



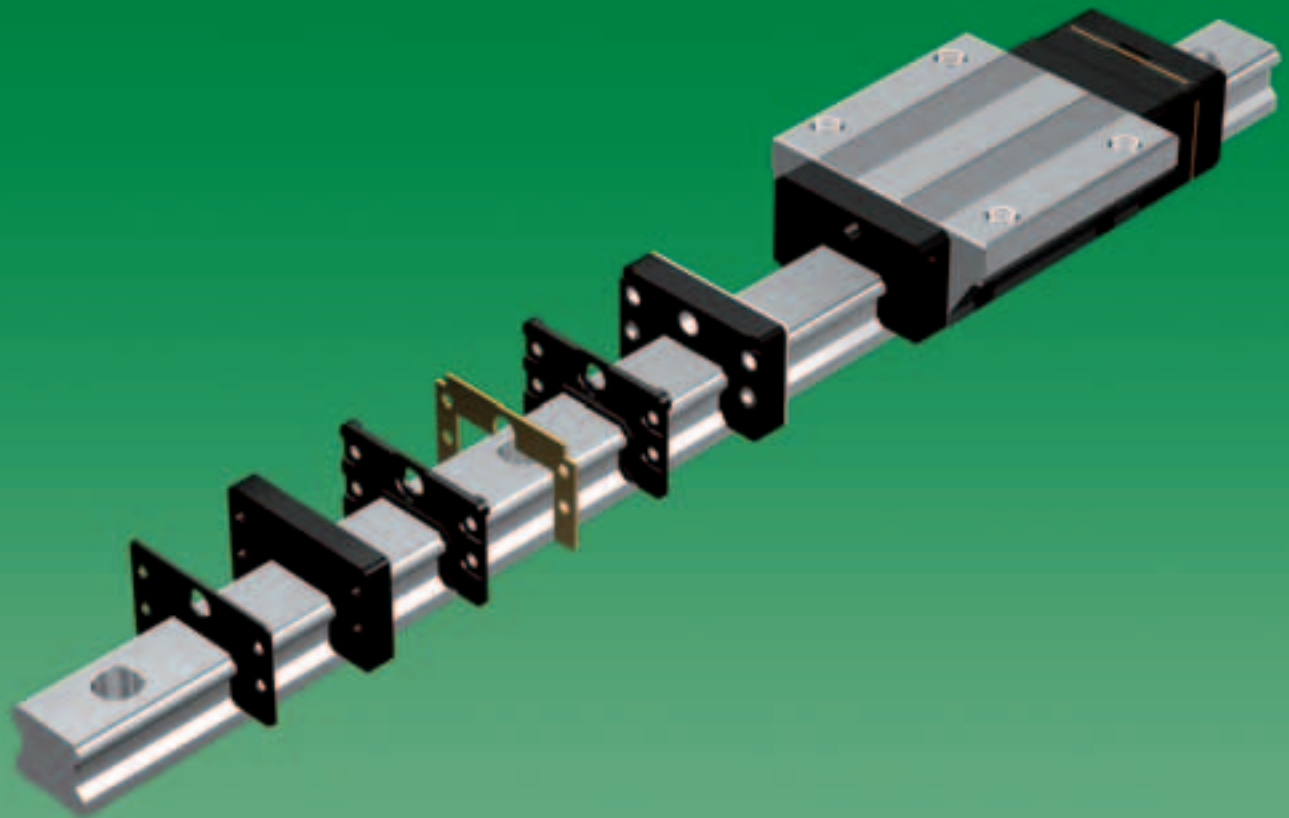
Options for the LM Guide

QZ Lubricator

Laminated Contract Scraper LaCS

Light Sliding Resistance Contact Seal LiCS

Side Scraper **NEW**



How to contact your authorised distributor

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Linear Division

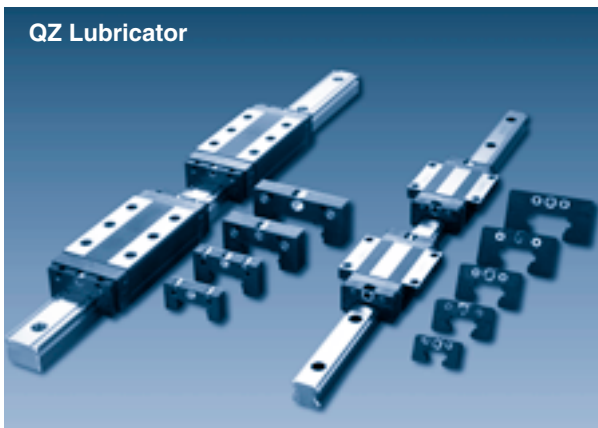
T 01709 789 949

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OPTIONS

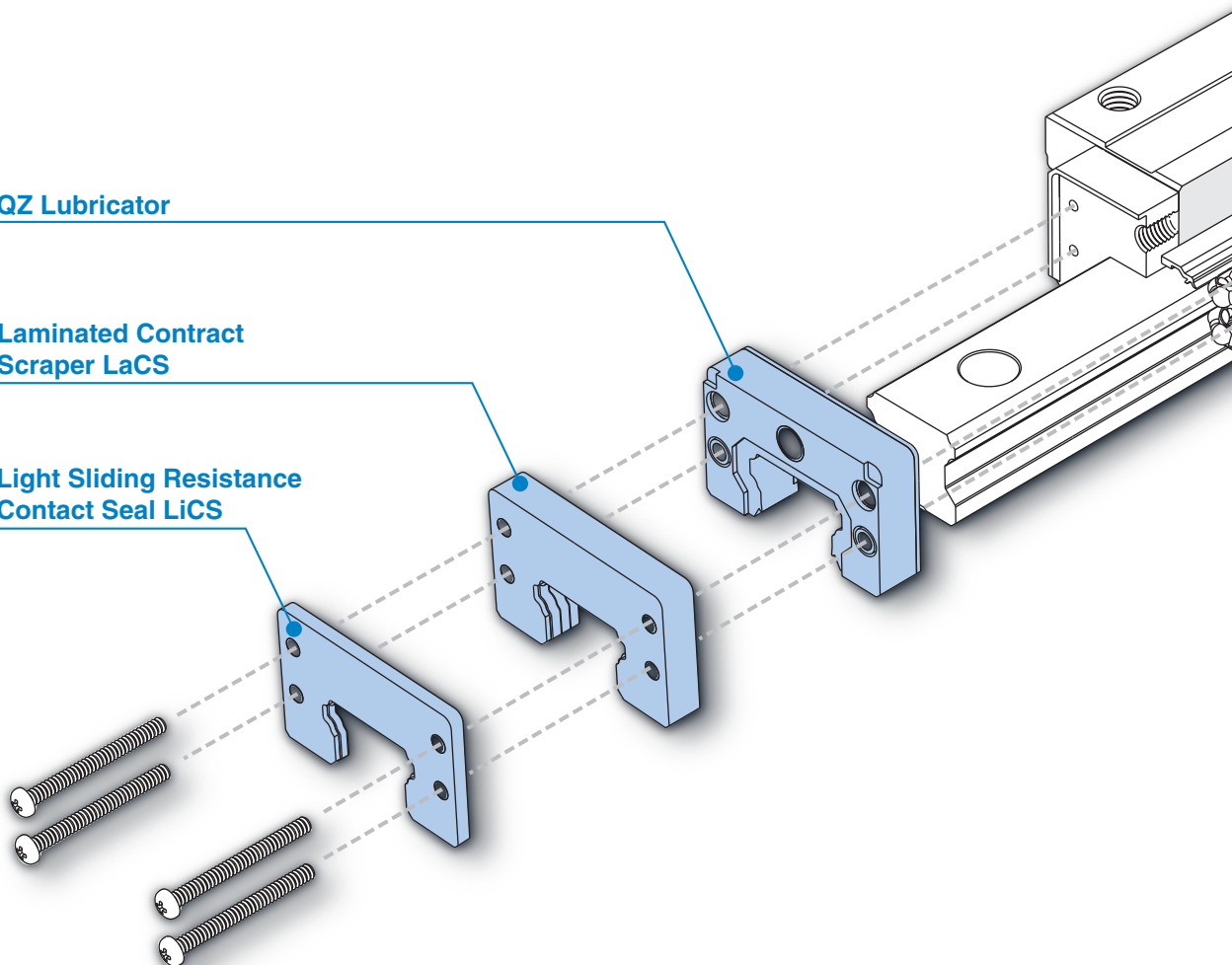
For LM Guides, dust-prevention and lubrication accessories are available.
You can make a selection according to the application or mounting location.

