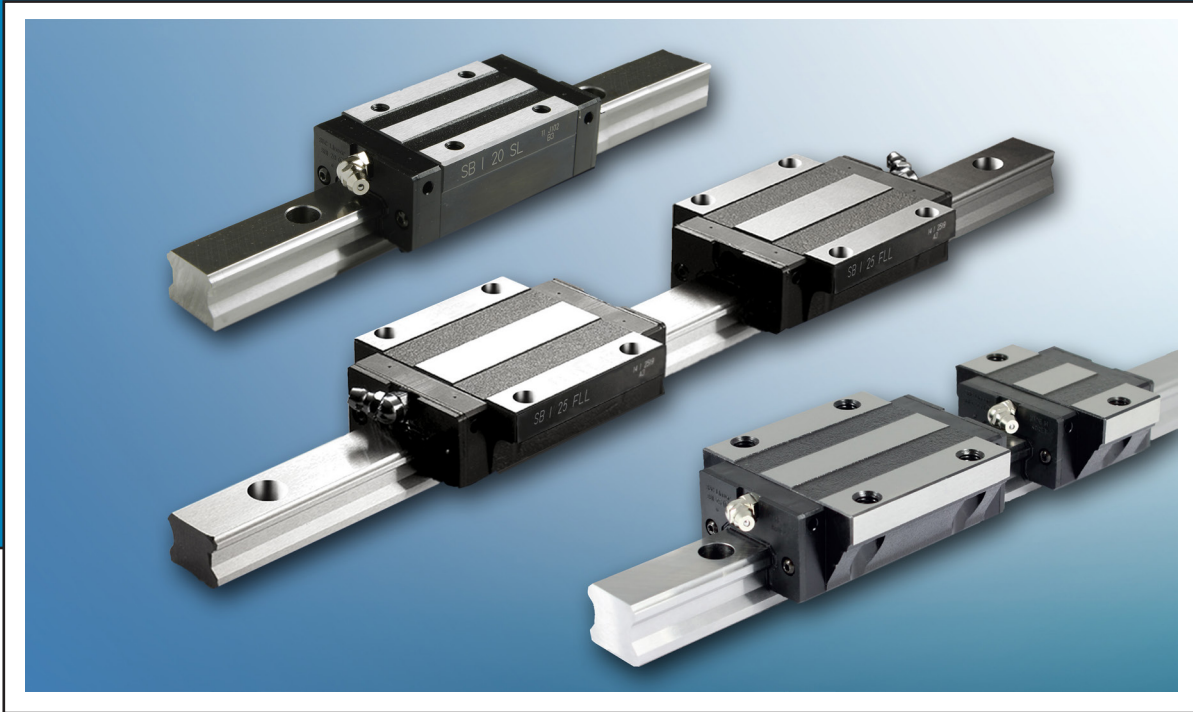
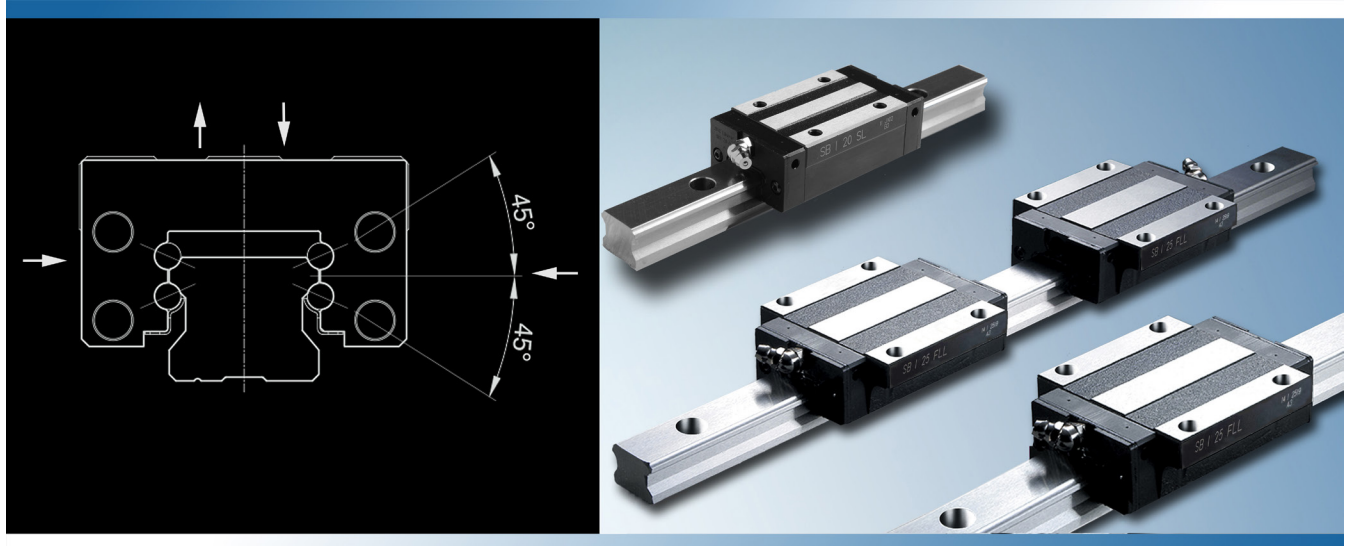


KURODA JENATEC

www.kurodajenatec.com



SBI Linear Rail System Guide Book



SBI Linear Rail Guideway Product Series is a complete assortment of linear guide rails, blocks (carriages), and rail guide assemblies in a wide range of styles and sizes. **SBI LINEAR Rail Guideways** are manufactured to industry standards for new applications and for easy drop-in replacement in existing applications.

The **SBI LINEAR Rail System** is designed for reliability, large capacity, high accuracy, with superior performance and exceptional operating characteristics. **SBI LINEAR Rail** products are affordable, and are stocked at our Kennesaw, Georgia Distribution Center available for quick, often same-day delivery.

KURODA JENATEC is a trusted worldwide Manufacturer, Service and Sales Brand of many Linear Motion Products. With several locations throughout Asia, Europe and the United States, **KURODA JENATEC** specializes in Precision Ball Screws, Linear Actuators, Linear Rail Guideway Systems and other Linear Motion components.



LINEAR RAIL OVERVIEW

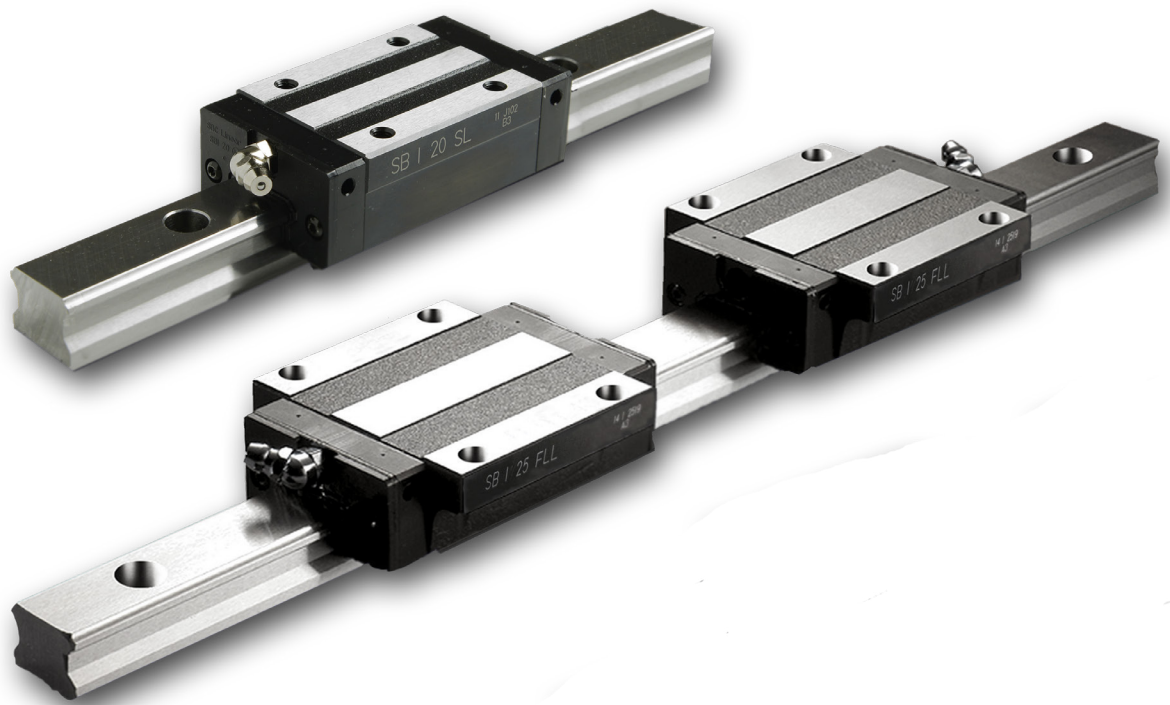
SBI Linear Rail Features and Benefits	page 4-5
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Product Series Overview	page 7-10
Selection Process	page 11
Ordering Coding	page 12
Interchangeable Block Chart to Industry Manufacturers	page 13

SBI SERIES PRODUCT SPECIFICATIONS

SBI Flanged Series FL, FLL, FLS	page 14-15
SBI Slim Series SL, SLL, SLS	page 16-17
SBI Slim Series HL, HLL, HLS	page 18-19
SBI Slim Series CL, CLL, CLS	page 20-21
SBI Compact Series FV, SV	page 22-23
SBI Miniature Series SBM, SBML	page 24-25
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SBI "MF" or "DF" Option - Self Lubricating Maintenance or Dust Free ...	page 28
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SBI "HT" Option - High Temperature	page 30
SBI "R" Option - Raydent Coating	page 31
SBI "RC" Option - Rail Caps	page 32
SBI "ST" Option - Stainless Steel Tape	page 33

SBI LINEAR RAIL TECHNICAL DATA

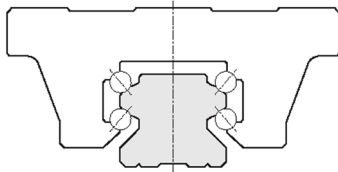
Grease Fittings and Lubrication	page 34-38
Installation & Mounting Procedures	page 39-41
Load Rating & Life Calculations	page 42-53
Preload and Accuracy	page 54-55
Shoulder Height & Fillet Radius	page 56
Permissible Tolerance	page 57



Features and Benefits of SBI LINEAR RAIL SYSTEM:

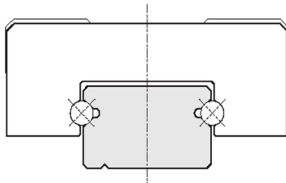
- **SIMPLE INSTALLATION**, easy maintenance.
- **LOW NOISE** - Smooth, quiet, high speed operation.
- **SELF-ALIGNING**.
- **INTERCHANGEABLE** between rail and carriages without compromising system accuracy.
- **LOW INSTRUMENTAL ERRORS** with DF structure.
- **DESIGN FLEXIBILITY** with multiple carriage styles, sizes, preloads and accuracies. Multiple rail accuracies and rail mounting options.

High Rigidity and High Load Performance



Circular-Arc Groove, Four Raceway, Two-Point Contact Structure absorb the instrumental errors and create self-aligning, smooth movement even under high load operation.

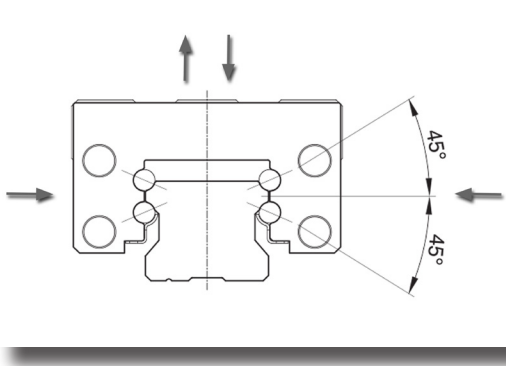
Applied Model : SBI



Gothic-Arch Groove, Two Row, Four-Point Contact Structure is not effective for absorbing errors but it is optimized for miniaturized machine which is necessary for smooth movement under high load condition.

