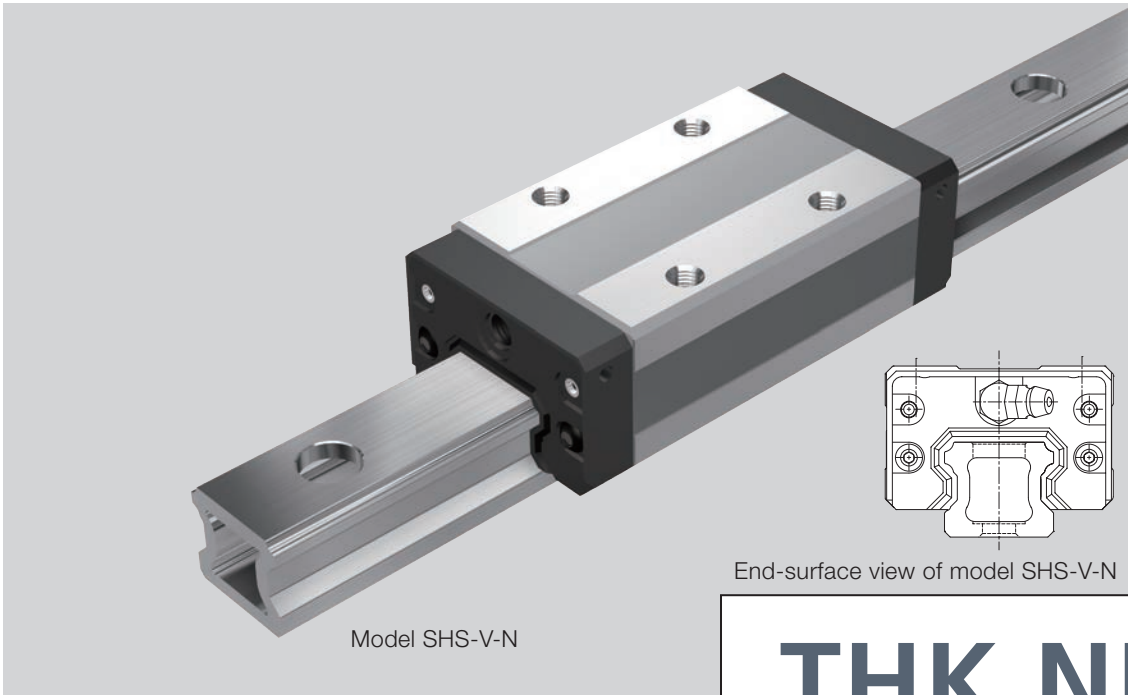




NEW PRODUCTS

LM Guide Light SHS-N



Model SHS-V-N

End-surface view of model SHS-V-N

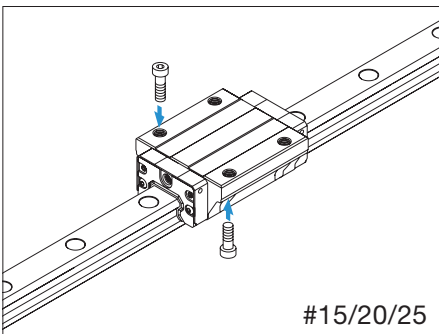
The light-weight LM rail makes the machine high-speed and high-tact.

THK NEWS

Volume **08**

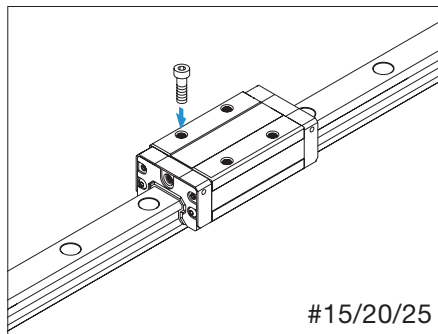
Lineup

SHS-N[C / LC]