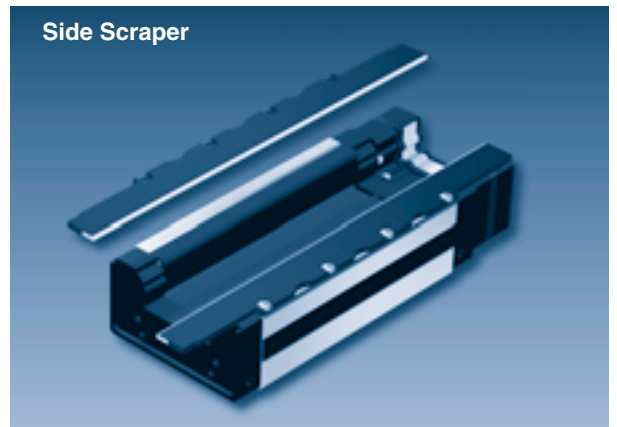
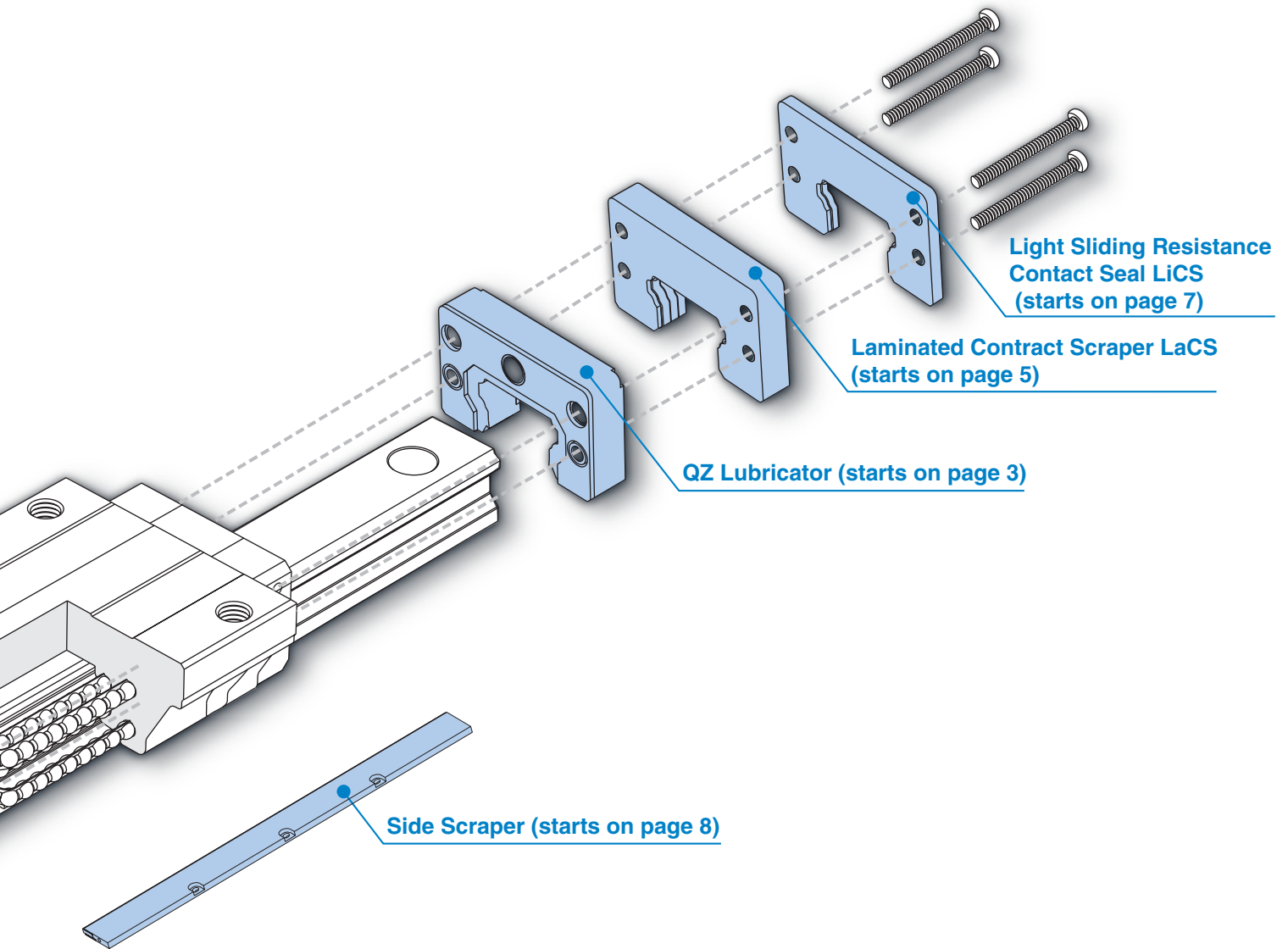


QZ Lubricator

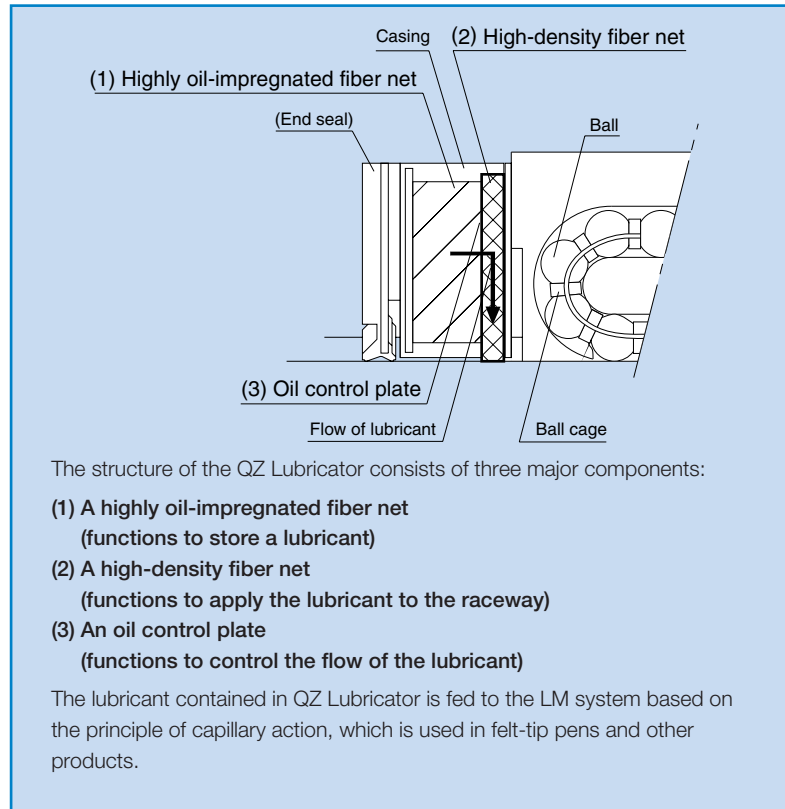
Laminated Contact Scraper LaCS

Light Sliding Resistance Contact Seal LiCS





QZ Lubricator



The QZ Lubricator feeds the right amount of lubricant to the raceway of the LM rail. This allows an oil film to be constantly formed between the rolling elements and the ball raceway, thus significantly extending the lubrication maintenance interval.

Features

- Since it supplements an oil loss, the lubrication maintenance interval can significantly be extended.
- Since the right amount of lubricant is applied to the ball raceway, an environmentally friendly lubrication system that does not contaminate the surroundings is achieved.
- It allows the user to select a lubricant that meets the intended use.

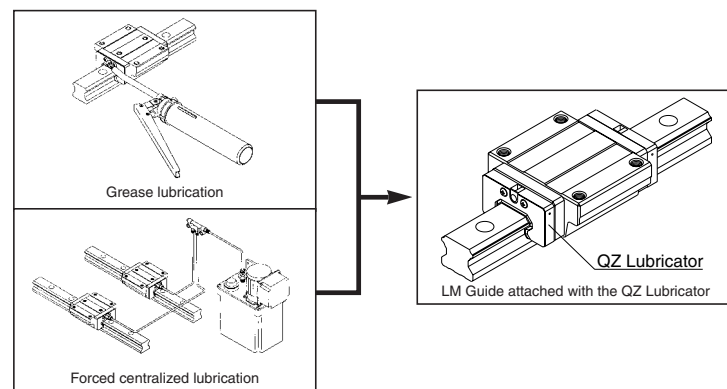
Applications

The QZ Lubricator provides an optimal lubrication system for the following requirements.

- To introduce an eco-friendly machine.
- To prevent contaminating the surroundings of the machine/equipment.
- To eliminate the waste of grease or oil used in the LM Guide.
- To minimize the piping of the machine.
- To extend the greasing interval or want to stop greasing.
- To lubricate the machine only with oil (want to avoid grease lubrication).

Significantly Extended Maintenance Interval

Attaching the QZ Lubricator helps extend the maintenance interval throughout the whole load range from the light-load area to the heavy-load area.



Note 1: The QZ Lubricator has an air vent. Do not block the vent with grease or the like.

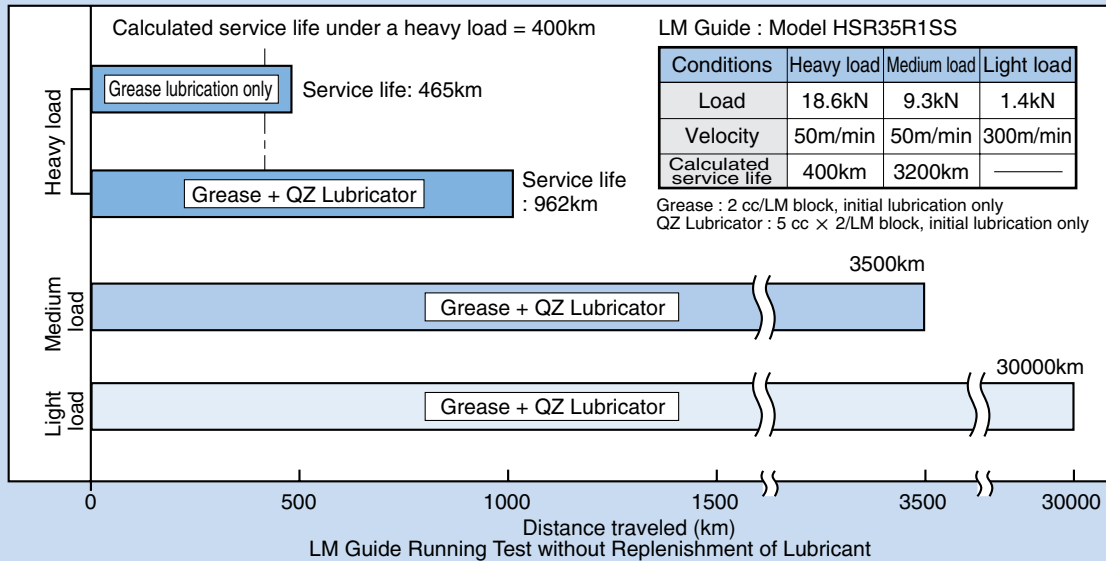
Note 2: Those LM Guide models attached with the QZ Lubricator cannot have a grease nipple. When desiring both the QZ Lubricator and a grease nipple to be attached, contact THK.

Note 3: The QZ Lubricator is not sold alone.

Performance

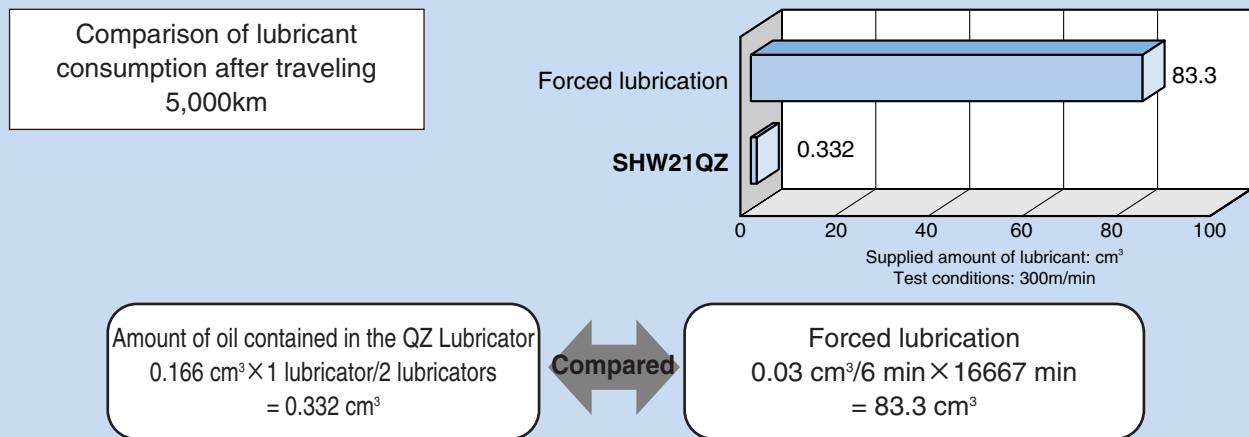
Significantly Extended Maintenance Interval

Attaching the QZ Lubricator helps extend the maintenance interval throughout the whole load range from the light-load area to the heavy-load area.