Applied Model: SBM, SBML, SBMW, SBMLW

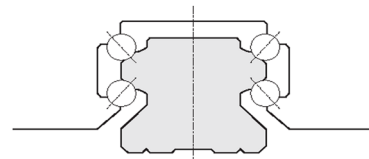
Equal Load Carrying Capacity in Four Directions



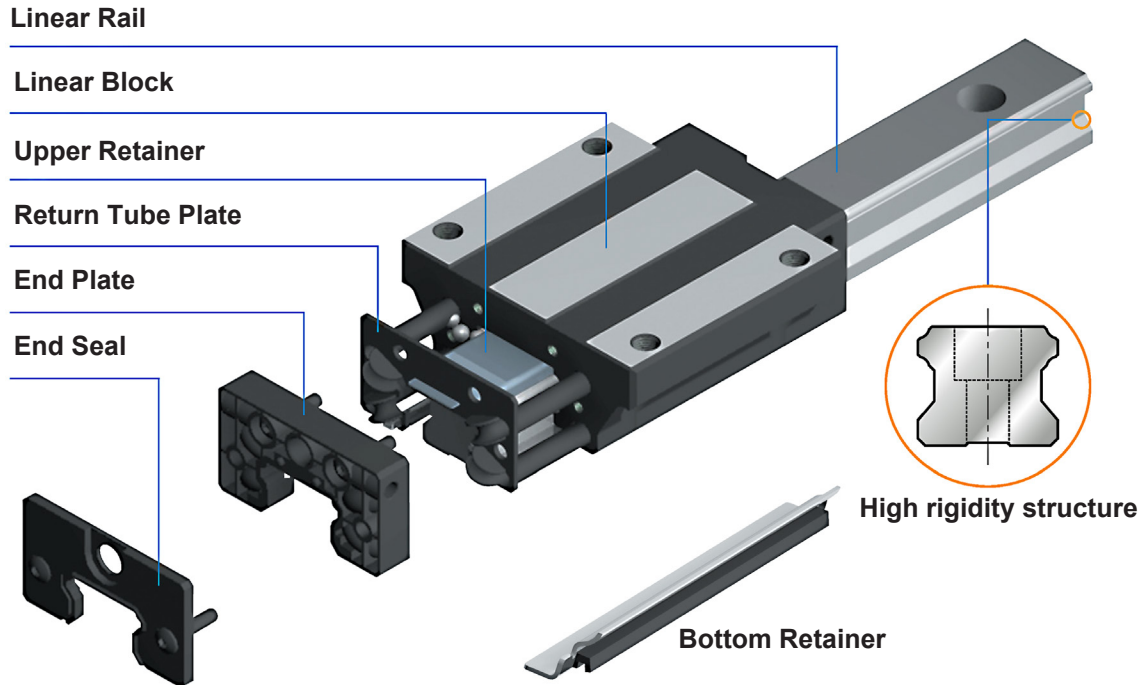
Four-row, circular-arc groove with 2-point contact at a 45 degree angle creates the same load in all directions, which enables the carriage to bear equal load in radial, reversed radial and lateral directions. This translates to a versatile installation in any direction.

Smooth Movement & Reliability in High Speed Operations

This circular-arc raceway structure absorbs the instrumental errors and creates a smooth movement even under high load operation. A sufficient preload can be achieved with high rigidity and large permissible load, making it suitable for any kind of installation.



Structure of the SBI LINEAR RAIL SYSTEM



End Seal	End Plate	Retainer
Its double-lip structure improves resistance to dust and particle contamination.	Manufactured with a new high rigidity engineered plastic, it is purposely built to withstand the highest of unplanned impact loads without breaking.	Ball retainer plates uniquely snap-assemble to the blocks which allows an amount of internal SELF ALIGNMENT and load sharing while maintaining rigid ball control.
Return Tube Plate	Linear Block	Linear Rail
The end plate and reversing ramps complete with new ball return tubes are now molded as one complete body component. This creates excellent rolling performance and smoother grease flow for longer lubricant retention inside the bearing.	•Very Rigid Structure. •Larger Circulation Radius for Smooth Movement. •Longer Block Length for Higher Load Capacity. •Low Center.	SBI Rail is designed with a low profile and wide base. This allows for greater stability in operation and results in greater linear precision.

LINEAR RAIL SYSTEM

SBI Rail & Block FEATURES:

Complete Interchangeability
between Blocks and Rails

Multiple Block Design and Sizes

18 Block Designs; Sizes 07-65mm
FL, FLL, FLS, SL, SLL, SLS, CL, CLS, CLL, HLL,
HL, HLS, FV, SV, SBM, SBML, SBMW, SBMWL

Multiple Block Styles

Heavy Load, Medium Load, Compact,
Wide, Slim, Miniature

Standard Rail Lengths

Size 15 - 3000mm
Size 20-65 - 4000mm
Can be Cut to Size to any Length

Quiet and Self-Aligning

Smooth, Quiet Operation
with Low Instrumental Errors

Grease Fittings

Connectors Available

SBI Rail & Block OPTIONS:

Block Options

"MF" Maintenance Free
"HT" High Temperature Seals &
Scrapers

Block Seal Options

"ZZ" End Seal+Scraper for Welding
"KK" End Seal+End Seal+Scraper
"DD" End Seal+End Seal for Dust Protection

Bottom-Mount and Butt-Joint Rail Options

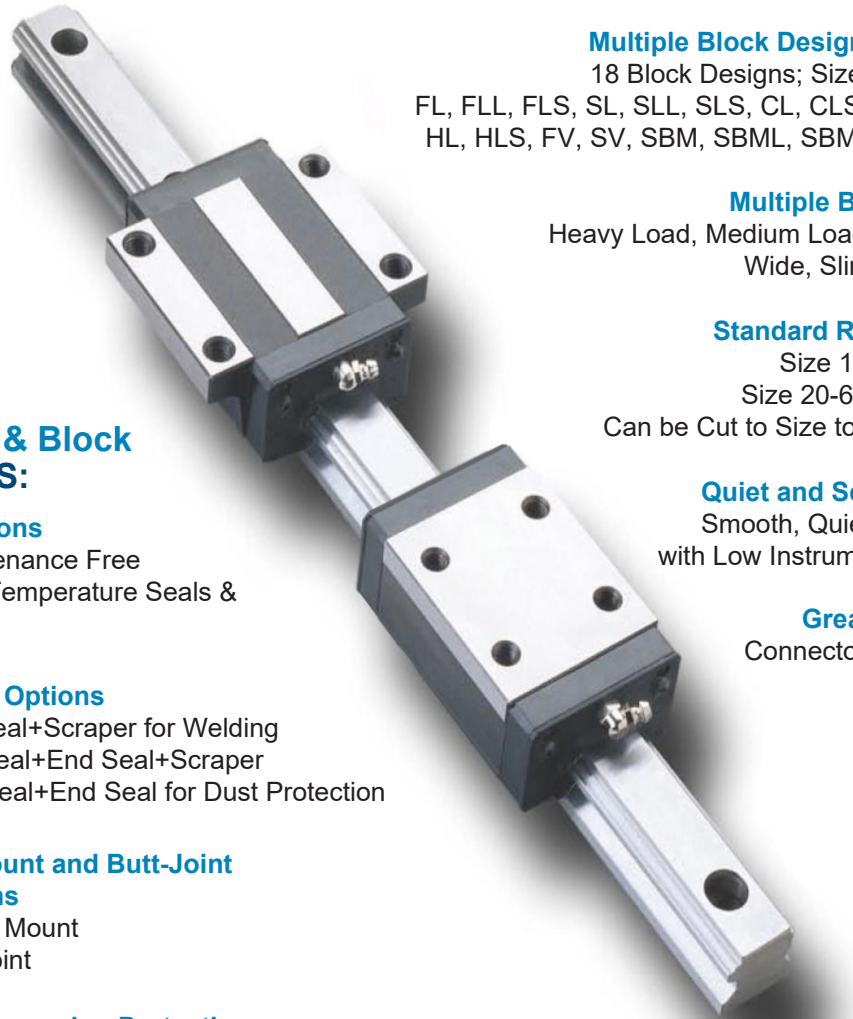
"B" Bottom Mount
"BJ" Butt-Joint

Rust and Corrosion Protection

"R" Raydent Coating

Contaminate Rail Protection

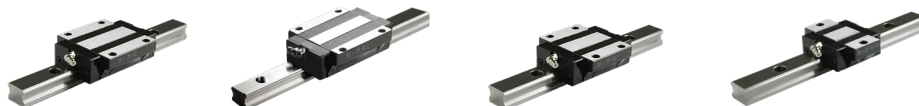
"RC" Rail Caps
"ST" Stainless Steel Tape



SBI BLOCK Styles

F-Series

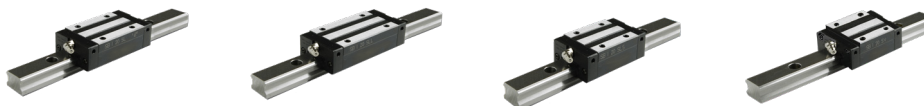
FL / FLL / FLS / FV



Series Description	Low Profile Heavy Load	Low Profile Heavy Load	Low Profile Heavy Load	Low Profile Medium Load
Block Series	FL	FLL	FLS	FV
Block Size Options (mm)	15, 20, 25, 30, 35, 45, 55, 65	15, 20, 25, 30, 35, 45, 55, 65	15, 20, 25, 30, 35	15, 20, 25
Block Height Type	FLANGE	FLANGE	FLANGE	Compact FLANGE
Block Length Type	Standard	LONG	SHORT	Compact Standard
Block Width Type	Wide	Wide	Wide	Compact LONG
Preload Class	K1 Normal (standard)	K1 Normal (standard)	K1 Normal (standard)	K1 Normal (standard)
Preload Options	K2 Medium, K3 Heavy	K2 Medium, K3 Heavy	K2 Medium, K3 Heavy	K2 Medium, K3 Heavy
Stocking Delivery	Typical 2-3 days	Typical 2-3 days	Typical 2-3 days	Typical 2-3 days
Material	Carbon Steel	Carbon Steel	Carbon Steel	Carbon Steel

S-Series

SL / SLL / SLS / SV



Series Description	Low Profile Heavy Load	Low Profile Heavy Load	Low Profile Heavy Load	Low Profile Medium Load
Block Series	SL	SLL	SLS	SV
Block Size Options (mm)	15, 20, 25, 30, 35, 45, 55, 65	15, 20, 25, 30, 35, 45, 55, 65	15, 20, 25, 30, 35	15, 20, 25
Block Height Type	SLIM	SLIM	SLIM	Compact SLIM
Block Length Type	Standard	LONG	SHORT	Compact Standard
Block Width Type	Standard	Standard	Standard	Compact SHORT
Preload Class	K1 Normal (standard)	K1 Normal (standard)	K1 Normal (standard)	K1 Normal (standard)
Preload Options	K2 Medium, K3 Heavy	K2 Medium, K3 Heavy	K2 Medium, K3 Heavy	K2 Medium, K3 Heavy
Stocking Delivery	Typical 2-3 days	Typical 2-3 days	Typical 2-3 days	Typical 2-3 days
Material	Carbon Steel	Carbon Steel	Carbon Steel	Carbon Steel

H-Series

HL / HLL / HLS



Series Description	Low Profile Heavy Load	Low Profile Heavy Load	Low Profile Heavy Load
Block Series	HL	HLL	HLS
Block Size Options (mm)	15, 20, 25, 30, 35, 45, 55	15, 20, 25, 30, 35, 45, 55	15, 25, 30, 35
Block Height Type	COMPACT	COMPACT	COMPACT
Block Length Type	Standard	LONG	SHORT
Block Width Type	Standard	Standard	Standard
Preload Class	K1 Normal (standard)	K1 Normal (standard)	K1 Normal (standard)
Preload Options	K2 Medium, K3 Heavy	K2 Medium, K3 Heavy	K2 Medium, K3 Heavy
Stocking Delivery	Typical 2-3 days	Typical 2-3 days	Typical 2-3 days
Material	Carbon Steel	Carbon Steel	Carbon Steel

LINEAR RAIL SYSTEM

SBI BLOCK Styles

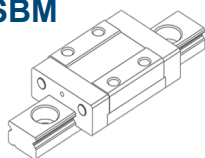
C-Series CL / CLL / CLS



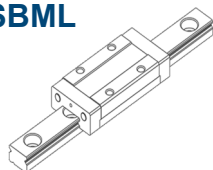
Series Description	Low Profile Heavy Load	Low Profile Heavy Load	Low Profile Heavy Load
Block Series	CL	CLL	CLS
Block Size Options (mm)	20, 25	20, 25	20
Block Height Type	Extra COMPACT	Extra COMPACT	Extra COMPACT
Block Length Type	Standard	LONG	SHORT
Block Width Type	Standard	Standard	Standard
Preload Class	K1 Normal (standard)	K1 Normal (standard)	K1 Normal (standard)
Preload Options	K2 Medium, K3 Heavy	K2 Medium, K3 Heavy	K2 Medium, K3 Heavy
Stocking Delivery	Typical 2-3 days	Typical 2-3 days	Typical 2-3 days
Material	Carbon Steel	Carbon Steel	Carbon Steel

SBI Miniature BLOCK Styles

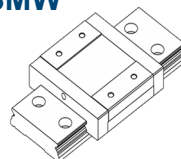
SBM



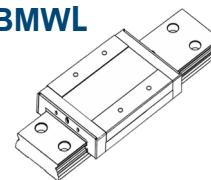
SBML



SBMW



SBMWL



Series Description	Low Profile Miniature	Low Profile Miniature
Block Series	SBM	SBML
Block Size Options (mm)	07, 09, 12, 15	07, 09, 12, 15
Block Height Type	Miniature Standard	Miniature Standard
Block Length Type	Miniature Standard	Miniature LONG
Block Width Type	Standard	Standard
Preload Class	K1 Normal (standard)	K1 Normal (standard)
Preload Options	K2 Medium	K2 Medium
Stocking Delivery	Typical 2-3 days	Typical 2-3 days
Material	Stainless Steel	Stainless Steel

Series Description	Low Profile Miniature	Low Profile Miniature
Block Series	SBMW	SBMWL
Block Size Options (mm)	09, 12, 15	09, 12, 15
Block Height Type	Miniature Standard	Miniature Standard
Block Length Type	Miniature Standard	Miniature LONG
Block Width Type	WIDE	WIDE
Preload Class	K1 Normal (standard)	K1 Normal (standard)
Preload Options	K2 Medium	K2 Medium
Stocking Delivery	Typical 2-3 days	Typical 2-3 days
Material	Stainless Steel	Stainless Steel

SBI Rail

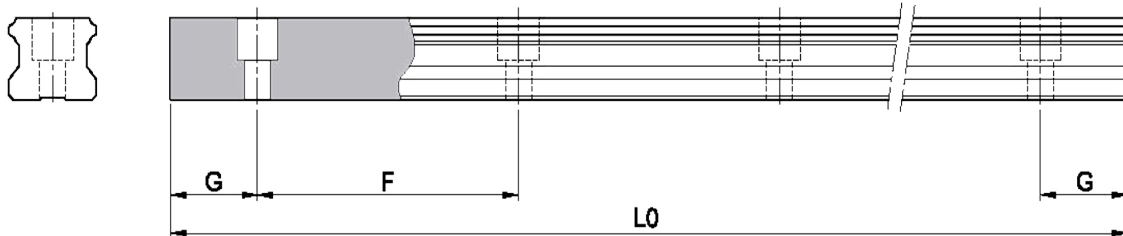
- Superior Rigidity and Rail Straightness.
- Interchangeable - any carriage can run on any rail of same accuracy without compromising system accuracy.
- Can be cut to any length at no extra charge.
- For extremely long travel applications, a butt joint may be necessary to join the rails (Ordering code: "BJ"). These joints are matched for continuous smooth motion at the factory.