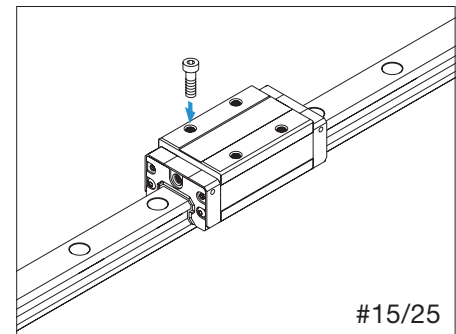
#15/20/25

SHS-N[V / LV]



#15/20/25

SHS-N[R / LR]



#15/25

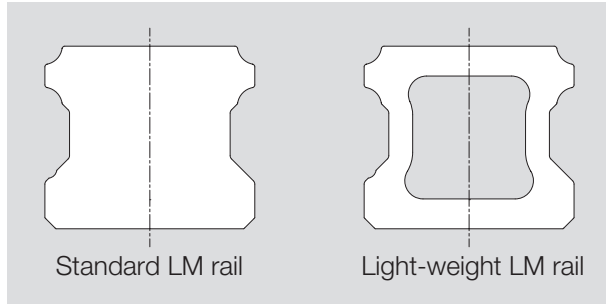
Features

- 40% weight reduction from the standard LM rail model SHS
- Long service life

● 40% weight reduction from the standard LM rail model SHS

Model SHS-N is much lighter than the LM rail of the standard model SHS because the LM rail is hollow.

Cross-sectional comparison between the SHS standard LM rail and light-weight LM rail



Comparison of the masses of the standard and light-weight LM rails

Model number	LM rail type	LM rail mass [kg/m]	Mass ratio
SHS15-N	Hollow	0.75	40% weight reduction
SHS15	Standard	1.3	
SHS20-N	Hollow	1.32	40% weight reduction
SHS20	Standard	2.3	
SHS25-N	Hollow	1.9	40% weight reduction
SHS25	Standard	3.2	

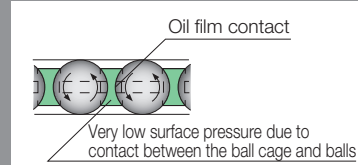
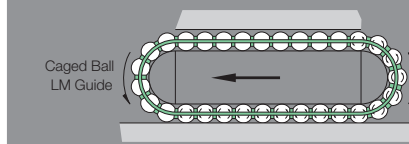
● Long service life

The life of model SHS-N has long life thanks to the ball cage effect while keeping the same basic dynamic load rating with standard model SHS. Also the ball cage effect realizes a smooth operation.

Basic dynamic load rating of model SHS-N

Model number	Basic dynamic load rating C [kN]
SHS15-N	14.2
SHS15L-N	17.2
SHS20-N	22.3
SHS20L-N	28.1
SHS25-N	31.7
SHS25L-N	36.8

Structure of the ball cage



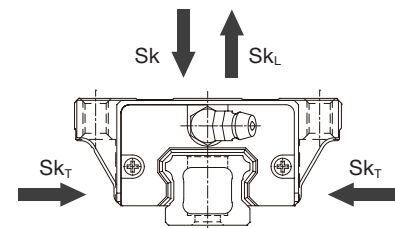
Less friction between balls causes less interference sounds
Silent structure

[Maximum usage load and maximum usage moment]

For model SHS-N, the maximum usage load is set. The maximum usage moment is calculated based on the maximum usage load. The maximum usage load and maximum usage moment are shown in the following table.

Maximum usage load and maximum usage moment of model SNS-N

Model number	Maximum usage load [kN]			Maximum usage moment [kN-m]					
	Sk radial	Sk _L reverse radial	Sk _T lateral	M _A		M _B		M _C	
				1 block	Double blocks	1 block	Double blocks	1 block	
SHS15-N	2.21	2.21	1.75	0.016	0.085	0.013	0.067	0.016	
SHS15L-N	2.90	2.90	2.30	0.028	0.134	0.022	0.106	0.021	
SHS20-N	3.53	3.53	4.20	0.032	0.166	0.037	0.197	0.036	
SHS20L-N	4.70	4.70	5.60	0.055	0.269	0.065	0.320	0.047	
SHS25-N	4.45	4.45	2.67	0.049	0.241	0.030	0.145	0.052	
SHS25L-N	5.50	5.50	3.30	0.074	0.349	0.045	0.210	0.064	