Effective Use of Lubricant

Since the QZ Lubricator feed the right amount of lubricant to the right place, the lubricant can be used efficiently.



Lubricant consumption is 1/250 of that of forced lubrication, thus significantly reducing the waste of lubricant.

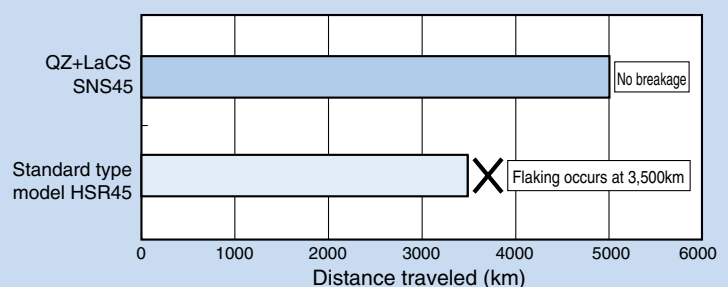
Lubrication Support Effect in a Harsh Environment

As a result of conducting a durability test in a harsh environment (environment with coolant, foreign material), a travel distance of 5,000 km was achieved.

[Test conditions]

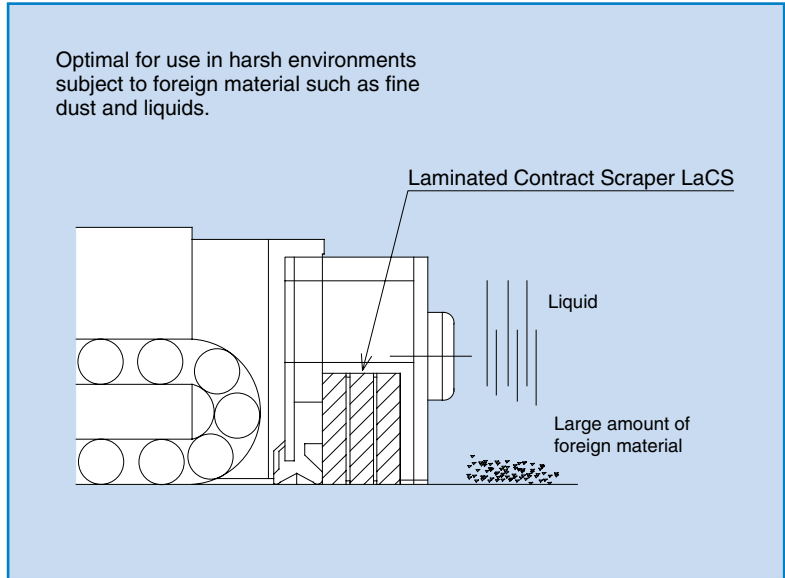
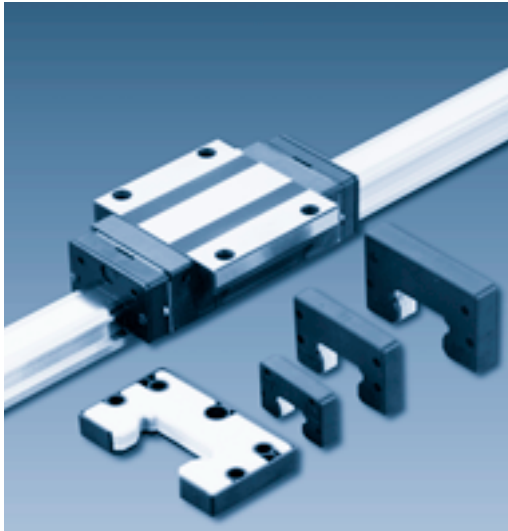
Model No.	SNS45	HSR45
Load	P = 0.1 C	
Velocity	60m/min	
Coolant	Immersed 48 hours, dried 96 hours	
Foreign material	Foundry dust (125 μm or less)	
Lubrication	AFA Grease + QZ	Super Multi 68 Operating cycle : 0.1 cc/shot Periodic time: 16min

[Test result]



Laminated Contract Scraper

LaCS



For locations with an adverse atmosphere, Laminated Contract Scraper LaCS is available. LaCS removes minute foreign material adhering to the LM rail in multiple stages and prevents it from entering the LM block with its laminated contact structure (3-layer scraper).

Features

- Since the 3 layers of scrapers fully contact the LM rail, LaCS is highly capable of removing minute foreign material.
- Since it uses oil-impregnated foam synthetic rubber with a self-lubricating function, low friction resistance is achieved.

Basic Specifications of LaCS

- Service temperature range of LaCS: -20°C to +80°C
- Resistance of LaCS: see the table below.

Resistance of LaCS (excluding sliding resistance of the LM block and other seals)

Unit: N

Model No.	Resistance	Model No.	Resistance	Model No.	Resistance	Model No.	Resistance					
SHS	15	5.2	SNR/SNS	25	8.1	SRG	20	6.1	HSR	15	3.8	
	20	6.5		30	13.4		25	6.9		20	5.6	
	25	11.7		35	15.5		30	8.2		25	7.5	
	30	18.2		45	23.3		35	9.1		30	14.9	
	35	20.8		55	28.6		45	14.3		35	22.4	
	45	26.0		65	39.6		55	18.2		45	32.1	
	55	32.5	SHW	21	3.9	65	26	55		36.5	65	43.8
	65	39		27	6.5	35	13	85		69.5		
SSR	15	5.9	SRS	50	19.5	SRN	35	9.1	NR/NRS	25	8.1	
	20	6.9		20	5.2		45	14.3		30	13.4	
	25	8.1	SCR	25	11.7		55	18.2		35	15.5	
	30	12.8		30	18.2	65	22.1	45		23.3		
	35	15.1		35	20.8	SRW	70	32.8		55	28.6	
				45	26		85	39.7		65	39.6	
			65	39	100	58.3						

Note 1: LaCS is not sold alone.

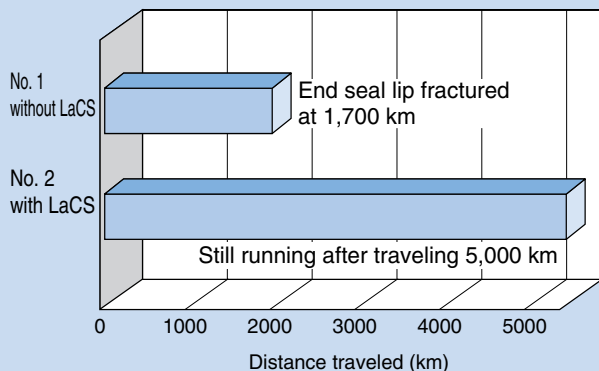
Note 2: For the maximum service speed of LaCS, contact THK.

Performance

[Test conditions] Test environment: water soluble coolant

Item	Description	
Tested model	No. 1	SHS45R1SS + 3000L (without LaCS)
	No. 2	SHS45R1SSHH + 3000L (with LaCS)
Maximum speed	200 m/min	
Environmental conditions	Coolant sprayed: 5 times/day	

[Test result]



[Test conditions] Test environment: environment with minute foreign material

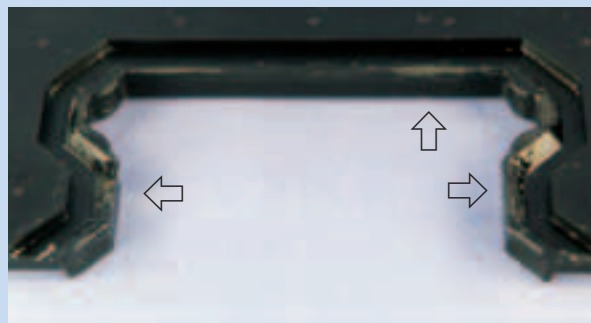
Item	Description	
Tested model	No. 1	SNR45R1DD + 600L (with double seals)
	No. 2	SNR45R1HH + 600L (with LaCS only)
Maximum speed, acceleration	60 m/min; 1G	
External load	9.6 kN	
Foreign material conditions	Type: FCD450#115 (particle diameter: 125 μm or less)	
	Sprayed amount: 1 g/hour (total sprayed amount: 120 g)	

[Test result] Amount of foreign material entering the raceway

Seal configuration		Amount of foreign material entering the raceway: g
Sample No.1 Conventional dust prevention (double end-seal)	n=1	0.3
	n=2	0.3
	n=3	0.3
Sample No.2 LaCS	n=1	0.0
	n=2	0.0
	n=3	0.0

Magnified view of the end seal lip

No. 1: without LaCS: lip fractured at 1,700 km



↔ Areas marked with an arrow are fractured.

No. 2: with LaCS: no anomaly observed after traveling 5,000 km



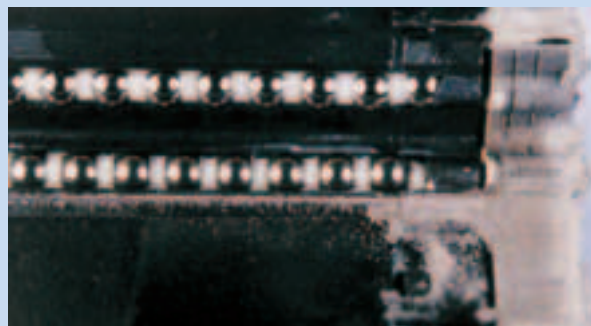
Lip has not been fractured

No. 1: traveled 100 km (with double seals)



Large amount of foreign material has entered the ball raceway.

