

Self-lubricator Standard Linear Guide

LSH Series



Order Information(Combined)

LSH □ 15 H N 1 X220 S20 A H - AM6 - B - T - E

1 2 3 4 5 6 7 8 9 10 11 12 13 14

① Model Code	LSH:Self-lubricator Standard Linear Guide		
② Rail&Block surface treatment	Blank: without additional coating. (natural color) ★BB : Block and rail coated with black chrome		
③ Rail Width	15: 15mm 20: 20mm 25: 23mm 30: 28mm 35: 34mm 45: 45mm		
④ Block Style	H: Square type F1: Flange type, Mounting from top F2: Flange type, Mounting from bottom F3: Flange type, Mounting from top or bottom		
⑤ Block type	N: Standard L: Long [w/o 15 series]		
⑥ Number of Block	1: One 2: Two [Note: Amount of block on a single set of linear guide]		
⑦ Length of Rail	220:220mm[Defined by customer]		
⑧ Position of first mounting hole	S □ : Distance from end of rail to the center of first mounting hole (It is recommended to be greater than minimum margin)		
⑨ Preload	A: Standard clearance B: Light Preload C: Medium Preload D: Heavy Preload		
⑩ Accuracy	N : Normal H : High P : Precision		
⑪ Nipple /adapter type	M4: M4 Nipple	M6: M6 Nipple	P01: PT1/8 Nipple
	I type	A01: M6 to PT1/8 I type	A01: PT1/8 to PT1/8 I type
	AM6: M4 to M6	AM8: M6 to M8	AM8: PT1/8 to M8
	L type	L01: M6 to PT1/8 L type	L01: PT1/8 to PT1/8 L type
	LM6: M4 to M6	LM8: M6 to M8	LM8: PT1/8 to M8
		SM6: M6 Nipple	SP01: PT1/8 Nipple
⑫ Packing type	Blank: the block and rail are assembled B: block and rail are put separately		
⑬ Rail type	Blank: Top-mount T: Bottom-mount		
⑭ Self-lubricator Standard Type	E: Self-lubricator Standard Type		

[Note1] For LSH-BB series, standard length of a rail is 3 m.
Please contact with our company if length of rail exceeds the maximum.
Add: Heavy preload is available for LSH25/30/35/45 only.

Self-lubricator Standard Linear Guide

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Butt-jointed Order Information

LSH □ 15 H N 1X2970 T 2940 T 2970 A H-AM6-B - T - E

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

Butt-jointed end margin:1/2P ,
Position of the first and last
hole is defined by customer.

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③ Rail Width	15: 15mm 20: 20mm 25: 23mm 30: 28mm 35: 34mm 45: 45mm																											
④ Block Style	H: Square type F1: Flange type, Mounting from top F2: Flange type, Mounting from bottom F3: Flange type, Mounting from top or bottom																											
⑤ Block type	N: Standard L: Long [w/o 15 series]																											
⑥ Number of Block	1: One 2: Two [Note: Amount of block on a single set of linear guide]																											
⑦ Length of first Rail	2970:2970mm [Defined by customer]																											
⑧ Butt-jointed mark	T: Rail Butt-jointed mark (Butt-jointed end margin:1/2P) [P is the standard hole distance]																											
⑨ Length of second Rail	2940:2940mm [Defined by customer]																											
⑩ Butt-jointed mark	Blank: two rails joint T: Rail Butt-jointed mark (Butt-jointed end margin:1/2P) [P is the standard hole distance]																											
⑪ Length of third Rail	Blank: two rails joint 2970:2970mm.....[Defined by customer]																											
⑫ Preload	A: Standard clearance B: Light Preload C: Medium Preload D: Heavy Preload																											
⑬ Accuracy	N : Normal H : High																											
⑭ Nipple /adapter type	<table><tr><td rowspan="4">15</td><td>M4: M4 Nipple</td><td rowspan="4">20 25 30 35</td><td>M6: M6 Nipple</td><td rowspan="4">I type</td><td rowspan="4">45</td><td>P01: PT1/8 Nipple</td><td rowspan="4">I type</td></tr><tr><td>AM6: M4 to M6</td><td>A01: M6 to PT1/8</td><td>A01: PT1/8 to PT1/8</td></tr><tr><td rowspan="2">L type</td><td>AM8: M6 to M8</td><td>AM8: PT1/8 to M8</td></tr><tr><td>LM6: M4 to M6</td><td>L01: M6 to PT1/8</td><td>L01: PT1/8 to PT1/8</td></tr><tr><td></td><td></td><td>LM8: M6 to M8</td><td>LM8: PT1/8 to M8</td></tr><tr><td></td><td></td><td>SM6: M6 Nipple</td><td>SP01: PT1/8 Nipple</td></tr></table>			15	M4: M4 Nipple	20 25 30 35	M6: M6 Nipple	I type	45	P01: PT1/8 Nipple	I type	AM6: M4 to M6	A01: M6 to PT1/8	A01: PT1/8 to PT1/8	L type	AM8: M6 to M8	AM8: PT1/8 to M8	LM6: M4 to M6	L01: M6 to PT1/8	L01: PT1/8 to PT1/8			LM8: M6 to M8	LM8: PT1/8 to M8			SM6: M6 Nipple	SP01: PT1/8 Nipple
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⑮ Packing type	Blank: the block and rail are assembled B: block and rail are put separately																											
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⑰ Self-lubricator Standard Type	E: Self-lubricator Standard Type																											