(4000mm is standard length for sizes 20-65mm; 3000mm is standard length for size 15mm)



Standard, Top-Mount

Ordering Example: SBI20 - 1000L

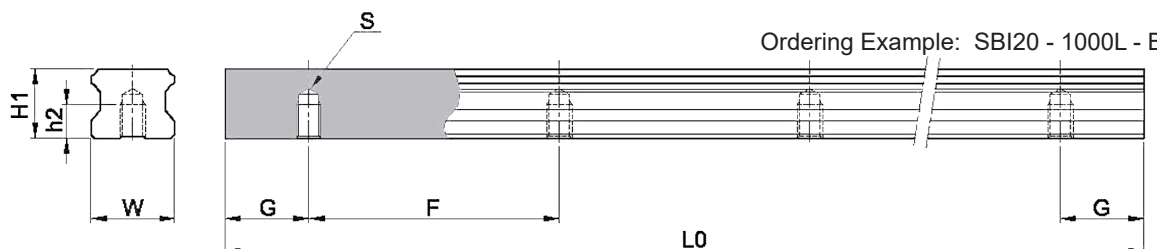
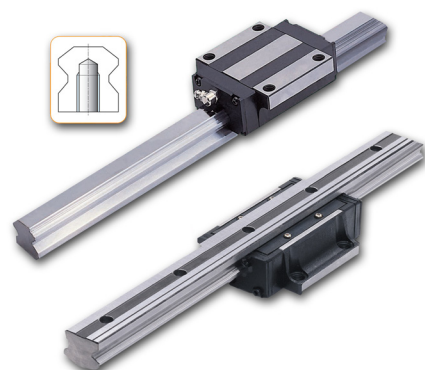


Bottom-Mount Option "B"

(Unit : mm)

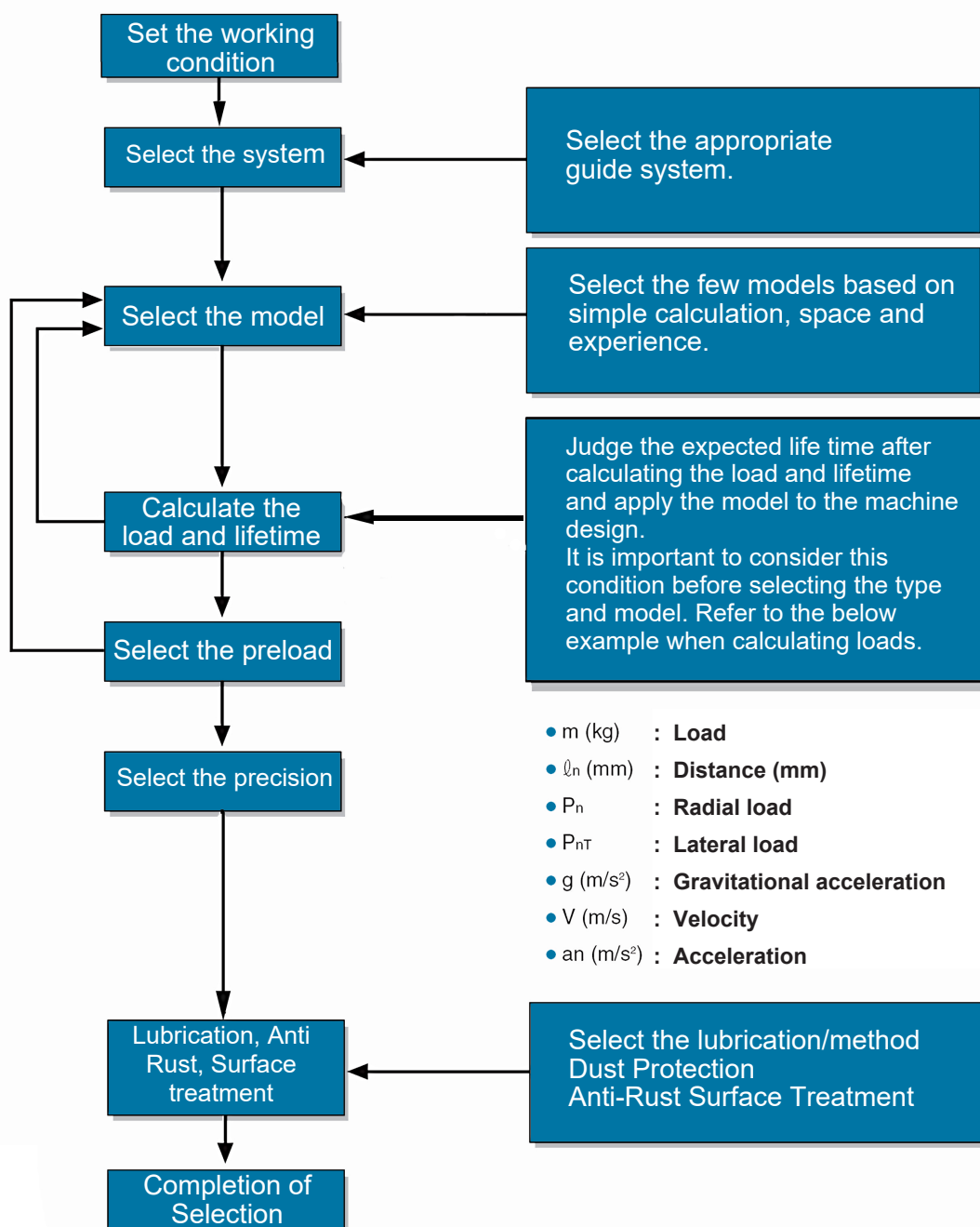
Model number	W1	H1	S	h2	G	F	L0 (Max length)	Weight (kg/m)
SBI 15-B	15	13	M5X0.8	8	20	60	3,000	1.39
SBI 20-B	20	16.5	M6	9	20	60	4,000	2.37
SBI 25-B	23	20	M6	9	20	60	4,000	3.26
SBI 30-B	28	23	M8	12	20	80	4,000	4.63
SBI 35-B	34	26	M8	12	20	80	4,000	6.45
SBI 45-B	45	32	M12	18	22.5	105	4,000	10.49

* If the maximum length exceeds this size, please contact manufacturer.



Ordering Example: SBI20 - 1000L - B

Selection Process for SBI Linear Rail System





Order Coding for Block and Rail Assembly

Model	Size	Block Type	Position of Grease Fitting:	Container	Seal	Number of Blocks on Rail	Preload	Rail Length (mm)	Accuracy	Surface Treatment	Bottom Mounting	Rail Rows
-------	------	------------	-----------------------------	-----------	------	--------------------------	---------	------------------	----------	-------------------	-----------------	-----------

SBI 20 FL - N - MF - ZZ - 2 - K1 - 800 - N - AR - B - N

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬

① Model* (for all Model is): **SBI**

② Block Size (mm)
07, 09, 12, 15 - for Miniature Series
15, 20, 25, 30, 35, 45, 55, 65

③ Block Type:
FL / FLL / FLS / FV
SL / SLL / SLS / SV
CL / CLL / CLS
HL / HLL / HLS
SBM / SBML / SBMW / SBMWL

④ Position of Grease Fitting:
No symbol (Front)
N (Side)

⑤ Container:
No Symbol (Standard)
MF (Maintenance-free Self Lubricant)
DF (Dust-free)
HT (High Temperature)

⑥ Seal:
No symbol (Standard)
DD (End Seal+End Seal for Dust)
ZZ (End Seal+Scraper for Welding)
KK (End Seal+End Seal+Scraper)

⑦ Block Quantity on Rail

⑧ Preload:

K0 (Backlash)
K1 (Standard)
K2 (Light Preload)
K3 (Heavy Preload, not avail on Size 15)

⑨ Rail Length (mm)**:
For Block Size 15, Max length 3000mm
For Block Sizes 20-65, Max Length is 4000mm

⑩ Accuracy:
N (Standard)
H (High)
P (Precision)

⑪ Surface Treatment
No symbol (Standard)
AR (Raydent Coating Block & Rail)
RR (Raydent Coating Rail only)
KR (Raydent Coating Block only)

⑫ Bottom Mounting
No symbol (Standard Top Mounting)
B (Bottom Mounting Rail)

⑬ Rail
No symbol (Standard 1 Row)
II (2 Row)
III (3 Row), **IV** (4 Row) . . .

Order Coding for Rail ONLY

Model	Size	Position of Grease Fitting:	Rail Length (mm)	Surface Treatment	Bottom Mounting
-------	------	-----------------------------	------------------	-------------------	-----------------

SBI 20 - N - 800 - RR - B

① ② ④ ⑨ ⑪ ⑫

Order Coding for Block ONLY

Model	Size	Block Type	Position of Grease Fitting:	Container	Preload
-------	------	------------	-----------------------------	-----------	---------

SBI 20 FL - N - MF - K1

① ② ③ ④ ⑤ ⑧

LINEAR RAIL SYSTEM

Interchangeable Blocks to Industry Manufacturers

SBC	THK		HIWIN	NSK				REXROTH	AMT (PMI)		IKO	NB
SBI	HSR	SHS	HGW/QHW	NH	VH	LA	NS	R16XX	MSA	SME	MH	SGL
15FL/15FLS	15A,B	15C	15CA,CB,CC	15EM	-	-	15EL,FL	R1651-1XX	15A, E	15EA	M(LW)H15	15HTEX
20FL/20FLS	20A, B, CA, CB	20C	20CA,CB,CC	20EM	-	-	20EL,FL	R1651-8XX	20A, E	20EA	M(LW)H20	20HTEX
25FL/25FLS	25A, B, CA, CB	25C	25CA,CB,CC	25EM	-	25EL,FL	25EL,FL	R1651-2XX	25A, E	25EA	M(LW)H25	25HTEX
30FL/30FLS	30A, B, CA, CB	30C	30CA,CB,CC	30EM	-	30EL,FL	30EL,FL	R1651-7XX	30A, E	30EA	M(LW)H30	30HTEX
35FL/35FLS	35A, B, CA, CB	35C	35CA,CB,CC	35EM	-	35EL,FL	35EL,FL	R1651-3XX	35A, E	35EA	M(LW)H35	35HTEX
45FL	45A, B, CA, CB	45C	45CA,CB,CC	45EM	-	45EL,FL	45EL,FL	R1651-4XX	45A, E	45EA	M(LW)H45	45HTEX
55FL	55A, B, CA, CB	55C	55CA,CB,CC	55EM	-	55EL,FL	55EL,FL	R1651-5XX	55E	-	MH55	55HTEX
65FL	65A, B, CA, CB	65C	65CA,CB,CC	65EM	-	65EL,FL	65EL,FL	R1651-6XX	65E	-	MH65	65HTEX
15FLL	-	15LC	-	15GM	-	-	-	R1653-1XX	-	15LEA	M(LW)HG15	15HYE
20FLL	20LA, LB, HA, HB	20LC	20HA,HB,HC	20GM	-	-	20GL,HL	R1653-8XX	20LA, LE	20LEA	M(LW)HG20	20HYE
25FLL	25LA, LB, HA, HB	25LC	25HA,HB,HC	25GM	-	25GL,HL	25GL,HL	R1653-2XX	25LA, LE	25LEA	M(LW)HG25	25HYE
30FLL	30LA, LB, HA, HB	30LC	30HA,HB,HC	30GM	-	30GL,HL	30GL,HL	R1653-7XX	30LA, LE	30LEA	M(LW)HG30	30HYE
35FLL	35LA, LB, HA, HB	35LC	35HA,HB,HC	35GM	-	35GL,HL	35GL,HL	R1653-3XX	35LA, LE	35LEA	M(LW)HG35	35HYE
45FLL	45LA, LB, HA, HB	45LC	45HA,HB,HC	45GM	-	45GL,HL	45GL,HL	R1653-4XX	45LA, LE	45LEA	M(LW)HG45	45HYE
55FLL	55LA, LB, HA, HB	55LC	55HA,HB,HC	55GM	-	55GL,HL	55GL,HL	R1653-5XX	55LE	-	LMHG55	-
65FLL	65LA, LB, HA, HB	65LC	65HA,HB,HC	65GM	-	65GL,HL	65GL,HL	R1653-6XX	65LE	-	LMHG65	-