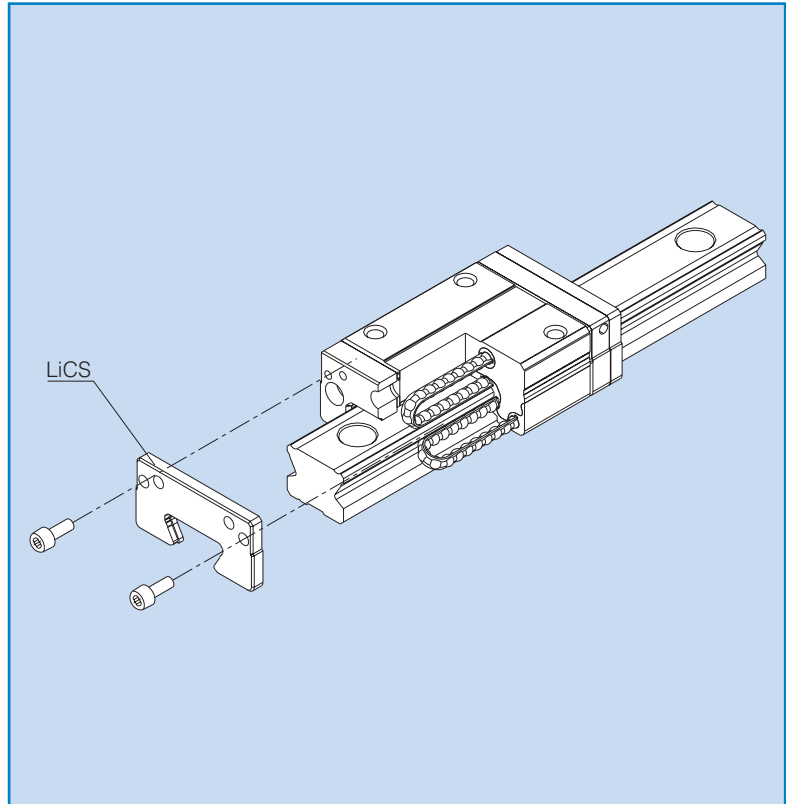
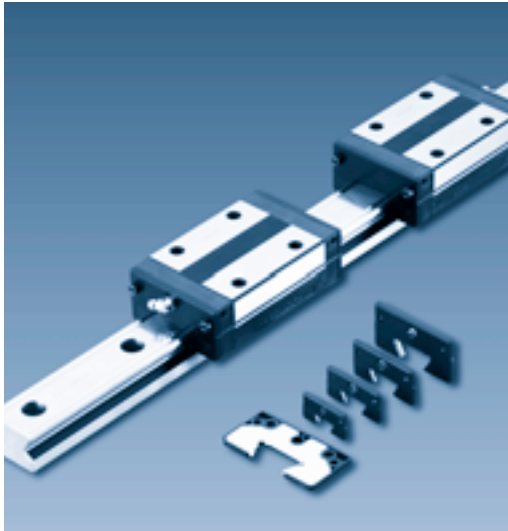
No. 2: traveled 100 km (with LaCS only)



No foreign material entering the raceway is observed.

Light Sliding Resistance Contact Seal LiCS

LiCS



LiCS is a contact seal with a low sliding resistance. It is effective in removing dust and the like from the raceway and retaining a lubricant such as grease. With its very low sliding resistance, LiCS achieves a smooth and stable motion.

Features

Light Sliding Resistance Contact Seal LiCS is a contact seal that achieves a low sliding resistance by using a low sliding resistance material for the seal and having the seal contact with the LM rail raceway. It is optimal for locations requiring a low sliding resistance such as semiconductor-related machines, inspection machines and OA equipment, which are used in favorable service conditions.

- Effective in removing dust or the like adhering to the LM rail raceway with a seal that contacts the raceway.
- Use of oil-impregnated, foamed synthetic rubber, which is high self-lubricating, achieves a low sliding resistance.
- * LiCS model SSR is attached with a grease nipple as standard. For the mounting location for the grease nipple and the incremental dimension with the grease nipple attached, see page 17.
- * LiCS models include types that also support other Caged Ball LM Guide models such as SHS. Contact THK for details.

Basic Specifications of LiCS

- Service temperature range: -20°C to +80°C
- Resistance of LiCS: For seal resistance of LiCS, see the table below.

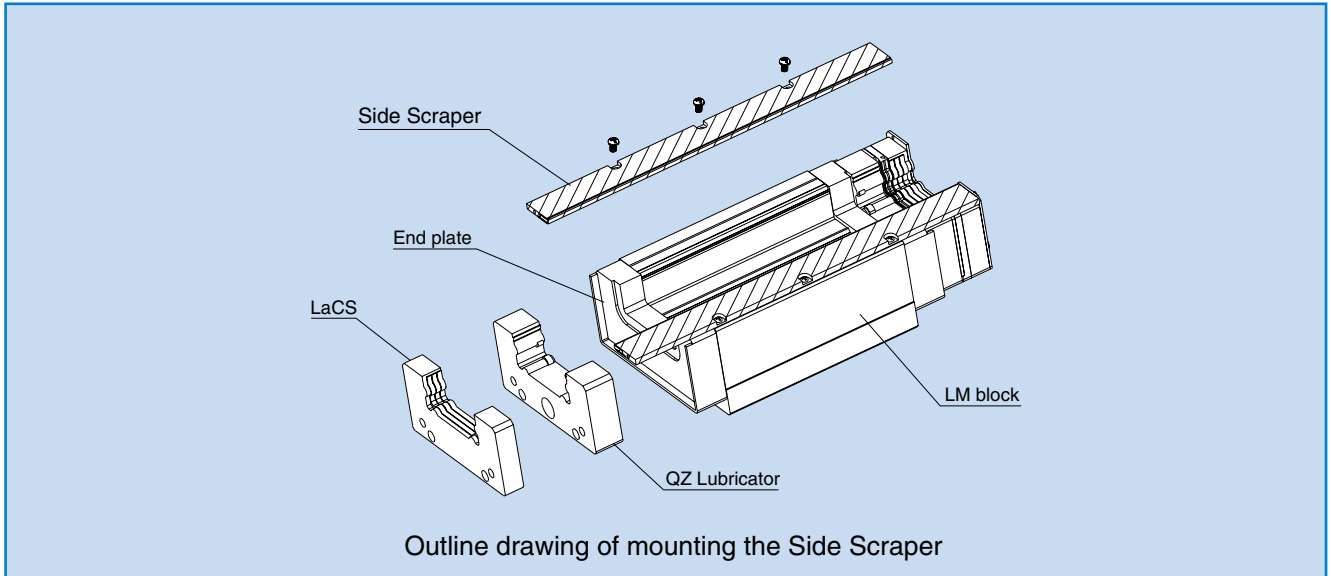
Maximum Seal Resistance of LiCS

Unit: N

Model No.		Resistance
SSR	15	1
	20	1.1
	25	1.6
	30	1.6
	35	2
SRG	15	0.7

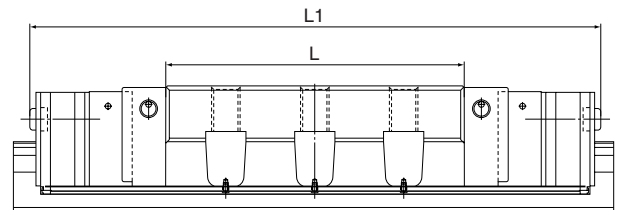
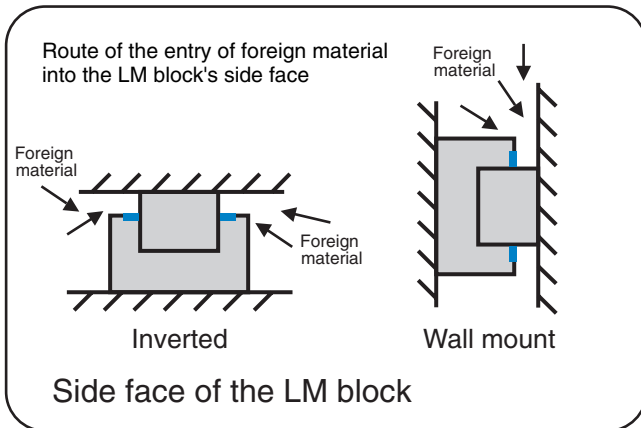
Note: Each value represents the sliding resistance of 2 LiCS units per LM block, and excludes the sliding resistance of the side seal.

Side Scraper



Features

- Minimizes the entry of foreign material from the side face of the LM Guide in a harsh environment.
- Provides a dust prevention effect in an inverted or wall-mount orientation.



The Side Scraper can be attached to long LM block types of models SNR/SNS.

Unit: N

LM Guide model No.	LM block type	L	L1	
SNR/SNS	25	LR/LC	81.6	150.1
	30		94.6	172.6
	35	LR/LC/LRH/LCH	104.5	199.2
	45		137.8	239.4
	55		160.8	279.4
	65		203.6	328.7

Example of model number coding

SNR45 LR 1 QZ ZZHH YY C1 +1200L

With Side Scraper attached*

* Standard options for models SNR/SNS attached with the Side Scraper are QZZZHHYY (end seal, side seal, inner seal, metal scraper, LaCS, and the QZ + Side Scraper).

Table of Symbols for Options

Various combinations of options are available. See the table below for symbols for specific options.

Symbol	Dust prevention accessories
UU	End seal
SS	End seal + side seal + inner seal
DD	Double seals + side seal + inner seal
ZZ	End seal + side seal + inner seal + metal scraper
KK	Double seals + side seal + inner seal + metal scraper
GG	LiCS
PP	LiCS + side seal + inner seal
SSHH	End seal + side seal + inner seal + LaCS
DDHH	Double seals + side seal + inner seal + LaCS
ZZHH	End seal + side seal + inner seal + metal scraper + LaCS
KKHH	Double seals + side seal + inner seal + metal scraper + LaCS
QZUU	End seal + QZ
QZSS	End seal + side seal + inner seal + QZ
QZDD	Double seals + side seal + inner seal + QZ
QZZZ	End seal + side seal + inner seal + metal scraper + QZ
QZKK	Double seals + side seal + inner seal + metal scraper + QZ
QZGG	LiCS + QZ
QZPP	LiCS + side seal + inner seal + QZ
QZSSHH	End seal + side seal + inner seal + LaCS + QZ
QZDDHH	Double seals + side seal + inner seal + LaCS + QZ
QZZZHH	End seal + side seal + inner seal + metal scraper + LaCS + QZ
QZKKHH	Double seals + side seal + inner seal + metal scraper + LaCS + QZ

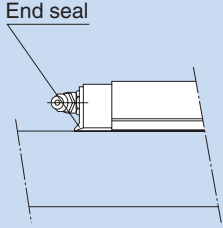
Seals and a Metal Scraper

In addition to LaCS and LiCS, THK also offers other options such as an end seal made of special synthetic rubber with high wear resistance and a side seal designed to increase the dust prevention effect.