[Note1] For LSH-BB series, standard length of a rail is 3 m.

Maximum length of two-joint rail is 6 m. Maximum length of three-joint rail is 9 m.
Please contact with our company if length of rail exceeds the maximum.

Add1: Number of joints cannot be more than 2 times(three rails at most).

For LSH15/20/25, maximum length of jointed rail is 11800mm.

For LSH30/35, it's 11880. For LSH45, it's 11805.

Customization is needed for joint times more than standard.

Add2: Heavy preload is available for LSH25/30/35/45 only.

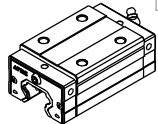
Self-lubricator Standard Linear Guide

LSH Series

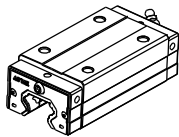
1. Block Order Information

LSH □ 15 BK-H N-H-D-AM6-E

1 2 3 4 5 6 7 8 9 10



N: Standard



L: Long

①Model Code	LSH:Self-lubricator Standard Linear Guide									
②Coating on block	Blank: Block without additional coating, (natural color) ★B: Block coated with black chrome									
③Rail Width	15: 15mm 20: 20mm 25: 23mm 30: 28mm 35: 34mm 45: 45mm									
④Block Code	BK: Block									
⑤Block Style	H: Square type F1: Flange type, Mounting from top F2: Flange type, Mounting from bottom F3: Flange type, Mounting from top or bottom									
⑥Block type	N: Standard L: Long [w/o 15 series]									
⑦Accuracy	N : Normal H : High									
⑧Group code	SA SB SC SE SF B C E [Note1]									
⑨Nipple /adapter type	15	M4: M4 Nipple		20 25 30 35	M6:M6 Nipple		45	P01:PT1/8 Nipple		
		AM6: M4 to M6	I type 		A01:M6 to PT1/8	I type 		A01:PT1/8 to PT1/8	I type 	
		LM6: M4 to M6	L type		AM8:M6 to M8			AM8:PT1/8 to M8		
			L type		L01:M6 to PT1/8	L type 		L01:PT1/8 to PT1/8	L type 	
					LM8:M6 to M8			LM8:PT1/8 to M8		
						SM6:M6 Nipple				SP01:PT1/8 Nipple
⑩Self-lubricator Standard Type	E: Self-lubricator Standard Type									

[Note1]: When selecting rails and bearings, the different pairing codes can change the units preload, details see "preload pairing chart".