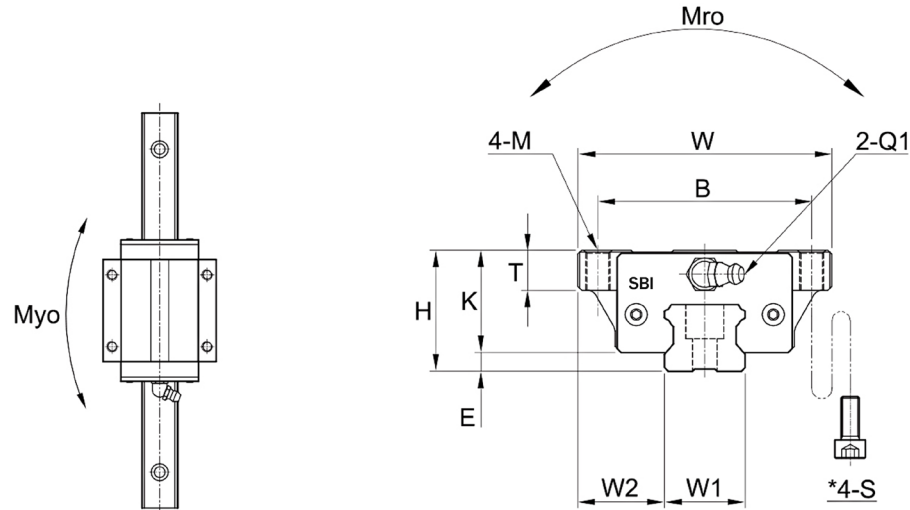
SBC	THK		HIWIN	NSK				REXROTH	AMT (PMI)		IKO	NB
SBI	HSR	SHS	HGH/QHH	NH	VH	LA	NS	R16XX	MSA	SME	MH	SGL
15SL/15SLS	15R	15R	15CA	15AN	15AN	-	-	R1621-1XX	15S	15SA	M(LW)HD15	15HTF
20SL/20SLS	20R	20V	20CA	20AN	20AN	-	20AL	R1622-8XX	20S	20SA	-	15HTF
25SL/25SLS	25R	25R	25CA	25AN	25AN	25AN	-	R1621-2XX	25S	25SA	M(LW)HD25	15HTF
30SL/30SLS	30R	30R	30CA	30AN	30AN	30AN	-	R1621-7XX	30S	30SA	M(LW)HD30	15HTF
35SL/35SLS	35R	35R	35CAC	35AN	35AN	35AN	-	R1621-3XX	35S	35SA	M(LW)HD35	15HTF
45SL	45R	45R	45CA	45AN	45AN	45AN	-	R1621-4XX	45S	45SA	M(LW)HD45	15HTF
55SL	55R	55R	55CA	55AN	55AN	55AN	-	R1621-5XX	55S	-	LWHD55	-
65SL	65R	-	65CA	65AN	-	65AN	-	-	65S	-	LWHD65	-
15SLL	-	15LV	-	15BN	-	-	-	-	-	15LSA	-	-
20SLL	20LR	20LV	20HA	20BN	20BN	-	20BL	R1623-8XX	20LS	20LSA	-	20HYF
25SLL	25LR	25LV	25HA	25BN	25BN	25BN	-	R1624-2XX	25LS	25LSA	M(LW)HDG25	25HYF
30SLL	30LR	30LV	30HA	30BN	30BN	30BN	-	R1624-7XX	30LS	30LSA	M(LW)HDG30	30HYF
35SLL	35LR	35LV	35HA	35BN	35BN	35BN	-	R1624-3XX	35LS	35LSA	M(LW)HDG35	35HYF
45SLL	45LR	45LV	45HA	45BN	45BN	45BN	-	R1624-4XX	45LS	45LSA	M(LW)HDG45	45HYF
55SLL	55LR	55LV	55HA	55BN	55BN	55BN	-	R1654-5XX	55LS	-	LMHDG55	-
65SLL	65LR	65LV	65HA	65BN	-	65BN	-	-	65LS	-	LMHDG65	-

SBC	THK		HIWIN	NSK				REXROTH	AMT (PMI)		IKO	NB
SBI	SR	SHS	HGH/QHH	NH	VH	LA	NS	R16XX	MSB	SME	MH	SGL
15HL/15HLS	15R	15R	-	-	-	-	15AL	R1621-1XX	15S	15SB	M(LW)HS15	15TF
25HL/25HLS	25R	25R	-	25AL	25AL	25AL	25AL	R1621-2XX	-	25SB	M(LW)HS25	*25TF
30HL/30HLS	30R	30R	-	30AL	30AL	30AL	30AL	R1621-7XX	30S	30SB	M(LW)HS30	30TF
35HL/35HLS	35R	35R	-	35AL	35AL	35AL	35AL	R1621-3XX	35S	35SB	-	35TF
45HL	45R	45R	-	45AL	45AL	45AL	-	R1621-4XX	-	45SA	-	-
55HL	55R	55R	-	55AL	55AL	55AL	-	R1621-5XX	-	-	-	-
15HLL	15W	15V	-	-	-	-	15BL	*R1623-1XX	-	15LSB	*M(LW)HSG15	-
25HLL	25W	25V	-	25BL	25BL	25BL	25BL	R1623-2XX	-	25LSB	*M(LW)HSG25	-
30HLL	30W	30V	-	30BL	30BL	30BL	30BL	R1623-7XX	-	30LSB	M(LW)HSG30	-
35HLL	35W	35V	-	35BL	35BL	35BL	35BL	R1623-3XX	35LS	35LSB	-	-
45HLL	45W	45V	-	45BL	45BL	45BL	-	R1623-4XX	-	45LSA	-	-
55HLL	55W	55V	-	55BL	55BL	55BL	-	R1653-5XX	-	-	-	-

SBC	THK		HIWIN	NSK				REXROTH	AMT (PMI)		IKO	NB
SBI	SR	SRR	EGH/QEH	NH	VH	LA	NS	R16XX	MSB	SME	MH	SGL
20CL/20CL	*20W	*20XW	*20CA	-	*20AL	-	-	R1694-8XX	*20S	*20SB	M(LW)ES20	*20TF
25CL	25WM	25XW	25CA	-	25AL	-	-	R1694-2XX	25S	25SA	M(LW)ES25	25TF
20CLL	-	-	-	-	-	-	-	-	-	20LSB	M(LW)ESG20	-
25CLL	-	-	-	-	-	-	-	-	-	25LSB	M(LW)ESG25	-
15FV	*15SB	-	15SA	15EM,GM	15EM,GM	-	-	R1665-1XX	*15TE	-	MHT15	15HTE
20FV	*20SB	-	20SA	-	-	-	-	R1665-8XX	*20TE	-	*MHT20	*20HTE
25FV	*25SB	-	25SA	-	-	-	-	R1665-2XX	*25TE	-	*MHT25	*25HTE
15SV	*15V	15XV	15SA	-	-	-	-	R1666-1XX	*15TS	-	-	15F
20SV	*20V	*20XV	20SA	-	-	-	-	R1664-8XX	*20TS	-	-	*20F
25SV	*25V	25XV	25SA	-	-	-	-	R1664-2XX	*25TS	-	-	*25F

SBI Linear Rail Series

Flange Series: FL, FLL, FLS



Model	Mounting dimension				Block dimensions												
	H	W	L	E	Mounting tap hole				L1	T±1	K	Grease fitting					
					B	J	M	DP				T1	N1	T2	N2	Q1	*Q2
SBI15 FLS	24	47	56.8	3	38	30	M5	M4	38.2	11	21	4.5	5.5	3.8	3.8	M4x0.7	ø3.5
SBI15 FL	24	47	63.8	3	38	30	M5	M4	45.2	9	21	4.5	5.5	3.8	3.8	M4x0.7	ø3.5
SBI15 FLL	24	47	79.4	3	38	30	M5	M4	60.8	9	21	4.5	5.5	3.8	3.8	M4x0.7	ø3.5
SBI20 FLS	30	63	73.8	4.6	53	40	M6	M5	51.8	12	25.4	6	12	5.8	5	M6x0.75	ø3.5
SBI20 FL	30	63	78.8	4.6	53	40	M6	M5	56.8	12	25.4	6	12	5.8	5	M6x0.75	ø3.5
SBI20 FLL	30	63	96.4	4.6	53	40	M6	M5	74.4	12	25.4	6	12	5.8	5	M6x0.75	ø3.5
SBI25 FLS	36	70	83	5.5	57	45	M8	M6	61	13	30.5	6	12	5	5	M6x0.75	ø3.5
SBI25 FL	36	70	92	5.5	57	45	M8	M6	70	13	30.5	6	12	5	5	M6x0.75	ø3.5
SBI25 FLL	36	70	108	5.5	57	45	M8	M6	86	13	30.5	6	12	5	5	M6x0.75	ø3.5
SBI30 FLS	42	90	96.8	7	72	52	M10	M8	68.8	15.5	35	8.5	12	7.8	5	M6x0.75	ø5.7
SBI30 FL	42	90	107.6	7	72	52	M10	M8	79.6	15.5	35	8.5	12	7.8	5	M6x0.75	ø5.7
SBI30 FLL	42	90	131.6	7	72	52	M10	M8	103.6	15.5	35	8.5	12	7.8	5	M6x0.75	ø5.7
SBI35 FLS	48	100	108.2	8	82	62	M10	M8	78.2	15	40.5	8	12	8	6	M6x0.75	ø5.7
SBI35 FL	48	100	124.6	7.5	82	62	M10	M8	94.6	15	40.5	8	12	8	6	M6x0.75	ø5.7
SBI35 FLL	48	100	152.6	7.5	82	62	M10	M8	122.6	15	40.5	8	12	8	6	M6x0.75	ø5.7
SBI45 FL	60	120	142	9	100	80	M12	M10	108	18	51	10.5	13.5	9.3	6.5	PT1/8	ø5.7
SBI45 FLL	60	120	174	9	100	80	M12	M10	140	18	51	10.5	13.5	9.3	6.5	PT1/8	ø5.7
SBI55 FL	70	140	172.4	12	116	95	M14	M12	131	22	58	12	13	12	8	PT1/8	ø8.7
SBI55 FLL	70	140	211.8	12	116	95	M14	M12	170.4	22	58	12	13	12	8	PT1/8	ø8.7
SBI65 FL	90	170	219.8	19	142	110	M16	M14	170.4	26	71	14	13	14	10	PT1/8	ø8.7
SBI65 FLL	90	170	272.2	19	142	110	M16	M14	222.8	26	71	14	13	14	10	PT1/8	ø8.7

C (Basic dynamic load rating), Co (Basic static load rating)

*S: Bolt size for bottom mounting type of block.

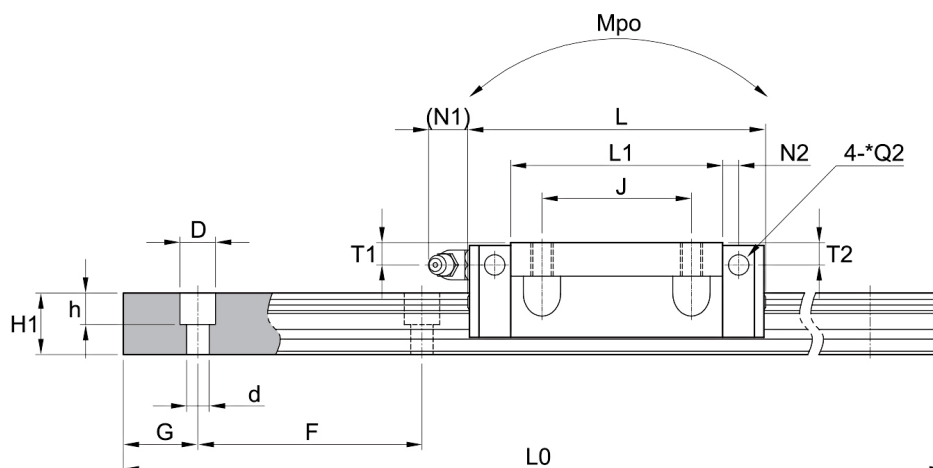
*Q2: The hole of side grease nipple is not made to prevent a foreign substance from entering inside.

When you order the side grease nipple, we build it by ourselves.