Maximum usage moment*

1 block: Maximum usage moment value with 1 LM block

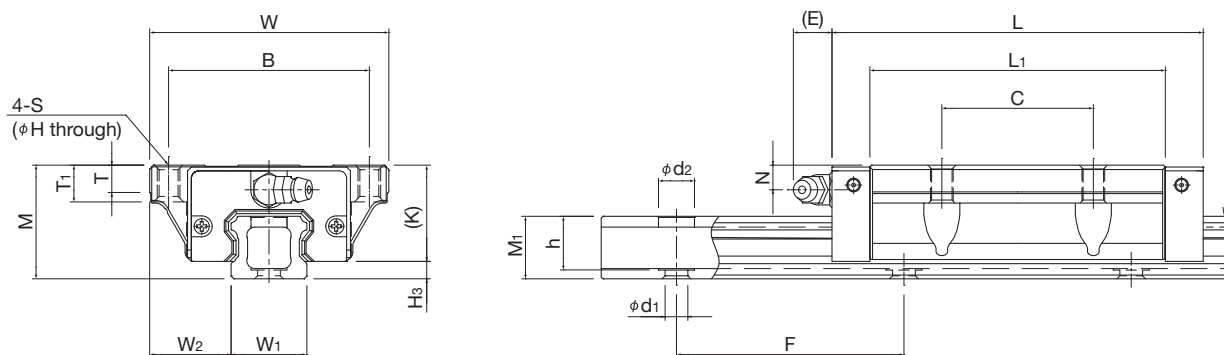
Double blocks: Maximum usage moment value with 2 blocks closely contacting with each other

When using model SHS-N, do not exceed the maximum usage load and maximum usage moment.

Additionally, if the load applied to model SHS-N changes due to an impact, etc. in actual usage, consider safety for the maximum usage load.

■ Dimensions

SHS-N [C/LC]

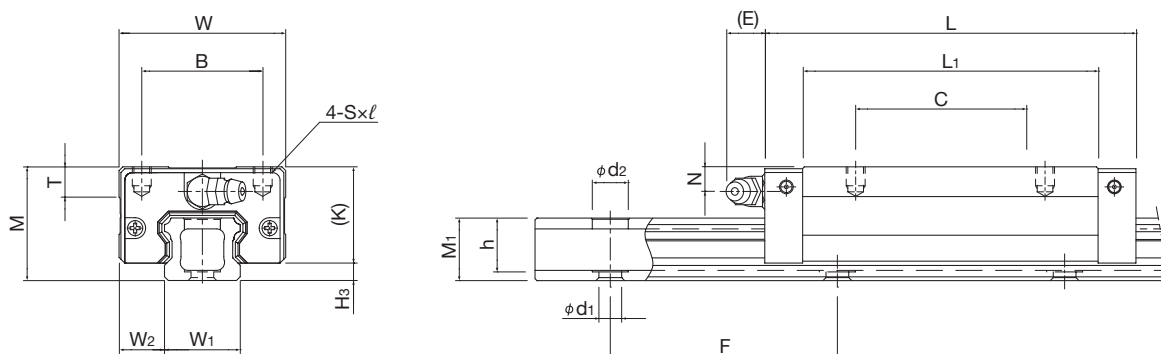


Unit: mm

Model No.	Outer dimensions			LM block dimensions										Grease nipple	W ₂	H ₃	Mass LM block [kg]
	Height M	Width W	Length L	B	C	S	H	L ₁	T	T ₁	K	N	E				
SHS15C-N	24	47	64.4	38	30	M5	4.4	48	5.9	8	21	5.5	5.5	PB1021B	16	3	0.23
SHS15LC-N			79.4					63									0.29
SHS20C-N	30	63	79	53	40	M6	5.4	59	7.2	10	25.4	6.5	12	B-M6F	21.5	4.6	0.46
SHS20LC-N			98					78									0.61
SHS25C-N	36	70	92	57	45	M8	6.8	71	9.1	12	30.2	7.5	12	B-M6F	23.5	5.8	0.72
SHS25LC-N			109					88									0.89

*Interchangeable in dimensions with the standard model SHS.