LSH Series

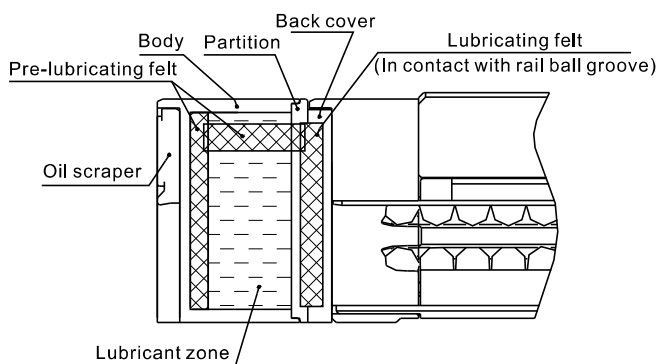
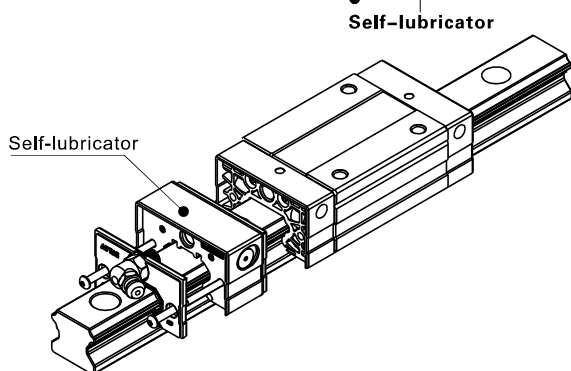
Self-lubricator illustration

1.Code and structure

AirTAC provides self-lubricator for applications e.g. limited spaces, or where grease maintenance is challenging.

If needed, please add the code "E" after the product model.

E.g. LSH15HN1X220S20AH-AM6 - B - T - E



Product Features

- 1.Easy Maintenance and Long-Term Maintenance-Free Operation: In normal applications, basically no additional grease maintenance is required throughout lifespan of linear guide.
 - 2.Cost Savings: No additional lubrication is needed for the block, reducing labor and material costs.
 - 3.Flexible Use in Specific Environments: Equipped with a high-capacity grease tank, allowing the use of specific lubricants for specific environments.
 - 4.Dustproof Design: Built-in dustproof structure extends lifespan.
 - 5.Flexible in usage and installation: the assembling and disassembling of self-lubricator in integrity structure is convenient, can have it according to different working condition.
- [Note] Self-lubricator type block is not applicable for ultra-smooth application, as the higher viscosity of the lubricant in self-lubricator will increases friction by approximately 5~7N.

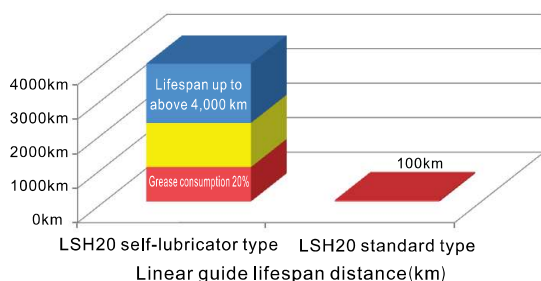
Durability test of self-lubricator

■Test specification

Test specification	Model	Speed	Stroke	Lubricant type
Lubricating effect	LSH20	30m/min	1200mm	ISO VG680 high-quality extreme pressure lubricant

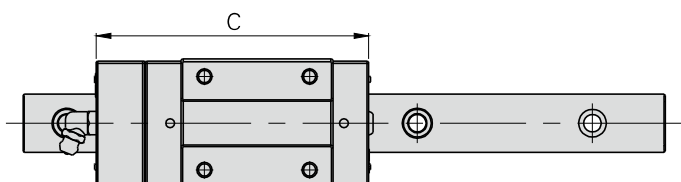
■Test result

Test result shows that after running 1,000 km, only 20% of the grease is consumed, and the linear guide remains lubricated. The expected service life can possibly exceed 4,000 km.



When comparing each sub-series with the self-lubricator and the standard model, the length of block will change. Please refer to the table below for details.