LINEAR RAIL SYSTEM

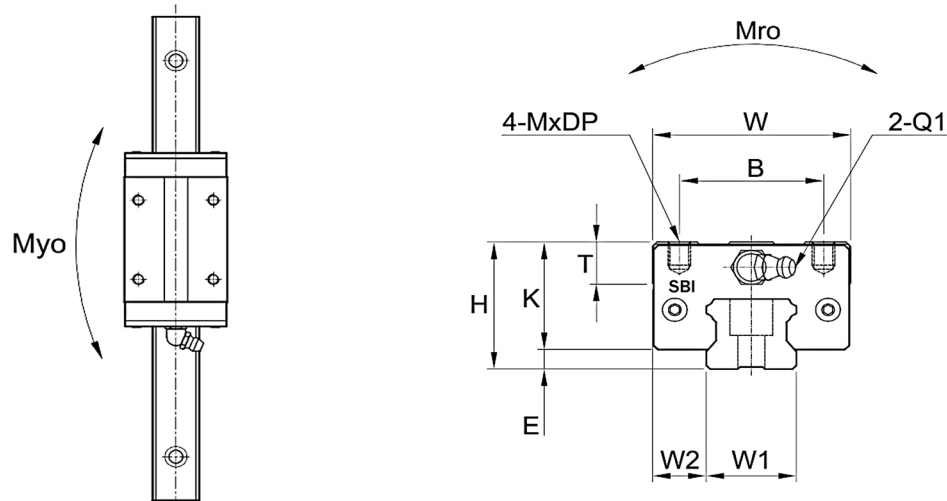
Available for Quick Delivery

Flange Series: FL, FLL, FLS



Model	Rail dimensions									Basic load rating (kN)		Permissible static moment (kN·m)			Mass	
	W1	W2	H1	F	Bolt hole			G	Max Rail Length L0	C	Co	Mro	Mpo	Myo	Block (kg)	Rail (kg/m)
					d	D	h									
SBI15 FLS	15	16	13	60	4.5	7.5	5.5	20	3000	12.3	18.3	0.13	0.08	0.08	0.2	1.3
SBI15 FL	15	16	13	60	4.5	7.5	5.5	20	3000	14.1	24.1	0.16	0.17	0.17	0.24	1.3
SBI15 FLL	15	16	13	60	4.5	7.5	5.5	20	3000	17.1	31.7	0.21	0.29	0.29	0.3	1.3
SBI20 FLS	20	21.5	16.5	60	6	9.5	8.5	20	4000	20.2	29.1	0.29	0.18	0.18	0.44	2.2
SBI20 FL	20	21.5	16.5	60	6	9.5	8.5	20	4000	22.2	38.2	0.36	0.33	0.33	0.46	2.2
SBI20 FLL	20	21.5	16.5	60	6	9.5	8.5	20	4000	27.9	50	0.47	0.56	0.56	0.6	2.2
SBI25 FLS	23	23.5	20	60	7	11	9	20	4000	28.9	42.8	0.49	0.32	0.32	0.66	3
SBI25 FL	23	23.5	20	60	7	11	9	20	4000	31.5	52.1	0.56	0.56	0.56	0.75	3
SBI25 FLL	23	23.5	20	60	7	11	9	20	4000	36.7	64.4	0.69	0.84	0.84	0.8	3
SBI30 FLS	28	31	23	80	9	14	12	20	4000	39.2	57.7	0.8	0.49	0.49	1.08	4.25
SBI30 FL	28	31	23	80	9	14	12	20	4000	42.8	65.4	0.85	0.77	0.77	1.25	4.25
SBI30 FLL	28	31	23	80	9	14	12	20	4000	51.3	84.7	1.1	1.3	1.3	1.65	4.25
SBI35 FLS	34	33	26	80	9	14	12	20	4000	52	73.3	1.24	0.71	0.71	1.53	6.02
SBI35 FL	34	33	26	80	9	14	12	20	4000	59.5	89.1	1.42	1.28	1.28	1.92	6.02
SBI35 FLL	34	33	26	80	9	14	12	20	4000	71.3	115	1.83	2.12	2.12	2.43	6.02
SBI45 FL	45	37.5	32	105	14	20	17	22.5	4000	79.2	116	2.48	1.9	1.9	3.25	9.77
SBI45 FLL	45	37.5	32	105	14	20	17	22.5	4000	94.8	151	3.21	3.14	3.14	4.4	9.77
SBI55 FL	53	43.5	38	120	16	23	20	30	4000	127	182	4.81	2.97	2.97	5.08	13.72
SBI55 FLL	53	43.5	38	120	16	23	20	30	4000	148	225	5.95	4.78	4.78	6.58	13.72
SBI65 FL	63	53.5	53	150	18	26	22	35	4000	188	262	8.24	5.57	5.57	10.2	23.17
SBI65 FLL	63	53.5	53	150	18	26	22	35	4000	233	354	11.2	9.86	9.86	13.3	23.17

SBI Linear Rail Series
Slim Series: SL, SLL, SLS

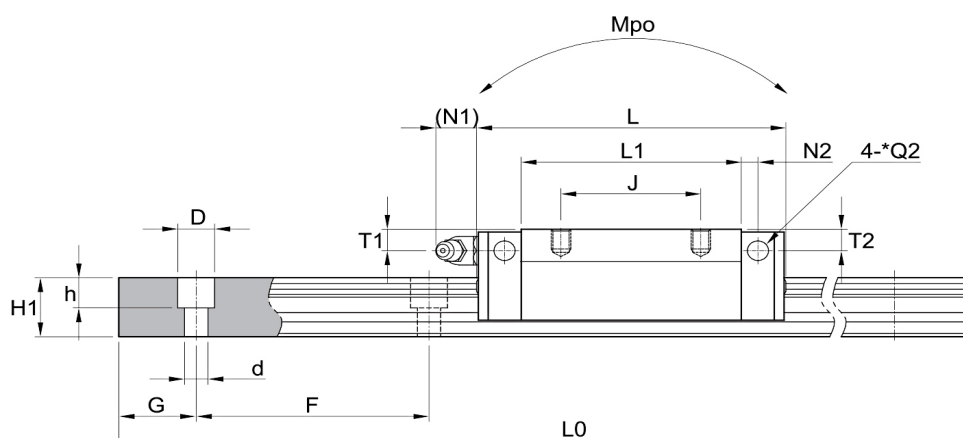


Model	Mounting dimension				Block dimensions												
	H	W	L	E	Mounting tap hole				L1	T±1	K	Grease fitting					
					B	J	M	DP				T1	N1	T2	N2	Q1	*Q2
SBI15 SLS	28	34	56.8	3	26	26	M4	5	38.2	10	25	8.5	5.5	7.8	3.8	M4x0.7	ø3.5
SBI15 SL	28	34	63.8	3	26	26	M4	5	45.2	10	25	8.5	5.5	7.8	3.8	M4x0.7	ø3.5
SBI15 SLL	28	34	79.4	3	26	34	M4	5	60.8	10	25	8.5	5.5	7.8	3.8	M4x0.7	ø3.5
SBI20 SLS	30	44	73.8	4.6	32	36	M5	5	51.8	10	25.4	6	12	5.8	5	M6x0.75	ø3.5
SBI20 SL	30	44	78.8	4.6	32	36	M5	5	56.8	10	25.4	6	12	5.8	5	M6x0.75	ø3.5
SBI20 SLL	30	44	96.4	4.6	32	50	M5	5	74.4	10	25.4	6	12	5.8	5	M6x0.75	ø3.5
SBI25 SLS	40	48	83	5.5	35	35	M6	8	61	16	34.5	10	12	9	5	M6x0.75	ø3.5
SBI25 SL	40	48	92	5.5	35	35	M6	8	70	16	34.5	10	12	9	5	M6x0.75	ø3.5
SBI25 SLL	40	48	108	5.5	35	50	M6	8	86	16	34.5	10	12	9	5	M6x0.75	ø3.5
SBI30 SLS	45	60	96.8	7	40	40	M8	10	68.8	12	38	11.5	12	10.8	5	M6x0.75	ø5.7
SBI30 SL	45	60	108	7	40	40	M8	10	79.6	12	38	11.5	12	10.8	5	M6x0.75	ø5.7
SBI30 SLL	45	60	132	7	40	60	M8	10	104	12	38	11.5	12	10.8	5	M6x0.75	ø5.7
SBI35 SLS	55	70	108	8	50	50	M8	10	78.2	15	47.5	15	12	15	6	M6x0.75	ø5.7
SBI35 SL	55	70	125	7.5	50	50	M8	10	94.6	15	47.5	15	12	15	6	M6x0.75	ø5.7
SBI35 SLL	55	70	153	7.5	50	72	M8	10	123	15	47.5	15	12	15	6	M6x0.75	ø5.7
SBI45 SL	70	86	142	9	60	60	M10	13	108	17	61	20.5	13.5	19.3	6.5	PT1/8	ø5.7
SBI45 SLL	70	86	174	9	60	80	M10	13	140	17	61	20.5	13.5	19.3	6.5	PT1/8	ø5.7
SBI55 SL	80	100	172	12	75	75	M12	18	131	21	68	22	13	22	8	PT1/8	ø8.7
SBI55 SLL	80	100	212	12	75	95	M12	18	170	21	68	22	13	22	8	PT1/8	ø8.7
SBI65 SL	90	126	220	19	76	70	M16	16	170	26	71	14	13	14	10	PT1/8	ø8.7
SBI65 SLL	90	126	272	19	76	120	M16	16	223	26	71	14	13	14	10	PT1/8	ø8.7

C (Basic dynamic load rating), Co (Basic static load rating)

LINEAR RAIL SYSTEM

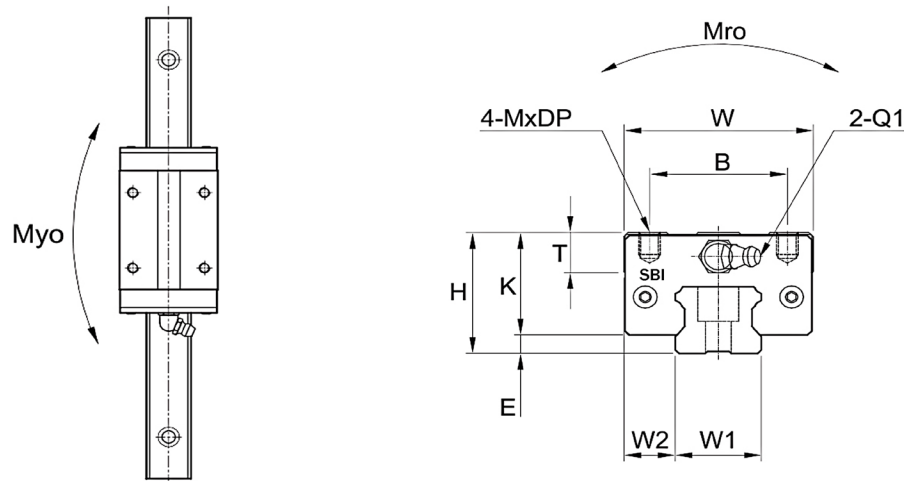
Available for Quick Delivery
Slim Series: SL, SLL, SLS



Model	Rail dimensions									Basic load rating (kN)		Permissible static moment (kN•m)			Mass	
	W1	W2	H1	F	Bolt hole			G	Max Rail Length L0	C	Co	Mro	Mpo	Myo	Block (kg)	Rail (kg/m)
SBI15 SLS	15	9.5	13	60	4.5	7.5	5.5	20	3000	12.3	18.3	0.13	0.08	0.08	0.19	1.3
SBI15 SL	15	9.5	13	60	4.5	7.5	5.5	20	3000	14.1	24.1	0.16	0.17	0.17	0.23	1.3
SBI15 SLL	15	9.5	13	60	4.5	7.5	5.5	20	3000	17.1	31.7	0.21	0.29	0.29	0.31	1.3
SBI20 SLS	20	12	17	60	6	9.5	8.5	20	4000	20.2	29.1	0.29	0.18	0.18	0.33	2.2
SBI20 SL	20	12	17	60	6	9.5	8.5	20	4000	22.2	38.2	0.36	0.33	0.33	0.36	2.2
SBI20 SLL	20	12	17	60	6	9.5	8.5	20	4000	27.9	50	0.47	0.56	0.56	0.47	2.2
SBI25 SLS	23	13	20	60	7	11	9	20	4000	28.9	42.8	0.49	0.32	0.32	0.58	3
SBI25 SL	23	13	20	60	7	11	9	20	4000	31.5	52.1	0.56	0.56	0.56	0.68	3
SBI25 SLL	23	13	20	60	7	11	9	20	4000	36.7	64.4	0.69	0.84	0.84	0.82	3
SBI30 SLS	28	16	23	80	9	14	12	20	4000	39.2	57.7	0.8	0.49	0.49	0.92	4.25
SBI30 SL	28	16	23	80	9	14	12	20	4000	42.8	65.4	0.85	0.77	0.77	1.06	4.25
SBI30 SLL	28	16	23	80	9	14	12	20	4000	51.3	84.7	1.1	1.3	1.3	1.36	4.25
SBI35 SLS	34	18	26	80	9	14	12	20	4000	52	73.3	1.24	0.71	0.71	1.48	6.02
SBI35 SL	34	18	26	80	9	14	12	20	4000	59.5	89.1	1.42	1.28	1.28	1.82	6.02
SBI35 SLL	34	18	26	80	9	14	12	20	4000	71.3	115	1.83	2.12	2.12	2.32	6.02
SBI45 SL	45	21	32	105	14	20	17	22.5	4000	79.2	116	2.48	1.9	1.9	3.08	9.77
SBI45 SLL	45	21	32	105	14	20	17	22.5	4000	94.8	151	3.21	3.14	3.14	4.23	9.77
SBI55 SL	53	24	38	120	16	23	20	30	4000	127	182	4.81	2.97	2.97	5.04	13.72
SBI55 SLL	53	24	38	120	16	23	20	30	4000	148	225	5.95	4.78	4.78	5.82	13.72
SBI65 SL	63	32	53	150	18	26	22	35	4000	188	262	8.24	5.57	5.57	9.1	23.17
SBI65 SLL	63	32	53	150	18	26	22	35	4000	233	354	11.2	9.86	9.86	12	23.17