For LM Guide models supported for dust prevention accessories and the overall LM block length (dimension L) with the desired dust prevention accessory attached, see page 13.

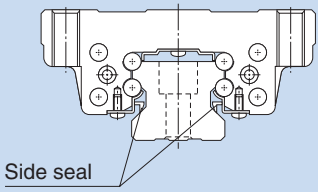
End seal

Used in locations exposed to dust



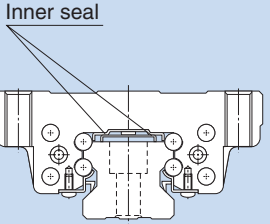
Side seal

Used in locations where dust may enter the LM block from its side or bottom surface, such as vertical, horizontal and inverted mounts



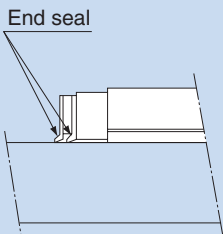
Inner seal

Used in locations severely exposed to dust or cutting chips



Double seals

Used in locations exposed to much dust or many cutting chips



Metal scraper (non-contact)

Used in locations where welding spatter may adhere to the LM rail

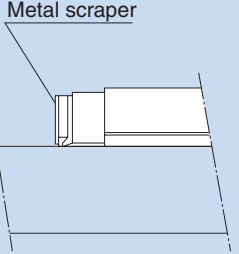
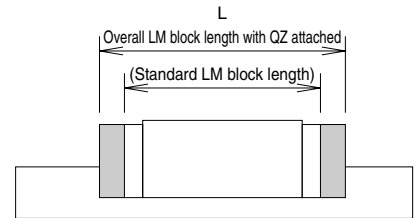


Table of LM Guide Models and Corresponding Options (QZ, LaCS, LiCS and Side Scraper)

Model No.	Dust prevention											Lubrication
	UU	SS	DD	ZZ	KK	LaCS	LiCS		Side Scraper	Low resistance end seal		QZ Lubricator
						HH	GG	PP		LL	+ end seal RR	QZ
SHS	○	○	○	○	○	○	—	—	—	—	—	○
SSR	○	○	○	○	○	○	○	—	—	—	—	○
SNR/SNS	○	○	○	○	○	○	—	—	○	—	—	○
SHW	12 to 14	○	○	—	—	—	—	—	—	—	—	○
	17 to 50	○	○	○	○	○	—	—	—	—	—	○
SRS	7 to 15	○	○	—	—	—	—	—	—	—	—	○
	20 to 25	○	○	—	—	—	○	—	—	—	—	○
SCR	○	○	○	○	○	○	—	—	—	—	—	○
SRG	15	○	○	○	○	○	○	○	—	—	—	○
	20 to 65	○	○	○	○	○	○	—	—	—	—	○
SRW	○	○	○	○	○	○	—	—	—	—	—	○
HSR	○	○	○	○	○	○	—	—	—	○	○	○
NR/NRS	○	○	○	○	○	○	—	—	—	—	—	○
RSR	9 to 15	○	—	—	—	—	—	—	—	—	—	○
	9W to 15W	○	—	—	—	—	—	—	—	—	—	○

○ : available
 — : unavailable

LM Block Length (Dimension L) with QZ Attached



Unit: mm

Model No.		Standard LM block length	L								
			QZUU	QZSS	QZDD	QZZZ	QZKK	QZSSH	QZDDH	QZZZH	QZKKH
SHS	15C/V/R	64.4	84.4	84.4	89.8	86.8	92.2	100	105.4	101.2	106.6
	15LC/LV	79.4	99.4	99.4	104.8	101.8	107.2	115	120.4	116.2	121.6
	20C/V	79	99	99	105.4	103	109.4	115.4	121.8	117.8	124.2
	20LC/LV	98	118	118	124.4	122	128.4	134.4	140.8	136.8	143.2
	25C/V/R	92	114.4	114.4	121.6	120.4	127.6	132	139.2	134.4	141.6
	25LC/LV/LR	109	131.4	131.4	138.6	137.4	144.6	149	156.2	151.4	158.6
	30C/V/R	106	127.4	127.4	136	133.8	142.4	149.4	158	151.8	160.4
	30LC/LV/LR	131	152.4	152.4	161	158.8	167.4	174.4	183	176.8	185.4
	35C/V/R	122	145	145	154.8	152.4	162.2	168	177.8	170.4	180.2
	35LC/LV/LR	152	175	175	184.8	182.4	192.2	198	207.8	200.4	210.2
	45C/V/R	140	173	173	182.8	181.2	191	199	208.8	202.2	212
	45LC/LV/LR	174	207	207	216.8	215.2	225	233	242.8	236.2	246
	55C/V/R	171	205.4	205.4	216.6	214.2	225.4	232	243.2	235.2	246.4
	55LC/LV/LR	213	247.4	247.4	258.6	256.2	267.4	274	285.2	277.2	288.4
65C/V	221	256.2	256.2	268.6	266.2	278.6	288	300.4	291.2	303.6	
65LC/LV	272	307.2	307.2	319.6	317.2	329.6	339	351.4	342.2	354.6	
SSR	15XVY	40.3	59.3	59.3	65.1	62.7	68.5	75.5	81.3	76.7	82.5
	15XWY/XTBY	56.9	75.9	75.9	81.7	79.3	85.1	92.1	97.9	93.3	99.1
	20XV	47.7	66.2	66.2	73.1	72.1	79	83.7	90.6	86.1	93
	20XW/XTB	66.5	85	85	91.9	90.9	97.8	102.5	109.4	104.9	111.8
	25XVY	60	82.6	82.6	90	88.4	95.8	100	107.4	102.4	109.8
	25XWY/XTBY	83	105.6	105.6	113	111.4	118.8	123	130.4	125.4	132.8
	30XW	97	119.7	119.7	127.8	125.4	133.5	141	149.1	143.4	151.5
	35XW	110.9	134.3	134.3	143.3	141.3	150.3	156.9	165.9	159.3	168.3
	25R/C	82.8	105.2	105.2	112.8	110.9	118.5	122.5	130.1	124.9	132.5
	25LR/LC	102	124.4	124.4	132	130.1	137.7	141.7	149.3	144.1	151.7
30R/C	98	121.2	121.2	131	126.9	136.7	141.7	151.5	144.1	153.9	
30LR/LC	120.5	143.7	143.7	153.5	149.4	159.2	164.2	174	166.6	176.4	
35R/C	109.5	142.7	142.7	152.9	149.5	159.7	164.3	174.5	166.7	176.9	
35LR/LC	135	168.2	168.2	178.4	175	185.2	189.8	200	192.2	202.4	
45R/C	138.2	171.4	171.4	181.6	179	189.2	196.4	206.6	199.6	209.8	
45LR/LC	171	204.2	204.2	214.4	211.8	222	229.2	239.4	232.4	242.6	
55R/C	163.3	204.5	204.5	214.7	213.2	223.4	231	241.2	234.2	244.4	
55LR/LC	200.5	241.7	241.7	251.9	250.4	260.6	268.2	278.4	271.4	281.6	
65R/C	186	227.6	227.6	238.2	236.3	246.9	257.5	268.1	260.7	271.3	
65LR/LC	246	287.6	287.6	298.2	296.3	306.9	317.5	328.1	320.7	331.3	
SHW	12 CAM/CRM	37	47	47	—	—	—	—	—	—	—
	12 HRM	50.4	60.4	60.4	—	—	—	—	—	—	—
	14 CAM/CRM	45.5	55.5	55.5	—	—	—	—	—	—	—
	17 CAM/CRM	51	63	63	66	65.4	68.4	—	—	—	—
	21 CA/CR	59	75	75	80	78.6	83.6	91.6	96.6	93.2	98.2
	27 CA/CR	72.8	92.8	92.8	98.6	97.2	103	109.4	115.2	111.8	117.6
	35 CA/CR	107	127	127	134.4	132	139.4	149	156.4	151.4	158.8
	50 CA/CR	141	161	161	169.2	167.4	175.6	186	194.2	188.4	196.6
SRS	7	23.4	33.4	33.4	—	—	—	—	—	—	—
	7W	31	41	41	—	—	—	—	—	—	—
	9	30.8	40.8	40.8	—	—	—	—	—	—	—
	9W	39	49	49	—	—	—	—	—	—	—
	12	34.4	44.4	44.4	—	—	—	—	—	—	—
	12W	44.5	54.5	54.5	—	—	—	—	—	—	—
	15	43	55	55	—	—	—	—	—	—	—
	15W	55.5	67.5	67.5	—	—	—	—	—	—	—
	20	50	66	66	—	—	—	83.2	—	—	—
	25	77	97	97	—	—	—	115.2	—	—	—
SCR	25	109	131.4	131.4	138.6	137.4	144.6	149	156.2	151.4	158.6
	30	131	152.4	152.4	161	158.8	167.4	174.4	183	176.8	185.4
	35	152	175	175	184.8	182.4	192.2	198	207.8	200.4	210.2
	45	174	207	207	216.8	215.2	225	233	242.8	236.2	246
	65	272	307.2	307.2	319.6	317.2	329.6	339	351.4	342.2	354.6