- Block dimension comparison (only dimension C is different from the standard, the rest remains the same)

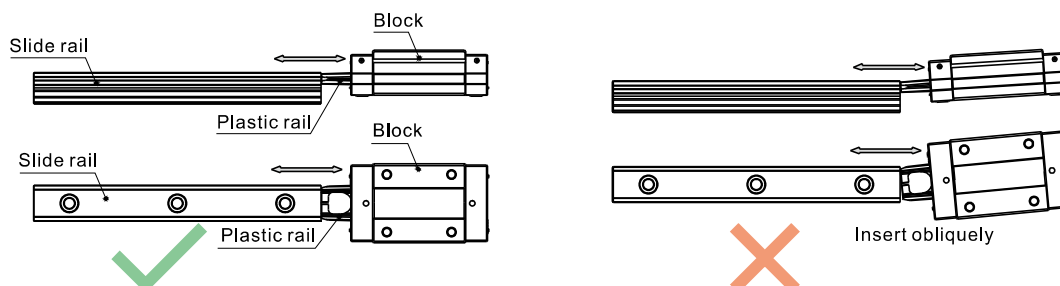


Model	Type	Length C(mm)	
		Standard (Blank)	Self-lubricator Standard Type
LSH15□N	Standard	60	75.5
LSH20□N	Standard	76.5	93.5
LSH20□L	Long	90.5	107.5
LSH25□N	Standard	83.5	100.5
LSH25□L	Long	105	122
LSH30□N	Standard	95.5	112.5
LSH30□L	Long	118	135
LSH35□N	Standard	109	126
LSH35□L	Long	134.5	151.5
LSH45□N	Standard	132	152.5
LSH45□L	Long	164	184.5

Precautions on use

1. Block disassembly

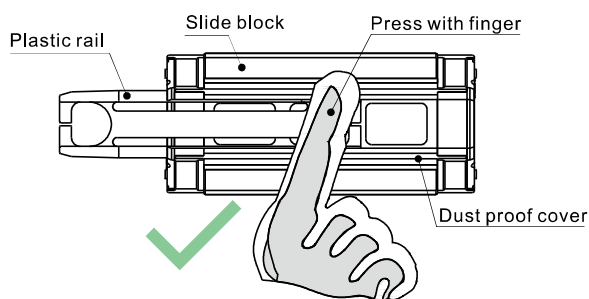
With ball retainers and a dustproof cover, normally the balls are prevented from falling out when block is removed from rail. However, if obliquely insert rail into blocks or quickly assembled or disassembled, there is a risk for balls of falling out. Please carefully assemble the linear guide or use plastic rails to assist.



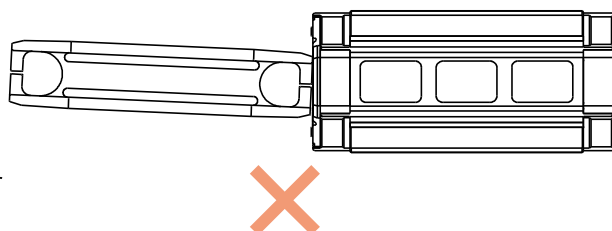
2. Plastic rail installation

A plastic rail is equipped for individual block set. Please do not remove plastic rail whenever it is not necessary.

If plastic rail falls out and needs to be reinstalled, press the dustproof covers with fingers and install slowly to prevent balls from falling out due to misalignment of plastic rail.



Press the dust-proof covers and insert plastic rail in alignment.



Without pressing dust-proof covers or insert plastic rail obliquely.

3. Caution

- Parts may slide out if linear guide is put unevenly. Please be careful.
- Hitting or dropping linear guide could have huge effect on accuracy and lifespan even though appearance may remain intact. Please be careful.
- Do not disassemble linear guide as external objects may enter blocks and cause accuracy problem.

4. Lubrication

- Linear guide have been treated with anti-rust oil during production. Before use, wipe the rail and treat it with lubrication.
- Do not mix lubricating oil (grease) with different properties.
- After lubrication, move block back and forth for the length of three blocks long and repeat at least 2 times to ensure there is a grease file on rail.

5. Use

- The operating environment temperature should not exceed 80°C, and the maximum temperature should not exceed 100°C.
- Do not separate blocks from rail whenever it is not necessary. If you need to separate them, please use plastic rails to prevent steel balls from falling out.

6. Storage

- When storing blocks, rails or linear guide set, please be sure that anti-rust oil is well applied and product is well sealed as well as placed horizontally. Avoid humidity and high temperatures environment.