SBI Linear Rail Series

Slim Series: HL, HLL, HLS



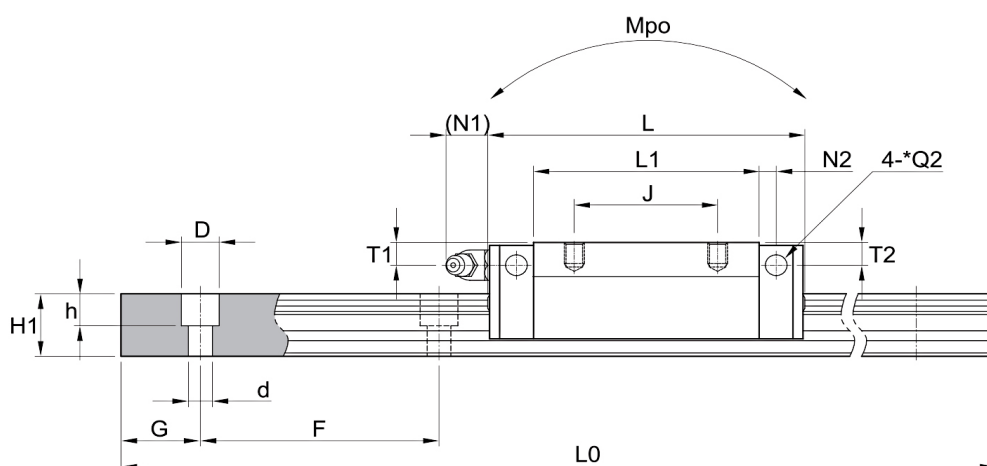
Model	Mounting dimension				Block dimensions												
	H	W	L	E	Mounting tap hole				L1	T±1	K	Grease fitting					
					B	J	M	DP				T1	N1	T2	N2	Q1	*Q2
SBI15 HLS	24	34	57	3	26	26	M4	4	38.2	6	21	4.5	5.5	3.8	3.8	M4x0.7	ø3.5
SBI15 HL	24	34	64	3	26	26	M4	4	45.2	6	21	4.5	5.5	3.8	3.8	M4x0.7	ø3.5
SBI15 HLL	24	34	79	3	26	34	M4	4	60.8	6	21	4.5	5.5	3.8	3.8	M4x0.7	ø3.5
SBI25 HLS	36	48	83	5.5	35	35	M6	6	61	12	30.5	6	12	5	5.5	M6x0.75	ø3.5
SBI25 HL	36	48	92	5.5	35	35	M6	6	70	12	30.5	6	12	5	5.5	M6x0.75	ø3.5
SBI25 HLL	36	48	108	5.5	35	50	M6	6	86	12	30.5	6	12	5	5.5	M6x0.75	ø3.5
SBI30 HLS	42	60	97	7	40	40	M8	8	68.8	12	35	8.5	12	7.8	5	M6x0.75	ø5.7
SBI30 HL	42	60	108	7	40	40	M8	8	79.6	12	35	8.5	12	7.8	5	M6x0.75	ø5.7
SBI30 HLL	42	60	132	7	40	60	M8	8	103.6	12	35	8.5	12	7.8	5	M6x0.75	ø5.7
SBI35 HLS	48	70	108	8	50	50	M8	8	78.2	15	40.5	8	12	8	6	M6x0.75	ø5.7
SBI35 HL	48	70	125	7.5	50	50	M8	8	94.6	15	40.5	8	12	8	6	M6x0.75	ø5.7
SBI35 HLL	48	70	153	7.5	50	72	M8	8	122.6	15	40.5	8	12	8	6	M6x0.75	ø5.7
SBI45 HL	60	86	142	9	60	60	M10	10	108	17	51	10.5	13.5	9.3	6.5	PT1/8	ø5.7
SBI45 HLL	60	86	174	9	60	80	M10	10	140	17	51	10.5	13.5	9.3	6.5	PT1/8	ø5.7
SBI55 HL	70	100	172	12	75	75	M12	12	131	21	58	12	13	12	8	PT1/8	ø8.7
SBI55 HLL	70	100	212	12	75	95	M12	12	170.4	21	58	12	13	12	8	PT1/8	ø8.7

C (Basic dynamic load rating), Co (Basic static load rating)

*Q2: The hole of side grease nipple is not made to prevent a foreign substance from entering inside.
When you order the side grease nipple, we build it by ourselves.

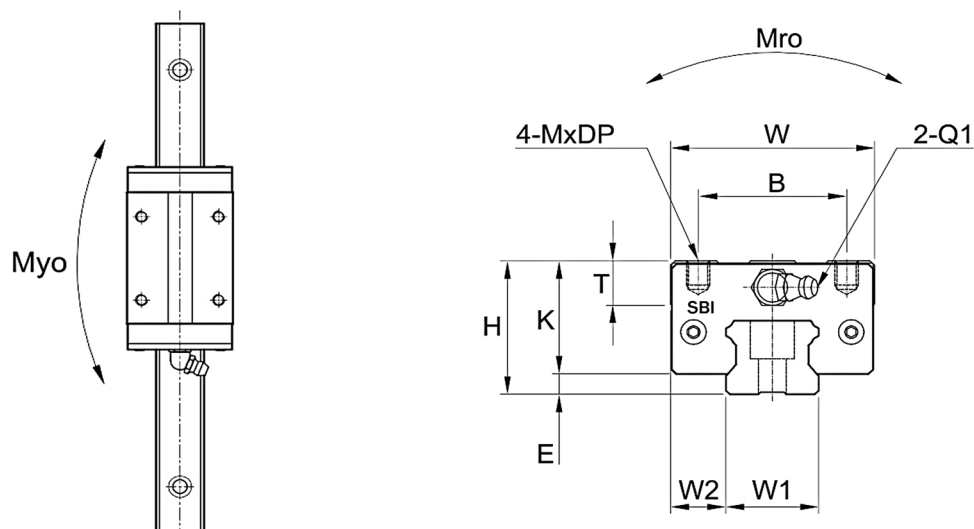
LINEAR RAIL SYSTEM

Available for Quick Delivery
Slim Series: HL, HLL, HLS



Model	Rail dimensions									Basic load rating (kN)		Permissible static moment (kN·m)			Mass	
	W1	W2	H1	F	Bolt hole			G	Max Rail Length LO	C	Co	Mro	Mpo	Myo	Block (kg)	Rail (kg/m)
					d	D	h									
SBI15 HLS	15	9.5	13	60	4.5	7.5	5.5	20	3000	12.3	18.3	0.13	0.08	0.08	0.15	1.3
SBI15 HL	15	9.5	13	60	4.5	7.5	5.5	20	3000	14.1	24.1	0.16	0.17	0.17	0.18	1.3
SBI15 HLL	15	9.5	13	60	4.5	7.5	5.5	20	3000	17.1	31.7	0.21	0.29	0.29	0.24	1.3
SBI25 HLS	23	12.5	20	60	7	11	9	20	4000	28.9	42.8	0.49	0.32	0.32	0.47	3
SBI25 HL	23	12.5	20	60	7	11	9	20	4000	31.5	52.1	0.56	0.56	0.56	0.57	3
SBI25 HLL	23	12.5	20	60	7	11	9	20	4000	36.7	64.4	0.69	0.84	0.84	0.7	3
SBI30 HLS	28	16	23	80	9	14	12	20	4000	39.2	57.7	0.8	0.49	0.49	0.8	4.25
SBI30 HL	28	16	23	80	9	14	12	20	4000	42.8	65.4	0.85	0.77	0.77	0.95	4.25
SBI30 HLL	28	16	23	80	9	14	12	20	4000	51.3	84.7	1.1	1.3	1.3	1.22	4.25
SBI35 HLS	34	18	26	80	9	14	12	20	4000	52	73.3	1.24	0.71	0.71	1.35	6.02
SBI35 HL	34	18	26	80	9	14	12	20	4000	59.5	89.1	1.42	1.28	1.28	1.87	6.02
SBI35 HLL	34	18	26	80	9	14	12	20	4000	71.3	115	1.83	2.12	2.12	2.04	6.02
SBI45 HL	45	20.5	32	105	14	20	17	22.5	4000	79.2	116	2.48	1.9	1.9	2.8	9.77
SBI45 HLL	45	20.5	32	105	14	20	17	22.5	4000	94.8	151	3.21	3.14	3.14	3.29	9.77
SBI55 HL	53	23.5	38	120	16	23	20	30	4000	127	182	4.81	2.97	2.97	4.42	13.72
SBI55 HLL	53	23.5	38	120	16	23	20	30	4000	148	225	5.95	4.78	4.78	5.82	13.72

SBI Linear Rail Series
Slim Series: CL, CLL, CLS



Model	Mounting dimension				Block dimensions												
	H	W	L	E	Mounting tap hole				L1	T±1	K	Grease fitting					
					B	J	M	DP				T1	N1	T2	N2	Q1	*Q2
SBI20 CLS	28	42	65.2	4.6	32	32	M5	5	43.2	7.8	23.4	4.8	12	4.3	5	M6x0.75	ø3.5
SBI20 CL	28	44	78.8	4.6	32	32	M5	5	56.8	7.8	23.4	4.8	12	3.8	5	M6x0.75	ø3.5
SBI20 CLL	28	44	96.4	4.6	32	50	M5	5	74.4	7.8	23.4	4.8	12	3.8	5	M6x0.75	ø3.5
SBI25 CL	33	48	92	5.5	35	35	M6	6	70	9	27.5	5.4	12	5.4	5	M6x0.75	ø3.5
SBI25 CLL	33	48	108	5.5	35	50	M6	6	86	9	27.5	5.4	12	5.4	5	M6x0.75	ø3.5

C (Basic dynamic load rating), Co (Basic static load rating)

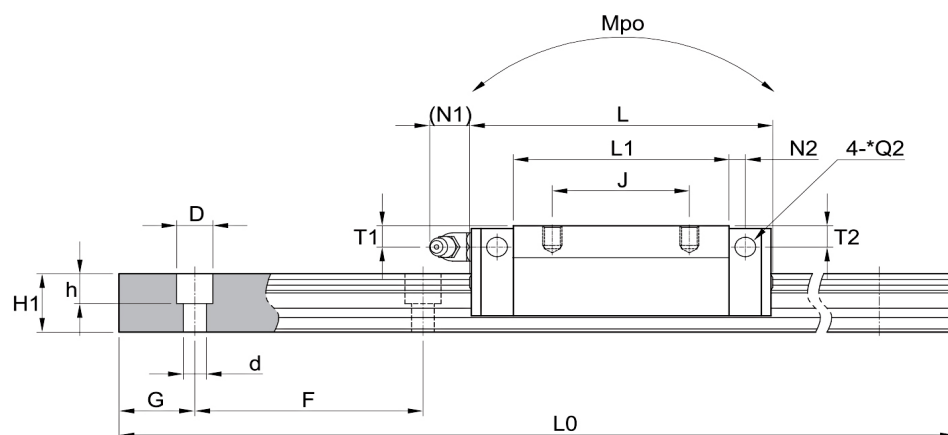
*Q2: The hole of side grease nipple is not made to prevent a foreign substance from entering inside.

When you order the side grease nipple, we build it by ourselves.

LINEAR RAIL SYSTEM

Available for Quick Delivery

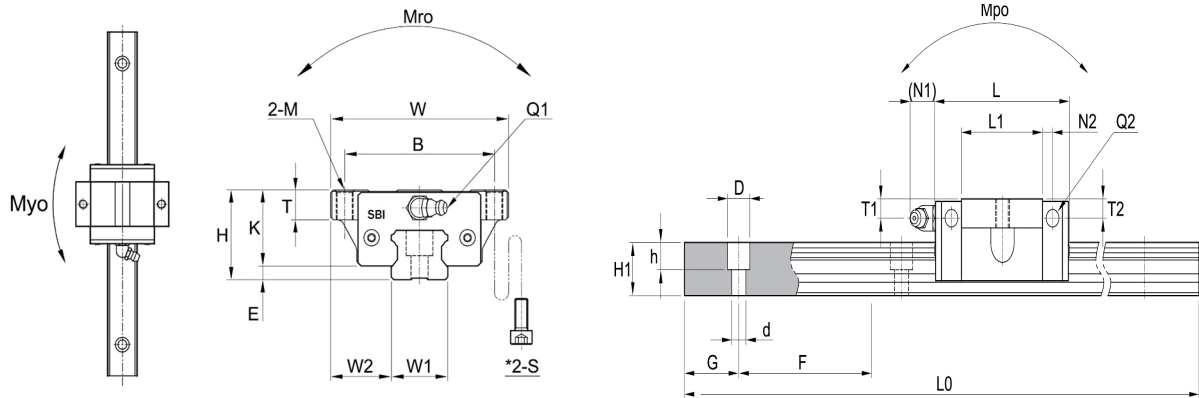
Slim Series: CL, CLL, CLS



Model	Rail dimensions									Basic load rating (kN)		Permissible static moment (kN*m)			Mass	
	W1	W2	H1	F	Bolt hole			G	Max Rail Length L0	C	Co	Mro	Mpo	Myo	Block (kg)	Rail (kg/m)
					d	D	h									
SBI20 CLS	20	11	16.5	60	6	9.5	8.5	20	4000	19.1	27	0.27	0.15	0.15	0.23	2.2
SBI20 CL	20	12	16.5	60	6	9.5	8.5	20	4000	22.2	38.2	0.36	0.33	0.33	0.32	2.2
SBI20 CLL	20	12	16.5	60	6	9.5	8.5	20	4000	27.9	50	0.47	0.56	0.56	0.41	2.2
SBI25 CL	23	12.5	20	60	7	11	9	20	4000	31.5	52.1	0.56	0.56	0.56	0.49	3
SBI25 CLL	23	12.5	20	60	7	11	9	20	4000	36.7	64.4	0.69	0.84	0.84	0.57	3

SBI Linear Rail Series

Compact FLANGE Series: FV



SBI FV Block Specifications

Model	Rail dimensions									Basic load rating (kN)		Permissible static moment (kN•m)			Mass	
	W1	W2	H1	F	Bolt hole			G	Max Rail Length LO	C	Co	Mro	Mpo	Myo	Block (kg)	Rail (kg/m)
					d	D	h									
SBI15 FV	15	16	13	60	4.5	7.5	5.5	20	3000	5.8	12.8	0.04	0.03	0.03	0.11	1.3
SBI20 FV	20	21.5	16.5	60	6	9.5	8.5	20	4000	9.4	20.2	0.12	0.1	0.1	0.23	2.2
SBI25 FV	23	23.5	20	60	7	11	9	20	4000	12.4	26.1	0.19	0.17	0.17	0.32	3

C (Basic dynamic load rating), Co (Basic static load rating)

*S: Bolt size for bottom mounting type of block.

