F	40	80	80	105	120	150
G, g	15	20	20	22.5	30	35
Max length	3000	3000	3000	3090	3060	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.