

LH Series

Identification Number Ball Slide

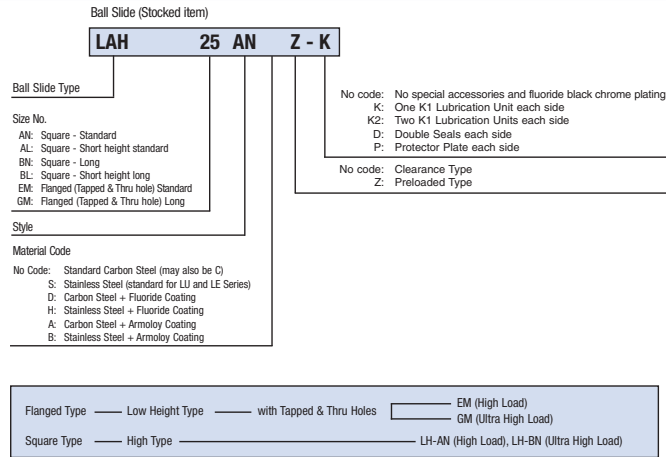


Fig.-1 LH-AN, LH-BN TYPE

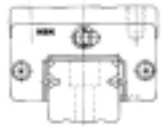
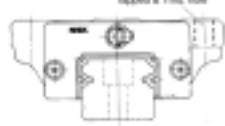


Fig.-2 LH-EM, LH-GM TYPE



Internal Clearance and Preload

The internal clearance refers to the amount of movement of the ball slide, when moved up and down with the rail fixed. The amount of preload is specified by size as follows.

Table 1	Unit: μm							
Size	#15	#20	#25	#30	#35	#45	#55	#65
Clearance	15--4				15--5			
Preloaded	0--4		0--5		0--7		0--9	

K1 Maintenance

-Free Lubrication System

The NSK K1's distinctive capabilities as a compact and efficient oil-impregnated lubrication unit as well as a seal, greatly increases the performance of the Linear Guide. The K1 Lubrication Unit is available in two types, one for industrial applications and one for food and medical devices where cleanliness and safety are paramount.

Features:

1. Long-term, maintenance-free usage.

In mechanical environments where lubrication is difficult to apply, long-term running efficiency is maintained by using the NSK K1 in combination with grease.

2. Prevention of oil-related environmental pollution.

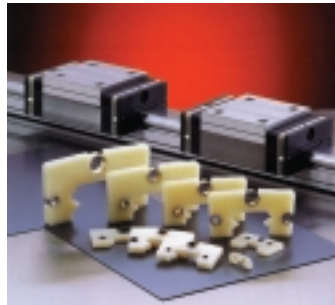
In locations where oil greatly affects the environment, or in mechanisms with severe hygiene restrictions, sufficient lubrication is provided using the NSK K1 in combination with grease.

3. Effective in environments where the lubricant is washed away.

In facilities where mechanisms are washed down with water, or subject to severe weather conditions, long service life is ensured by using the NSK K1 in combination with grease. Especially effective under hygienic conditions where oil must not be dispersed.

4. Maintains efficiency in dusty environments.

In environments where oil and grease-absorbing dust is produced, long-term efficiency is maintained by using the NSK K1 in combination with grease.



LH Series

Rail Dimension Table

Separately Sold Rail for NSK Linear Guide

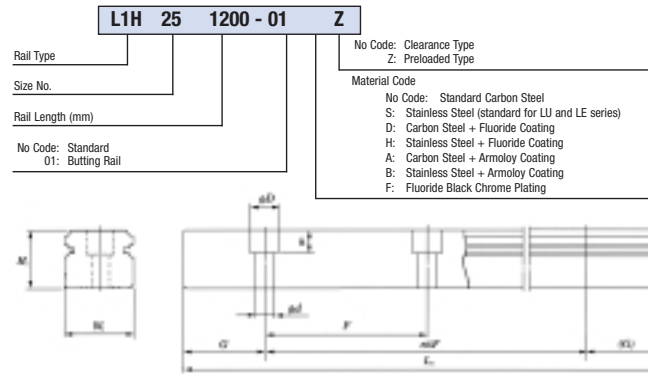
LH series Standard Rail

L1H-Z : Preloaded Interchangeable Type

LH series Butting Rail

L1H-01Z : Preloaded Interchangeable Type

LH series butting rail features higher precision tolerances for L_0 and G dimensions.



Rail Dimensions Table		Unit: mm							
Model No.	Max. rail length L_0 max. () indicates Stainless Steel	W_1	H_1	F	$d \times D \times h$	Rail Butting $G_{0.05}$	Rail Weight (kg/m)	1 mm = .0394 inch 1kgf/m = .67 FV/Lb	
L1H15	L1H15-01 (1440)	15	15	60	4.5 x 7.5 x 5.3	30	1.6		
L1H20	L1H20-01 (3960)	20	18	60	6 x 9.5 x 8.5	30	2.6		
L1H25	L1H25-01 (3960)	23	22	60	7 x 11 x 9	30	3.6		
L1H30	L1H30-01 (4000)	28	26	80	9 x 14 x 12	40	5.2		
L1H35	L1H35-01 (4000)	34	29	80	9 x 14 x 12	40	7.2		
L1H45	L1H45-01 (3990)	45	38	105	14 x 20 x 17	52.5	12.3		
L1H55	L1H55-01 (3960)	53	44	120	16 x 23 x 20	60	16.9		
L1H65	L1H65-01 (3900)	63	53	150	18 x 26 x 22	75	24.3		

Rail butting can be used for longer lengths. Please contact NSK for details

LH Series Accessories

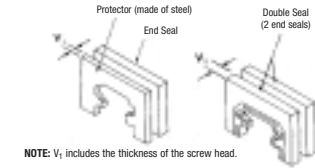
Protector and Double Seal

Travel length is reduced by the thickness of the end seal on the ball slide. Consider the value of V in the table below when calculating the travel length.