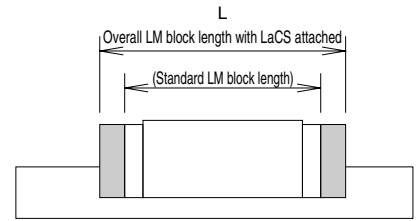
Model No.		Standard LM block length	L								
			QZUU	QZSS	QZDD	QZZZ	QZKK	QZSSH	QZDDH	QZZZH	QZKHH
SRG	15A/V	69	92	92	94	—	—	—	—	—	—
	20A/V	86	109	109	111	112.4	114.4	126.6	128.6	129	131
	20LA/LV	106	129	129	131	132.4	134.4	146.6	148.6	149	151
	25C/R	95.5	125.5	125.5	130.5	130.5	135.5	145.3	151.7	147.7	154.1
	25LC/LR	115.1	145.1	145.1	150.1	150.1	155.1	164.9	171.3	167.3	173.7
	30C/R	111	141	141	148	146	153	160.8	169.2	164.6	171.6
SRG/SRN	30LC/LR	135	165	165	172	170	177	184.8	193.2	188.6	195.6
	35C/R	125	155	155	162.8	163.4	171.2	178.6	186.4	181	188.8
	35LC/LR	155	185	185	192.8	193.4	201.2	208.6	216.4	211	218.8
	45C/R	155	185	185	194.2	194.2	203.4	212	221.2	215.2	224.5
	45LC/LR	190	220	220	229.2	229.2	238.4	247	256.2	250.2	259.4
	55C/R	185	225	225	234.2	234.2	243.4	252	261.2	255.2	264.4
SRW	55LC/LR	235	275	275	284.2	284.2	293.4	302	311.2	305.2	314.4
	65LC/LV	303	343	343	354.2	354.2	365.4	375.4	386.6	378.6	389.8
	70LR	190	220	220	229.2	229.2	238.4	247	256.2	250.2	259.4
	85LR	235	275	275	284.2	284.2	293.4	302	311.2	305.2	314.4
HSR	100LR	303	343	343	354.2	354.2	365.4	375.4	386.6	378.6	389.8
	15A/B/R/YR	56.6	79.6	79.6	87.6	84.2	92.2	98.8	106.8	100	108
	20A/B/R/CA/CB/YR	74	96.2	96.2	104.4	102	110.2	113.6	121.8	116	124.2
	20LA/LB/LR/HA/HB	90	112.2	112.2	120.4	118	126.2	129.6	137.8	132	140.2
	25A/B/R/CA/CB/YR	83.1	104.1	104.1	112.1	109.8	117.8	121.4	129.4	123.8	131.8
	25LA/LB/LR/HA/HB	102.2	123.2	123.2	131.2	128.9	136.9	140.5	148.5	142.9	150.9
	30A/B/R/CA/CB/YR	98	119	119	127	124.7	132.7	140.3	148.3	142.7	150.7
	30LA/LB/LR/HA/HB	120.6	141.6	141.6	149.6	147.3	155.3	162.9	170.9	165.3	173.3
	35A/B/R/CA/CB/YR	109.4	132.2	132.2	142	139	148.8	154.6	164.4	157	166.8
	35LA/LB/LR/HA/HB	134.8	157.6	157.6	167.4	164.4	174.2	180	189.8	182.4	192.2
	45A/B/R/CA/CB/YR	139	174.8	174.8	181.6	176.6	186.4	—	—	—	—
	45LA/LB/LR/HA/HB	170.8	206.6	206.6	213.4	208.4	218.2	—	—	—	—
	55A/B/R/CA/CB/YR	163	197.2	197.2	208.4	202	213.2	—	—	—	—
	55LA/LB/LR/HA/HB	201.1	235.3	235.3	246.5	240.1	251.3	—	—	—	—
	65A/B/R/CA/CB/YR	186	221.4	221.4	233.8	226.6	239	—	—	—	—
	65LA/LB/LR/HA/HB	245.5	280.9	280.9	293.3	286.1	298.5	—	—	—	—
NR/NRS	25XR/XA/XB	82.8	105.2	105.2	112.8	110.9	118.5	122.5	130.1	124.9	132.5
	25XL/XLA/XLB	102	124.4	124.4	132	130.1	137.7	141.7	149.3	144.1	151.7
	30R/A/B	98	120.4	120.4	129.4	126.1	135.1	141.7	150.7	144.1	153.1
	30LR/LA/LB	120.5	142.9	142.9	151.9	148.6	157.6	164.2	173.2	166.6	175.6
	35R/A/B	109.5	142.7	142.7	152.9	149.5	159.7	164.3	174.5	166.7	176.9
	35LR/LA/LB	135	168.2	168.2	178.4	175	185.2	189.8	200	192.2	202.4
	45R/A/B	139	172.2	172.2	182.4	179.8	190	197.6	207.8	200.8	211
	45LR/LA/LB	171	204.2	204.2	214.4	211.8	222	229.6	239.8	232.8	243
	55R/A/B	162.8	204.8	204.8	215	213.5	223.7	231.3	241.5	234.5	244.7
	55LR/LA/LB	200	242	242	252.2	250.7	260.9	268.5	278.7	271.7	281.9
	65R/A/B	185.6	227.6	227.6	238.2	236.3	246.9	258.1	268.7	261.3	271.9
	65LR/LA/LB	245.6	287.6	287.6	298.2	296.3	306.9	318.1	328.7	321.3	331.9
RSR	9	31	40.8	—	—	—	—	—	—	—	—
	9N	41	50.8	—	—	—	—	—	—	—	—
	9W	39	49	—	—	—	—	—	—	—	—
	9WN	51	60.7	—	—	—	—	—	—	—	—
	12	35	45	—	—	—	—	—	—	—	—
	12N	47.5	57.7	—	—	—	—	—	—	—	—
	12W	44.5	54.5	—	—	—	—	—	—	—	—
	12WN	59.5	69.5	—	—	—	—	—	—	—	—
	15	43	55	—	—	—	—	—	—	—	—
	15N	61	72.7	—	—	—	—	—	—	—	—
	15W	55.5	67.5	—	—	—	—	—	—	—	—
	15WN	74.5	86.5	—	—	—	—	—	—	—	—

Example of model number coding

SHS25	LC	2	QZ	KKHH	C0	+1200L	P	Z	- II
Model No.	Type of LM block	Number of LM blocks on the same rail	With QZ Lubricator attached	Symbol for dust prevention option	Symbol for radial clearance Normal (no symbol), light preload (C1), medium preload (C0)	LM rail length (in mm)	Accuracy symbol Normal grade (no symbol), high grade (H), precision grade (P), super precision grade (SP), ultra-super precision grade (UP)	With steel tape attached	Number of rails used on the same plane

Note 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). Those models attached with the QZ Lubricator cannot have a grease nipple.

LM Block Length (Dimension L) with LaCS and Seals Attached



unit : mm

Model No.		Standard LM block length	L								
			UU	SS	DD	ZZ	KK	SSHH	DDHH	ZZHH	KKHH
SHS	15C/V/R	64.4	64.4	64.4	69.8	66.8	72.2	78.6	84	79.8	85.2
	15LC/LV	79.4	79.4	79.4	84.8	81.8	87.2	93.6	99	94.8	100.2
	20C/V	79	79	79	85.4	83	89.4	93.6	100	96	102.4
	20LC/LV	98	98	98	104.4	102	108.4	112.6	119	115	121.4
	25C/V/R	92	92	92	101.6	100.4	107.6	112	119.2	114.4	121.6
	25LC/LV/LR	109	109	109	118.6	117.4	124.6	129	136.2	131.4	138.6
	30C/V/R	106	106	106	116	113.8	122.4	129.4	138	131.8	140.4
	30LC/LV/LR	131	131	131	141	138.8	147.4	154.4	163	156.8	165.4
	35C/V/R	122	122	122	134.8	132.4	142.2	148	157.8	150.4	160.2
	35LC/LV/LR	152	152	152	164.8	162.4	172.2	178	187.8	180.4	190.2
	45C/V/R	140	140	140	152.8	151.2	161	169	178.8	172.2	182
	45LC/LV/LR	174	174	174	186.8	185.2	195	203	212.8	206.2	216
	55C/V/R	171	171	171	186.6	184.2	195.4	202	213.2	205.2	216.4
	55LC/LV/LR	213	213	213	228.6	226.2	237.4	244	255.2	247.2	258.4
65C/V	221	221	221	238.6	236.2	248.6	258	270.4	261.2	273.6	
65LC/LV	272	272	272	289.6	287.2	299.6	309	321.4	312.2	324.6	
SSR	15XVY	40.3	40.3	40.3	47.3	44.9	50.7	59.5	65.3	60.7	66.5
	15XWY/XUBY	56.9	56.9	56.9	63.9	61.5	67.3	76.1	81.9	77.3	83.1
	20XV	47.7	47.7	47.7	54.6	53.4	60.3	67.7	74.6	70.1	77
	20XW/XUBY	66.5	66.5	66.5	73.4	72.2	79.1	86.5	93.4	88.9	95.8
	25XVY	60	60	60	67.4	65.7	73.1	80	87.4	82.4	89.8
	25XWY/XUBY	83	83	83	90.4	88.7	96.1	103	110.4	105.4	112.8
	30XW	97	97	97	105.1	102.7	110.8	121	129.1	123.4	131.5
	35XW	110.9	110.9	110.9	119.9	117.7	126.7	136.9	145.9	139.3	148.3
	25R/C	82.8	82.8	82.8	90.4	89.2	96.8	100.1	107.7	102.5	110.1
	25LR/LC	102	102	102	109.6	108.4	116	119.3	126.9	121.7	129.3
SNR/SNS	30R/C	98	98	98	107.8	104.4	114.2	118.5	128.3	120.9	130.7
	30LR/LC	120.5	120.5	120.5	130.3	126.9	136.7	141	150.8	143.4	153.2
	35R/C	109.5	109.5	109.5	119.7	117.1	127.3	131.1	141.3	133.5	143.7
	35LR/LC	135	135	135	145.2	142.6	152.8	156.6	166.8	159	169.2
	45R/C	138.2	138.2	138.2	148.4	146.6	156.8	163.2	173.4	166.4	176.6
	45LR/LC	171	171	171	181.2	179.4	189.6	196	206.2	199.2	209.4
	55R/C	163.3	163.3	163.3	172.7	171.1	181.3	187.8	198	191	201.2
	55LR/LC	200.5	200.5	200.5	209.9	208.3	218.5	225	235.2	228.2	238.4
	65R/C	186	186	186	196.2	194.2	204.8	214.3	224.9	217.5	228.1
	65LR/LC	246	246	246	256.2	254.2	264.8	274.3	284.9	277.5	288.1
85LR/LC	302.8	302.8	302.8	313.8	311.8	322.8	—	—	—	—	
SHW	12 CAM/CRM	37	37	37	—	—	—	—	—	—	—
	12 HRM	50.4	50.4	50.4	—	—	—	—	—	—	—
	14 CAM/CRM	45.5	45.5	45.5	—	—	—	—	—	—	—
	17 CAM/CRM	51	51	51	54	53.4	56.4	—	—	—	—
	21 CA/CR	59	59	59	64	63.2	68.2	75.6	80.6	77.2	82.2
	27 CA/CR	72.8	72.8	72.8	78.6	77.8	83.6	89.4	95.2	91.8	97.6
	35 CA/CR	107	107	107	114.4	112	119.4	129	136.4	131.4	138.8
50 CA/CR	141	141	141	149.2	147.4	155.6	166	174.2	168.4	176.6	
SRS	7	23.4	23.4	23.4	—	—	—	—	—	—	—
	7W	31	31	31	—	—	—	—	—	—	—
	9	30.8	30.8	30.8	—	—	—	—	—	—	—
	9W	39	39	39	—	—	—	—	—	—	—
	12	34.4	34.4	34.4	—	—	—	—	—	—	—
	12W	44.5	44.5	44.5	—	—	—	—	—	—	—
	15	43	43	43	—	—	—	—	—	—	—
	15W	55.5	55.5	55.5	—	—	—	—	—	—	—
	20	50	50	50	—	—	—	67.2	—	—	—
	25	77	77	77	—	—	—	95.2	—	—	—
SCR	25	109	109	109	118.6	117.4	124.6	129	136.2	131.4	138.6
	30	131	131	131	141	138.8	147.4	154.4	163	156.8	165.4
	35	152	152	152	164.8	162.4	172.2	178	187.8	180.4	190.2
	45	174	174	174	186.8	185.2	195	203	212.8	206.2	216
	65	272	272	272	289.6	287.2	299.6	309	321.4	312.2	324.6