*Q2: The hole of side grease nipple is not made to prevent a foreign substance from entering inside.

When you order the side grease nipple, we build it by ourselves.

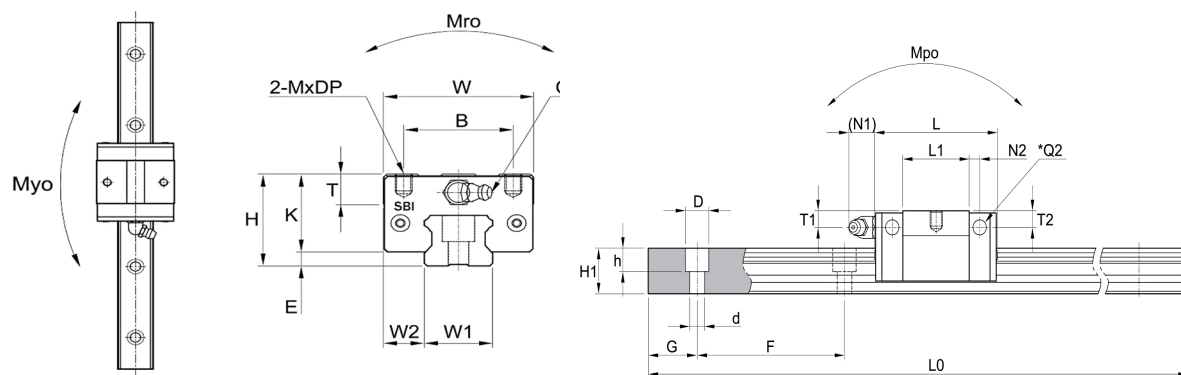
SBI FV Rail Specifications

Model	Rail dimensions									Basic load rating (kN)		Permissible static moment (kN•m)			Mass	
	W1	W2	H1	F	Bolt hole			G	Max Rail Length LO	C	Co	Mro	Mpo	Myo	Block (kg)	Rail (kg/m)
					d	D	h									
SBI15 FV	15	16	13	60	4.5	7.5	5.5	20	3000	5.8	12.8	0.04	0.03	0.03	0.11	1.3
SBI20 FV	20	21.5	16.5	60	6	9.5	8.5	20	4000	9.4	20.2	0.12	0.1	0.1	0.23	2.2
SBI25 FV	23	23.5	20	60	7	11	9	20	4000	12.4	26.1	0.19	0.17	0.17	0.32	3

LINEAR RAIL SYSTEM

Available for Quick Delivery

Compact SLIM Series: SV



SBI SV Block Specifications

Model	Mounting dimension				Block dimensions											
	H	W	L	E	Mounting tap hole			L1	T±1	K	Grease fitting					
					B	M	DP				T1	N1	T2	N2	Q1	*Q2
SBI15 SV	24	34	39.9	3	26	M4	4	21.3	6	21	4.5	5.5	3.8	3.8	M4x0.7	ø3.5
SBI20 SV	28	44	49.1	4.6	32	M5	5	27.1	7.8	23.4	4.8	12	3.8	5	M6x0.75	ø3.5
SBI25 SV	33	48	52.6	5.5	35	M6	6	30.6	9	27.5	5.4	12	5.4	5	M6x0.75	ø3.5

C (Basic dynamic load rating), Co (Basic static load rating)

*Q2: The hole of side grease nipple is not made to prevent a foreign substance from entering inside.

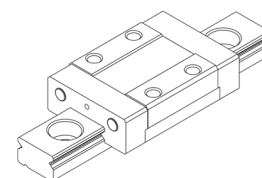
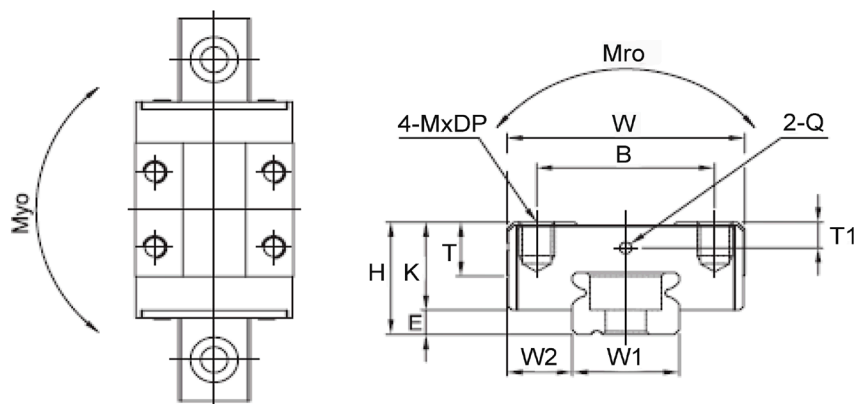
When you order the side grease nipple, we build it by ourselves.

SBI SV Rail Specifications

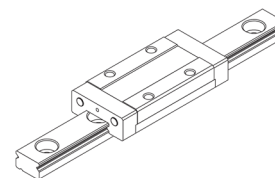
Model	Rail dimensions									Basic load rating (kN)		Permissible static moment (kN·m)			Mass	
	W1	W2	H1	F	Bolt hole			G	Max Rail Length LO	C	Co	Mro	Mpo	Myo	Block (kg)	Rail (kg/m)
					d	D	h									
SBI15 SV	15	9.5	13	60	4.5	7.5	5.5	20	3000	5.8	12.8	0.05	0.03	0.03	0.1	1.3
SBI20 SV	20	12	16.5	60	6	9.5	8.5	20	4000	9.4	20.2	0.15	0.11	0.11	0.17	2.2
SBI25 SV	23	12.5	20	60	7	11	9	20	4000	12.4	26.1	0.21	0.14	0.14	0.24	3

SBI Linear Rail Series

Miniature Series: SBM, SBML



SBM
Standard Miniature



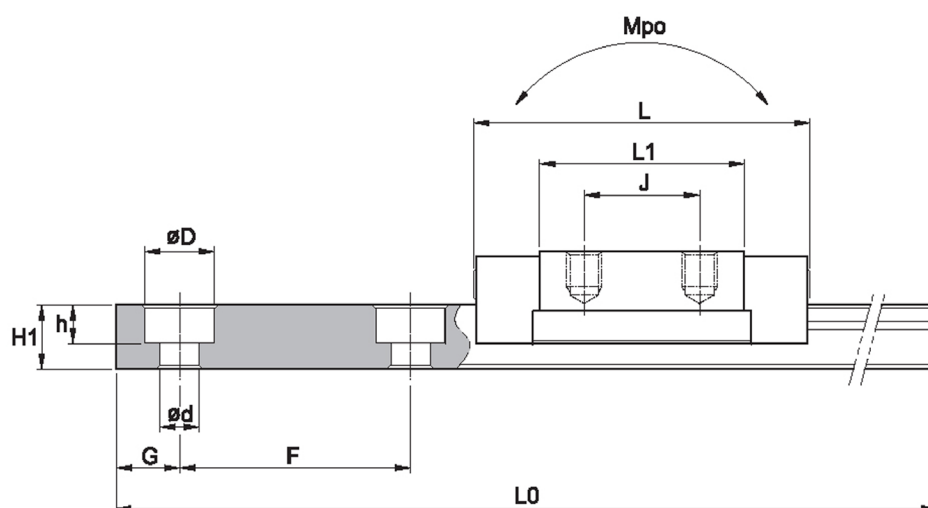
SBML
Block Length is modified to increase load capacity

Model	Mounting dimension				Block dimensions								
	H	W	L	E	Mounting tap hole				L1	T±1	K	Grease fitting	
					B	J	M	DP				T1	Q
SBM 07	8	17	22.8	1.5	12	8	M2	2.5	13.4	3.3	6.5	1.6	ø1
SBML 07	8	17	32.4	1.5	12	13	M2	2.5	23	3.3	6.5	1.6	ø1
SBM 09	10	20	30.1	2	15	10	M3	3	19.3	4.5	7.8	2.3	ø1
SBML 09	10	20	39.6	2	15	16	M3	3	28.8	4.5	7.8	2.3	ø1
SBM 12	13	27	34.6	3	20	15	M3	3.5	21	5.5	10	2.8	ø1
SBML 12	13	27	44.3	3	20	20	M3	3.5	30.7	5.5	10	2.8	ø1
SBM 15	16	32	43	4	25	20	M3	4	25.4	6.5	12	3.1	ø1
SBML 15	16	32	58.8	4	25	25	M3	4	41.2	6.5	12	3.1	ø1

C (Basic dynamic load rating), Co (Basic static load rating)

LINEAR RAIL SYSTEM

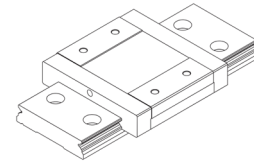
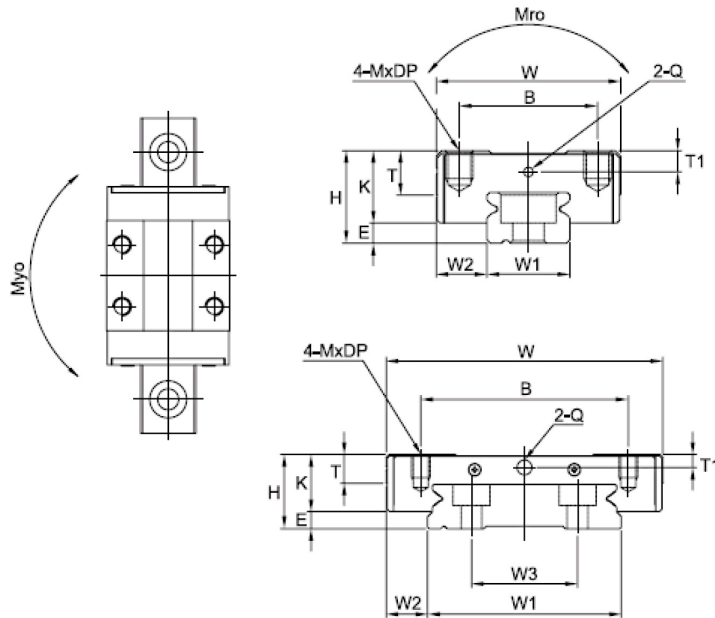
Available for Quick Delivery
Miniature Series: SBM, SBML



Model	Rail dimensions									Basic load rating (kN)		Permissible static moment (kN·m)			Mass	
	W1	W2	H1	F	Bolt hole			G	Max Rail Length L0	C	Co	Mro	Mpo	Myo	Block (kg)	Rail (kg/m)
	d	D	h		d	D	h									
SBM 07	7	5	4.7	15	2.6	4.3	2.3	5	490	0.88	1.37	4.9	2.94	2.94	0.006	0.23
SBML 07	7	5	4.7	15	2.6	4.3	2.3	5	490	1.59	2.5	8.82	7.84	7.84	0.015	0.23
SBM 09	9	6	5.5	20	4	6	3.3	7.5	1195	1.42	2.9	10.39	5.1	5.1	0.013	0.32
SBML 09	9	6	5.5	20	4	6	3.3	7.5	1195	2.59	3.92	18.33	17.54	14.54	0.023	0.32
SBM 12	12	8	7.5	25	4	6	4.5	10	1195	2.46	3.64	14.7	8.04	8.72	0.029	0.59
SBML 12	12	8	7.5	25	4	6	4.5	10	1195	4.21	6.56	26.66	24.01	26.07	0.043	0.59
SBM 15	15	9	9.5	40	4	6	4.5	15	1190	4.02	5.97	37.24	16.46	17.93	0.52	0.99
SBML 15	15	9	9.5	40	4	6	4.5	15	1190	7.15	10.68	53.02	49.3	53.51	0.079	0.99

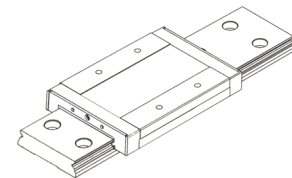
SBI Linear Rail Series

Miniature Series: **SBMW**, **SBMWL**



SBMW

Width and length of block are modified to increase load ratings and permissible moments.



SBMWL

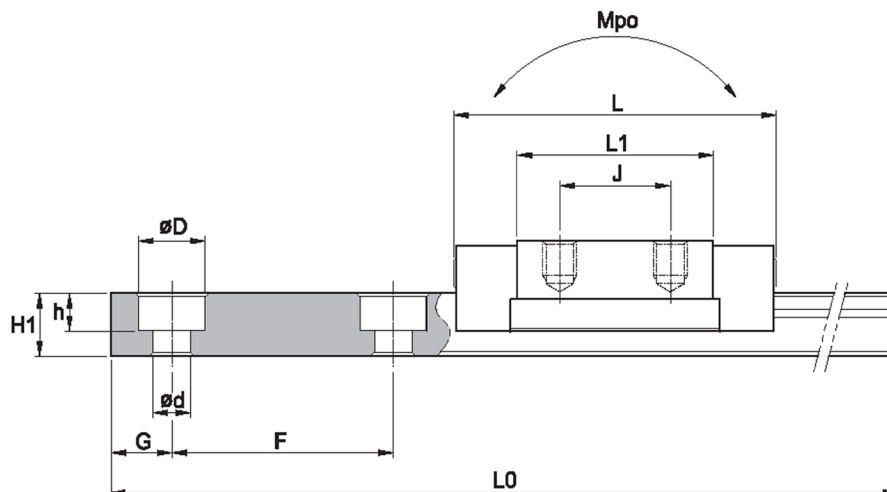
Uses same rail as SBMW type with longest whole length for heaviest load.