Linear Guide Model No.	Protector No. Plug End	Protector No. Grease Fitting End	Increased Thickness V_1	Unit: mm
LH15	LH15PT-01	LH15PTC-01	2.7	
LH20	LH20PT-01	LH20PTC-01	2.9	
LH25	LH25PT-01	LH25PTC-01	3.2	
LH30	LH30PT-01	LH30PTC-01	4.2	
LH35	LH35PT-01	LH35PTC-01	4.2	
LH45	LH45PT-01	LH45PTC-01	4.9	
LH55	LH55PT-01	LH55PTC-01	4.9	
LH65	LH65PT-01	LH65PTC-01	5.5	

One of each PT and PTC is required to do one linear bearing.

Fig.-8 Protector and Double Seal



NOTE: V_1 includes the thickness of the screw head.

Adapters

These parts connect piping to the tapped hole when the grease fitting is removed.

Fig.-6 LF Type

For LH20, 25, LH30, 35

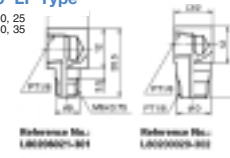


Fig.-7 SF Type

For LH20, 25, LH30, 35

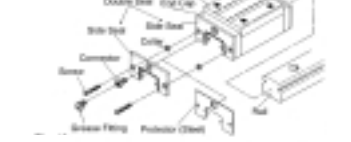


Double Seal

Linear Guide Model No.	Double Seal No. Plug End	Double Seal No. Grease Fitting End	Increased Thickness V_2	Unit: mm
LH15	LH15WS-01	LH15WSC-01	2.5	
LH20	LH20WS-01	LH20WSC-01	2.5	
LH25	LH25WS-01	LH25WSC-01	2.8	
LH30	LH30WS-01	LH30WSC-01	3.6	
LH35	LH35WS-01	LH35WSC-01	3.6	
LH45	LH45WS-01	LH45WSC-01	4.3	
LH55	LH55WS-01	LH55WSC-01	4.3	
LH65	LH65WS-01	LH65WSC-01	4.9	

One of each WS and WSC is required to do one linear bearing.

Fig.-13



NOTE: - The protector (steel) is always ahead of the side seal or double seal.

Plastic Cap for Rail Mounting Hole

Linear Guide Model No.	Rail Mounting Bolt Size	Cap. No. for Rail Mounting Hole
LH15	M4	L45800004-003
LH20	M5	L45800005-003
LH25	M6	L45800006-003
LH30	M8	L45800008-003
LH35	M8	L45800008-003
LH45	M12	L45800012-003
LH55	M14	L45800014-003
LH65	M16	L45800016-003

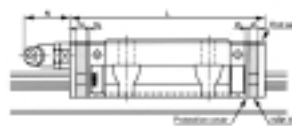
Brass Cap for Rail Mounting Hole

Linear Guide Model No.	Rail Mounting Bolt Size	Cap. No. for Rail Mounting Hole
LH20	M5	L45800005-004
LH25	M6	L45800006-004
LH30	M8	L45800008-004
LH45	M12	L45800012-004

Slide Dimensions with K1

Interchangeable Linear Guide Dimensions - LH Series							Unit: mm
Interchangeable Ball Slide size code	Ball slide form	Standard Ball Slide length	Ball slide length with two NSK K1	Thickness of NSK K1 V_1	Thickness of protective cover V_2	Grease fitting projection N (mm)	
LAH15	AN GM	55 74	65.6 84.6	4.5	0.8	5	
LAH20	AN BN GM	69.8 91.8	80.4 102.4	4.5	0.8	14	
LAH25	ANVAL BNVAL GM	79 107	90.6 118.6	5.0	0.8	14	
LAH30	ANVAL BNVAL GM	85.6 98.6 124.6	97.6 110.6 136.6	5.0	1.0	14	
LAH35	ANVAL BNVAL GM	109 143	122 156	5.5	1.0	14	
LAH45	AN BN GM	139 171	154 186	6.5	1.0	15	
LAH55	AN BN GM	163 201	178 216	6.5	1.0	15	
LAH65	AN BN GM	193 253	211 271	8.0	1.0	16	

LH Series



MOTION & CONTROL

NSK

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Assembly Instructions

K1 Lubricating Unit for Linear Guides

- Slide linear bearing on to the linear rail, using the plastic provisional rail supplied.
- Remove the grease fitting from the end of the bearing.
- Remove the Phillips screws (2 pieces).
- Remove the end seal from end of bearing.
- For maintenance free operation, install threaded plug; for re-greasing option, see points 10 & 11 below.
- Install the cover plate from the K1™ kit to the end of bearing, against the end cap.
- Install K1™ lubricating unit without fixing rings, so it can be expanded over the rail.
- Put the three (3) fixing rings in position on the K1™ lubricating unit.
- Replace the end seal, in front of the K1™ lubricating unit.
- Install connector screw for grease fitting.
- Replace the grease fitting in connector screw.
- Install the extension Phillips screws (2 pieces, supplied with the K1™ seal kit).

Note

The K1™ lubricating unit has a shelf life. They should be installed immediately upon receipt. It is important to avoid direct sunlight and extreme heat conditions.