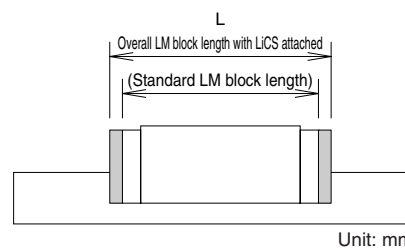
Model No.		Standard LM block length	L								
			UU	SS	DD	ZZ	KK	SSHH	DDHH	ZZHH	KKHH
SRG	15A/V	69	69	69	71	—	—	—	—	—	—
	20A/V	86	86	86	88	91.4	93.4	106.6	108.6	109	111
	20LA/LV	106	106	106	108	111.4	113.4	126.6	128.6	129	131
	25C/R	95.5	95.5	95.5	100.5	100.5	105.5	115.3	120.3	117.7	122.7
	25LC/LR	115.1	115.1	115.1	120.1	120.1	125.1	134.9	139.9	137.6	142.3
	30C/R	111	111	111	118	116	123	130.8	137.8	133.2	140.2
SRG/ SRN	30LC/LR	135	135	135	142	140	147	154.8	161.8	157.2	164.2
	35C/R	125	125	125	132.8	133.4	141.4	148.6	151	151	159
	35LC/LR	155	155	155	162.8	163.4	171.2	178.6	181	181	188.8
	45C/R	155	155	155	164.2	164.2	173.4	182	185.2	185.5	194.5
	45LC/LR	190	190	190	199.2	199.2	208.4	217	220.2	220.2	229.4
	55C/R	185	185	185	194.2	194.2	203.4	212	215.2	215.5	224.5
SRW	55LC/LR	235	235	235	244.2	244.2	253.4	262	265.2	265.2	274.4
	65LC/LV	303	303	303	314.2	314.2	325.4	335.4	338.6	338.6	349.8
	70LR	190	190	190	199.2	197.2	206.4	217	226.2	220.2	229.4
	85LR	235	235	235	244.2	242.2	251.4	262	271.2	265.2	274.4
HSR	100LR	303	303	303	314.2	311.4	322.6	335.4	346.6	338.6	349.8
	15A/B/R/YR	56.6	56.6	56.6	61.8	58.2	63.4	76	81.2	77.2	82.4
	20A/B/R/CA/CB/YR	74	74	74	80.6	76.6	83.2	92	98.6	95.2	101.8
	20LA/LB/LR/HA/HB	90	90	90	96.6	92.6	99.2	108	114.6	111.2	117.8
	25A/B/R/CA/CB/YR	83.1	83.1	83.1	90.7	86.7	94.3	101	108.6	105.3	112.9
	25LA/LB/LR/HA/HB	102.2	102.2	102.2	109.8	105.8	113.4	120.1	127.7	124.4	132
	30A/B/R/CA/CB/YR	98	98	98	105.6	101.6	109.2	119.9	127.5	124.2	131.8
	30LA/LB/LR/HA/HB	120.6	120.6	120.6	128.2	124.2	131.8	142.5	150.1	146.8	154.4
	35A/B/R/CA/CB/YR	109.4	109.4	109.4	117	113	120.6	132.4	140	135.6	143.2
	35LA/LB/LR/HA/HB	134.8	134.8	134.8	142.4	138.4	146	157.8	165.4	161	168.6
	45A/B/R/CA/CB/YR	139	139	139	146.2	144.2	151.4	—	—	—	—
	45LA/LB/LR/HA/HB	170.8	170.8	170.8	178	176	183.2	—	—	—	—
	55A/B/R/CA/CB/YR	163	163	163	170.2	168.2	175.4	—	—	—	—
	55LA/LB/LR/HA/HB	201.1	201.1	201.1	208.3	206.3	213.5	—	—	—	—
	65A/B/R/CA/CB/YR	186	186	186	193.2	191.2	198.4	—	—	—	—
	65LA/LB/LR/HA/HB	245.5	245.5	245.5	252.7	250.7	257.9	—	—	—	—
	85A/B/R/CA/CB/YR	245.6	245.6	245.6	252.8	252.4	259.6	—	—	—	—
85LA/LB/LR/HA/HB	303	303	303	310.2	309.8	317	—	—	—	—	
100HA/HB/HR	334	334	334	—	—	—	—	—	—	—	
120HA/HB/HR	365	365	365	—	—	—	—	—	—	—	
150HA/HB/HR	396	396	396	—	—	—	—	—	—	—	
NR/NRS	25XR/XA/XB	82.8	82.8	82.8	90.4	89.2	96.8	100.1	107.7	102.5	110.1
	25XLR/XLA/XLB	102	102	102	109.6	108.4	116	119.3	126.9	121.7	129.3
	30R/A/B	98	98	98	107	104.4	113.4	119.3	128.3	121.7	130.7
	30LR/LA/LB	120.5	120.5	120.5	129.5	126.9	135.9	141.8	150.8	144.2	153.2
	35R/A/B	109.5	109.5	109.5	119.7	117.1	127.3	131.1	141.3	133.5	143.7
	35LR/LA/LB	135	135	135	145.2	142.6	152.8	156.6	166.8	159	169.2
	45R/A/B	139	139	139	149.2	147.4	157.6	164.4	174.6	167.6	177.8
	45LR/LA/LB	171	171	171	181.2	179.4	189.6	196.4	206.6	199.6	209.8
	55R/A/B	162.8	162.8	162.8	173	171.4	181.6	188.1	198.3	191.3	201.5
	55LR/LA/LB	200	200	200	210.2	208.6	218.8	225.3	235.5	228.5	238.7
	65R/A/B	185.6	185.6	185.6	196.2	194.2	204.8	214.9	225.5	218.1	228.7
65LR/LA/LB	245.6	245.6	245.6	256.2	254.2	264.8	274.9	285.5	278.1	288.7	

Example of model number coding

SHS25	LC	2	QZ	KKHH	C0	+1200L	P	Z	- II
Model No.	Type of LM block	Number of LM blocks on the same rail	With QZ Lubricator attached	Symbol for dust prevention option	Symbol for radial clearance Normal (no symbol), light preload (C1), medium preload (C0)	LM rail length (in mm)	Accuracy symbol Normal grade (no symbol), high grade (H), precision grade (P), super precision grade (SP), ultra-super precision grade (UP)	With steel tape attached	Number of rails used on the same plane

Note 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). Those models attached with the QZ Lubricator cannot have a grease nipple.

LM Block Length (Dimension L) with LiCS Attached



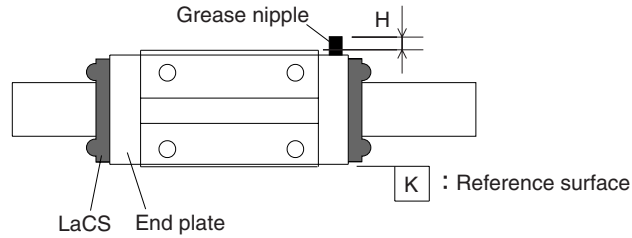
Model No.		Standard LM block length	L	
			GG	PP
SSR	15XVY	40.3	48.7	—
	15XWY/XTBY	56.9	65.3	—
	20XV	47.7	55.8	—
	20XW/XTB	66.5	74.6	—
	25XVY	60	67.6	—
	25XWY/XTBY	83	90.6	—
	30XW	97	106.7	—
	35XW	110.9	121.7	—
SRG	15A	67	77	77
	15V	67	77	77

Example of model number coding

SSR20	XW	2	GG	C1	+600L	P	- II
Model No.	Type of LM block	Number of LM blocks on the same rail	With LiCS attached	Symbol for radial clearance Normal (no symbol), light preload (C1), medium preload (C0)	LM rail length (in mm)	Accuracy symbol	Number of rails used on the same plane
						Normal grade (no symbol), high grade (H), precision grade (P), super precision grade (SP), ultra-super precision grade (UP)	

Note 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).