SHS-N [V/LV, R/LR]



Unit: mm

Model No.	Outer dimensions			LM block dimensions								Grease nipple	W ₂	H ₃	Mass LM block [kg]
	Height M	Width W	Length L	B	C	S×l	L ₁	T	K	N	E				
SHS15V-N	24	34	64.4	26	26	M4×4	48	5.9	21	5.5	5.5	PB1021B	9.5	3	0.19
SHS15LV-N			79.4												63
SHS20V-N	30	44	79	32	36	M5×5	59	8	25.4	6.5	12	B-M6F	12	4.6	0.35
SHS20LV-N			98												78
SHS25V-N	36	48	92	35	35	M6×6.5	71	8	30.2	7.5	12	B-M6F	12.5	5.8	0.54
SHS25LV-N			109												88
SHS15R-N	28	34	64.4	26	26	M4×5	48	5.9	25	9.5	5.5	PB1021B	9.5	3	0.22
SHS25R-N	40	48	92	35	35	M6×8	71	8	34.2	11.5	12	B-M6F	12.5	5.8	0.66
SHS25LR-N			109												88

*Interchangeable in dimensions with the standard model SHS.

Unit: mm

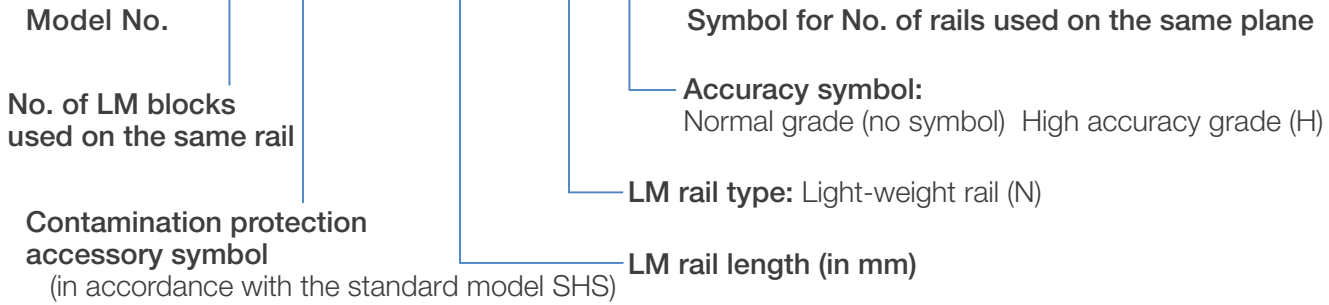
	LM rail dimensions					
	Width W ₁ 0 -0.05	W ₂	Height M ₁	Pitch F	d ₁ ×d ₂ ×h	Standard length Max
SHS15-N	15	16	13	60	4.5×7.5×11.3	2000
SHS20-N	20	21.5	16.5	60	6×9.5×14.2	3000
SHS25-N	23	23.5	20	60	7×11×17.3	3000

*There is a seating face on the rail bottom.

Dimension h is the distance from the rail upper face to the bottom of the mounting hole.

■ Model number coding

SHS25C 2 UU +1000L N H -II



*The radial clearance is normal clearance (no symbol).

*This product is not intended for LM rail jointed use.

Model SHS-N adopts the same standard as that of the standard model SHS. For details, see the corresponding page of the General catalog.

- Equivalent Load
- Nominal Life
- Radial Clearance Standard - Normal Clearance
- Accuracy Standard - Normal Grade/High Accuracy Grade
- Standard Length of the LM Rail
- Shoulder Height of the Mounting Base and the Corner Radius
- Error Allowance in the Parallelism between Two Rails
- Error Allowance in Vertical Level between Two Rails
- Applicable Options
- Precautions on Use

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