Table of Incremental Dimension of a Grease Nipple when LaCS is Attached



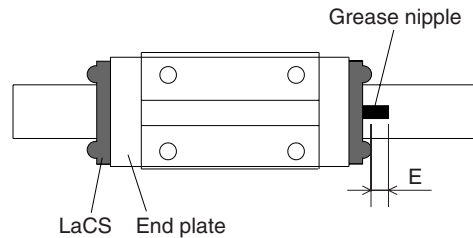
Grease nipple mounting location for models SHS, SSR, SNR/SNS, SRG and NR/NRS

Unit: mm

Model No.	Incremental dimension with grease nipple H	Nipple type
SHS	15C/LC	—
	15R/V/LV	4.7
	20C/LC	—
	20V/LV	4.5
	25C/LC	—
	25R/LR/V/LV	4.7
	30C/LC	—
	30R/LR/V/LV	7.4
	35C/LC	—
	35R/LR/V/LV	7.4
	45C/LC	—
	45R/LR/V/LV	7.7
	55C/LC	—
	55R/LR/V/LV	7.4
	65C/LC	—
65V/LV	6.9	
SSR	15XVY/XWY	4.4
	15XTBY	—
	20XV/XW	4.6
	20XTB	—
	25XVY/XWY	4.5
	25XTBY	—
	30XW	5
	35XW	5
SNR/SNS	25C/LC	—
	25R/LR	4.9
	30C/LC	—
	30R/LR	4.5
	35C/LC/CH/LCH	—
	35R/LR/RH/LRH	7.8
	45C/LC/CH/LCH	—
	45R/LR/RH/LRH	7.9
	55C/LC/CH/LCH	—
	55R/LR/RH/LRH	7.7
65C/LC	—	
65R/LR	15.8	
SRG	25C/LC	—
	25R/LR	7.2
	30C/LC	—
	30R/LR	7.2
	35C/LC	—
	35R/LR	7.2
	45C/LC	—
	45R/LR	7.2
	55C/LC	—
	55R/LR	7.2
	65C/LC	—
	65R/LR	6.2

Unit: mm

Model No.	Incremental dimension with grease nipple H	Nipple type
NR/NRS	25X A/B/LA/LB	—
	25X R/LR	4.8
	30A/B/LA/LB	—
	30R/LR	4.5
	35A/B/LA/LB	—
	35R/LR	7.4
	45A/B/LA/LB	—
	45R/LR	7.4
	55A/B/LA/LB	—
	55R/LR	6.9
	65A/B/LA/LB	—
	65R/LR	15.3



Grease nipple mounting location for models SHW, SRS and HSR

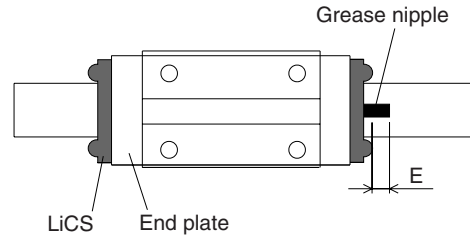
Unit: mm

Model No.	Incremental dimension with grease nipple E	Nipple type
SHW	21CA/CR	4.2
	27CA/CR	10.7
	35CA/CR	10
	50CA/CR	21
SRS	25	4
HSR	15A/B/R/YR	2.9
	20A/B/R/CA/CB/YR	9.4
	20LA/LB/LR/HA/HB	
	25A/B/R/CA/CB/YR	9
	25LA/LB/LR/HA/HB	
	30A/B/R/CA/CB/YR	9
	30LA/LB/LR/HA/HB	
	35A/B/R/CA/CB/YR	8
35LA/LB/LR/HA/HB		

Note

When desiring to attach a grease nipple in other than the above locations, contact THK. Those models attached with the QZ Lubricator cannot have a grease nipple. When desiring both the QZ Lubricator and a grease nipple to be attached, contact THK. With "ZZ" and "KK" types of model HSR15, a grease nipple is not available. Contact THK for details.

Table of Incremental Dimension of a Grease Nipple when LiCS is Attached

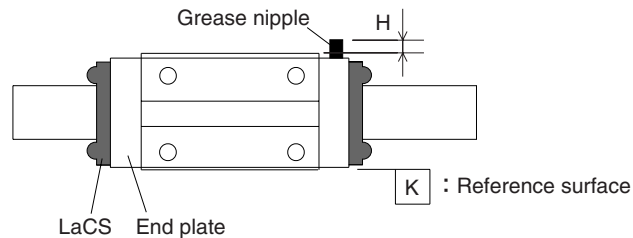


Grease nipple mounting location

Unit: mm

Model No.		Incremental dimension with grease nipple E	Nipple type
SSR	15XVY	2.9	PB1021B
	15XWY/XTBY	2.9	PB1021B
	20XV	9	B-M6F
	20XW/XTB	9	B-M6F
	25XVY	9	B-M6F
	25XWY/XTBY	9	B-M6F
	30XW	9	B-M6F
SRG	35XW	8	B-M6F
	15A	4.5	PB107
	15V	4.5	PB107

Table of Incremental Dimension of a Grease Nipple when Side Scraper is Attached

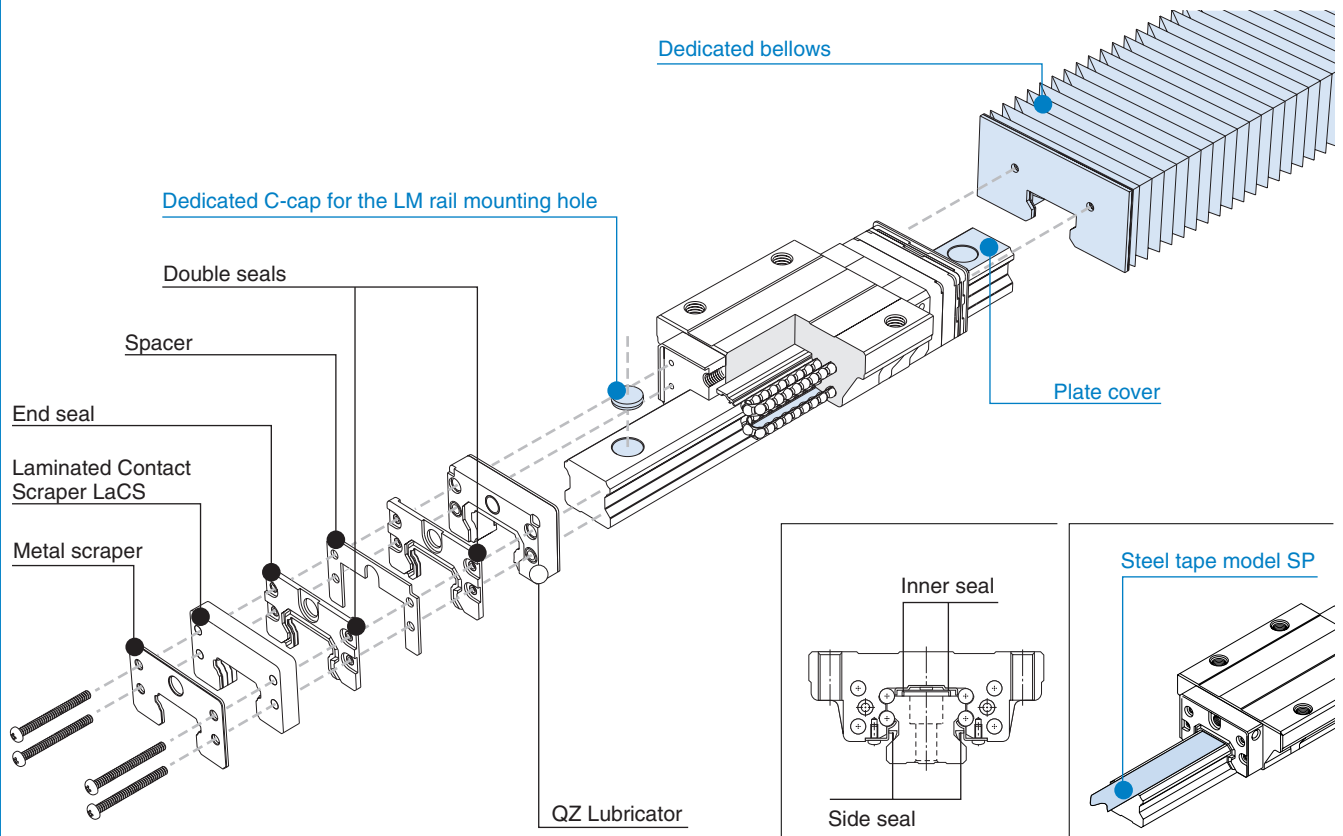


Grease nipple mounting location

Unit: mm

Model No.		Incremental dimension with grease nipple H	Nipple type
SNR/SNS	25LR/LC	4.5	PB1021B
	30LR/LC	4.5	PB1021B
	35LR/LC/LRH/LCH	5.4	A-M6F
	45LR/LC/LRH/LCH	5.4	A-M6F
	55LR/LC/LRH/LCH	5.4	A-M6F
	65LR/LC/LRH/LCH	8	A-PT1/8

Other Options for the LM Guide



For options for the LM Guide not found in this catalog, see the General Catalog No. 400.

Options for the Ball Screw (Catalog No. 322E)

- The catalog introduces QZ Lubricator and Wiper Ring W for the Ball Screw.

Precautions on Use

QZ Lubricator for the LM Guide

- **Handling**
 - Dropping or hitting this product may damage it. Take much care when handling it.
 - Do not block the air vent with grease or the like (see page 3).
- **Service environment**
 - The service temperature range for this product is between -10°C and +50°C. Do not clean the product with an organic solvent or white kerosene, or do not leave the product unpacked. When desiring to use the product out of the service temperature range, contact THK in advance.
- **Use in a special environment**
 - When desiring to use the product in a special environment, contact THK in advance.
- **Precaution on selection**
 - The stroke must be equal to or longer than the overall LM block length with QZ Lubricator attached.
- **Rust prevention of the LM Guide**
 - QZ Lubricator is a device designed to feed the required minimum amount of lubricant to the raceway, and therefore it does not have a dust-prevention effect on the whole LM Guide. When using it in an adverse environment subject to a coolant or the like, we recommend applying grease or the like to the mounting base surface and the rail ends of the LM Guide as an anticorrosive measure.

Laminated Contact Scraper LaCS and Side Scraper for the LM Guide

- **Service environment**
 - The service temperature range is between -20°C and +80°C. Do not clean the product with an organic solvent or white kerosene, or do not leave the product unpacked.
- **Impregnating oil**
 - The purpose of the lubricant impregnated in the scraper is to increase the slidability of the scraper. For lubrication of the LM Guide, attach a grease nipple on the end plate side face of QZ Lubricator or the LM block before feeding oil.
- **Functions**
 - Although these products have a dust prevention ability to remove foreign material and liquids, they require an end seal to seal grease and oil.
- **Design**
 - When using these products, be sure to use the rail cap “C” and a plate cover.

Light Sliding Resistance Contact Seal LiCS for the LM Guide

- **Service environment**
 - The service temperature range is between -20°C and +80°C. Do not clean the product with an organic solvent or white kerosene, or do not leave the product unpacked.
 - Since the product contacts the LM rail raceway only, do not use it in a harsh environment.
- **Impregnating oil**
 - The purpose of the lubricant impregnated in LiCS is to increase the slidability of the seal. For lubrication of the LM Guide, attach a grease nipple on the end plate of the LM block before feeding oil.

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