Model	Mounting dimension				Block dimensions								
	H	W	L	E	Mounting tap hole				L1	T±1	K	Grease fitting	
					B	J	M	DP				T1	Q
SBMW 09	12	30	42.3	3.7	21	12	M3	3	27	4.5	8.3	2	ø1
SBMWL 09	12	30	50.3	3.7	23	24	M3	3	35	4.5	8.3	2	ø1
SBMW 12	14	40	48.4	4	28	15	M3	3.5	30.9	5.5	10	2.4	ø1
SBMWL 12	14	40	59.5	4	28	28	M3	3.5	42	5.5	10	2.4	ø1
SBMW 15	16	60	57.5	3.7	45	20	M4	4.5	38.9	6.5	12.3	2.6	ø2.7
SBMWL 15	16	60	73.4	3.7	45	20	M4	4.5	54.8	6.5	12.3	2.6	ø2.7

C (Basic dynamic load rating), Co (Basic static load rating)

LINEAR RAIL SYSTEM

Available for Quick Delivery
Miniature Series: **SBMW, SBMWL**

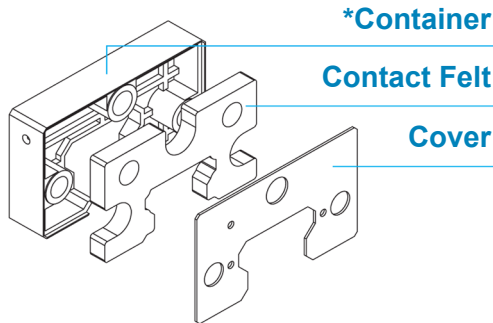


Model	Rail dimensions										Basic load rating (kN)		Permissible static moment (kN·m)			Mass	
	W1	W2	H1	W3	F	Bolt hole			G	Max Rail Length L0	C	Co	Mro	Mpo	Myo	Block (kg)	Rail (kg/m)
						d	D	h									
SBMW 09	18	6	7.5	-	30	4	6	4.5	10	1190	2.45	3.92	36	16.3	16.3	0.03	0.99
SBMWL 09	18	6	7.5	-	30	4	6	4.5	10	1190	3.52	5.37	48.4	30.4	30.4	0.05	0.99
SBMW 12	24	8	8.5	-	40	5	8	4.5	15	1190	4.02	6.08	47.6	17.2	18.6	0.03	1.42
SBMWL 12	24	8	8.5	-	40	5	8	4.5	15	1190	5.96	9.21	89.2	46.4	52.8	0.1	1.42
SBMW 15	42	9	9.5	23	40	5	8	4.5	15	1190	6.66	9.8	137	35.3	38.2	0.12	2.93
SBMWL 15	42	9	9.5	23	40	5	8	4.5	15	1190	9.91	14.9	250	35.4	108	0.21	2.93

SBI Linear Rail Series

BLOCK Options: "MF" Maintenance Free/ "DF" Dust Free Container

In situations where greasing is difficult, specify the "MF" Maintenance-Free Self Lubricating Container. For protection from fine foreign matter, specify High-Density Felt "DF" Dust-Free Container.

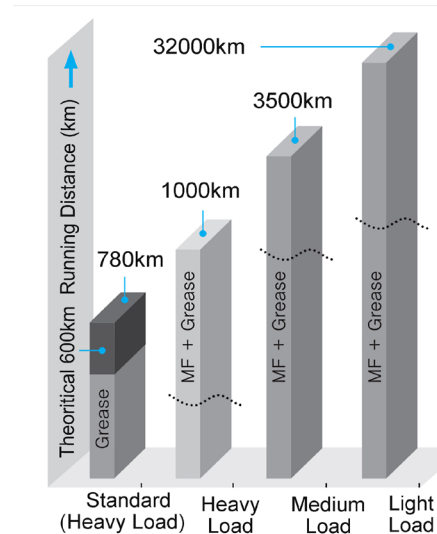


*Container contact surfaces are tolerance match to the guide rail to ensure perfect sealing.
Grease Feeding - The *MF Container may be re-charged by adding oil grease to hole inside of block with a gun.
Caution If MF container is required to use in special working condition like clean room, please contact Kuroda Jenatec.

Seal Resistance

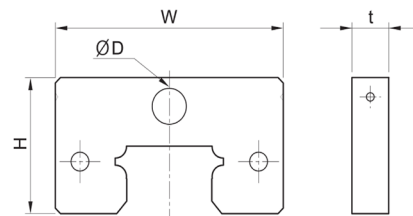
Scraper has no seal resistance. The maximum value of the seal resistance in which grease is not applied.

Model	End seal	DF	MF
SBI 15	2.0	4.7	3.5
SBI 20	2.5	4.9	3.0
SBI 25	3.0	5.5	3.5
SBI 30	3.9	5.6	3.5
SBI 35	2.5	5.7	3.7
SBI 45	3.4	5.9	4.1
SBI 55	3.5	6.2	4.2
SBI 65	3.6	6.4	4.4



MF Container Lifetime Performance Test

Dimension of the MF/DF Container

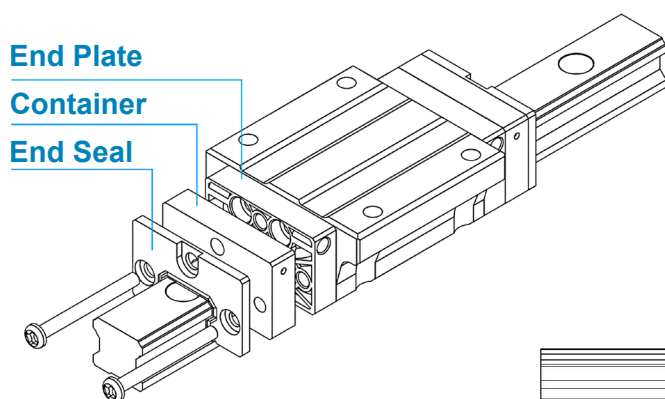


(Unit : mm)

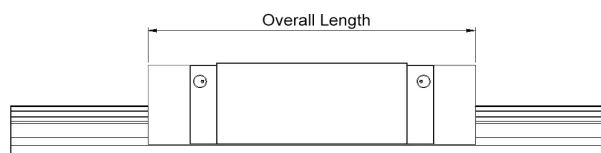
Model	Size	Applied model	Block type	W	t	H	D
MF/DF	15A	SBI15	FL/FLL/HL/HLL/HLS SL/SLL/FV/SV	33.4	7	20.2	4
MF/DF	20A	SBI20	FL/FLL SL/SLL	43.4	7	24.6	6.5
MF/DF	20B		CL/CLL/FV/SV			22.6	
MF/DF	25A	SBI25	FL/FLL/HL/HLL/HLS SL/SLL/FV/SV	47	7	29.7	6.5
MF/DF	25B		CL/CLL/FV/SV			26.7	
MF/DF	30A	SBI30	FL/FLL/HL/HLL SL/SLL	59	8	34.2	6.5
MF/DF	35A	SBI35	FL/FLL/HL/HLL SL/SLL	69	8	39.7	6.5
MF/DF	45A	SBI45	FL/FLL/HL/HLL SL/SLL	85	8	49.7	10.5
MF/DF	55A	SBI55	FL/FLL/HL/HLL SL/SLL	98	9	56	10.5
MF/DF	65A	SBI65	FL/FLL SL/SLL	123	9	69	10.5

LINEAR RAIL SYSTEM

Available for Quick Delivery
BLOCK Options: Seals & Scrapers



DD: Dust Conditions
ZZ: Welding Splatter
KK: Dust and Chips



Item	Symbol	Application
End Seal	No Symbol (Standard)	Normal Condition
End Seal + End Seal	DD	Dust Condition
End Seal + Scraper	ZZ	Welding Splatter
End Seal + End Seal + Scraper	KK	Dust and Chips

* Bottom seal of SBI type is integrated with bottom retainer. (Except SBI15)

* If block is assembled with MF container, the grease fitting is not supplied.

If you would like to feed the grease to the block, please order side grease fitting type.

Overall length with seal

MF: Self lubricant. MFDD: MF with End Seals. MFZZ: with End Seal + Scraper

Additional seal	Standard	DD	ZZ	KK	MF	MFDD	MFZZ	MFKK
15 FV/SV	39.9	44.5	45.3	49.9	53.9	58.5	59.3	63.9
15 HLS	56.8	61.4	62.2	68.8	70.8	75.4	76.2	80.8
15 FL/SL/HL	63.8	68.4	69.2	73.8	77.8	82.4	83.2	87.8
15 FLL/SLL/HLL	79.4	84	84.8	89.4	93.4	98	98.8	103.4
20 FV/SV	49.1	54.1	54.5	59.5	63.1	68.1	68.5	73.5
20 CLS	65.2	70.2	70.6	75.6	-	-	-	-
20 FL/SL/HL/CL	78.8	83.8	84.2	89.2	92.8	97.8	98.2	103.2
20FLL/SLL/HLL/CLL	96.4	101.4	101.8	106.8	110.4	115.4	115.8	120.8
25 FV/SV	52.6	57.6	58	63	66.6	71.6	72	77
25 FL/SL/HL/CL	92	97	97.4	102.4	106	111	111.4	116.4
25FLL/SLL/HLL/CLL	108	113	113.4	118.4	122	127	127.4	132.4
30 FL/SL/HL	107.6	113.6	114	120	123.6	129.6	130	136
30 FLL/SLL/HLL	131.6	137.6	138	144	147.6	153.6	154	160
35 FL/SL/HL	124.6	130.6	131	137	140.6	146.6	147	153
35 FLL/SLL/HLL	152.6	158.6	159	165	168.6	174.6	175	181
45 FL/SL/HL	142	148	148.4	154.4	158	164	164.4	170.4
45 FLL/SLL/HLL	174	180	180.4	186.4	190	196	196.4	202.4
55 FL/SL/HL	172.4	179.4	179.2	186.2	190.4	197.4	197.2	204.2
55 FLL/SLL/HLL	211.8	218.8	218.6	225.6	229.8	236.8	236.6	243.6
65 FL/SL	219.8	226.8	226.6	233.6	237.8	244.8	244.6	251.6
65 FLL/SLL	272.2	279.2	279	286	290.2	297.2	297	304

(Unit : mm)

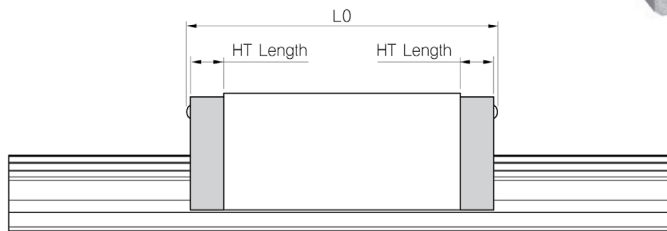
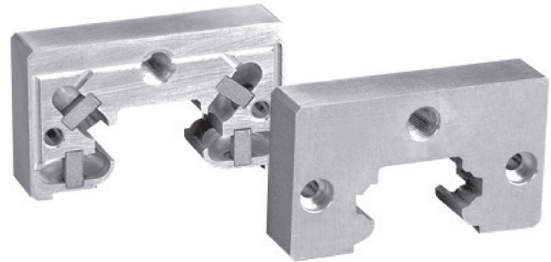
SBI Linear Rail Series

BLOCK Options: “HT” High-Temperature Self Lubricating Container

When operating temperature is higher than 80 degrees C, a High Temperature End Plate(“HT”) can be used. The end plate is made of aluminum.

Recommended operating temperature:
-20 to 180 degrees C

*All plastic components are replaced with steel or aluminum in the HT Blocks. *Side Grease fitting is not available for HT End Plates.



Dimension of the HT Container

Reference	HT Length	Overall length							
		Applied model	L0	Applied model	L0	Applied model	L0	Applied model	L0
HT 15A	6.5	SBI 15V	38.3	SBI 15S	53.2	SBI 15	62.2	SBI 15L	77.8
HT 20A	8	SBI 20V	47.1	SBI 20S	63.2	SBI 20	76.8	SBI 20L	94.4
HT 25A	8	SBI 25V	50.6	-	-	SBI 25	90	SBI 25L	106
HT 30A	10	-	-	-	-	SBI 30	105.6	SBI 30L	129.6
HT 35A	11	-	-	-	-	SBI 35	122.6	SBI 35L	150.6
HT 45A	13	-	-	-	-	SBI 45	140	SBI 45L	172
HT 55A	16	-	-	-	-	SBI 55	168.5	SBI 55L	207.9
HT 65A	20	-	-	-	-	SBI 65	215.9	SBI 65L	268.3

HT Ordering Example:

SBI25FL - HT - 2 - K1 - 800 - N

① ② ③ ④ ⑤ ⑥

① Model

② High temperature end plate

③ Block quantity

④ Preload

⑤ Rail length

⑥ Accuracy

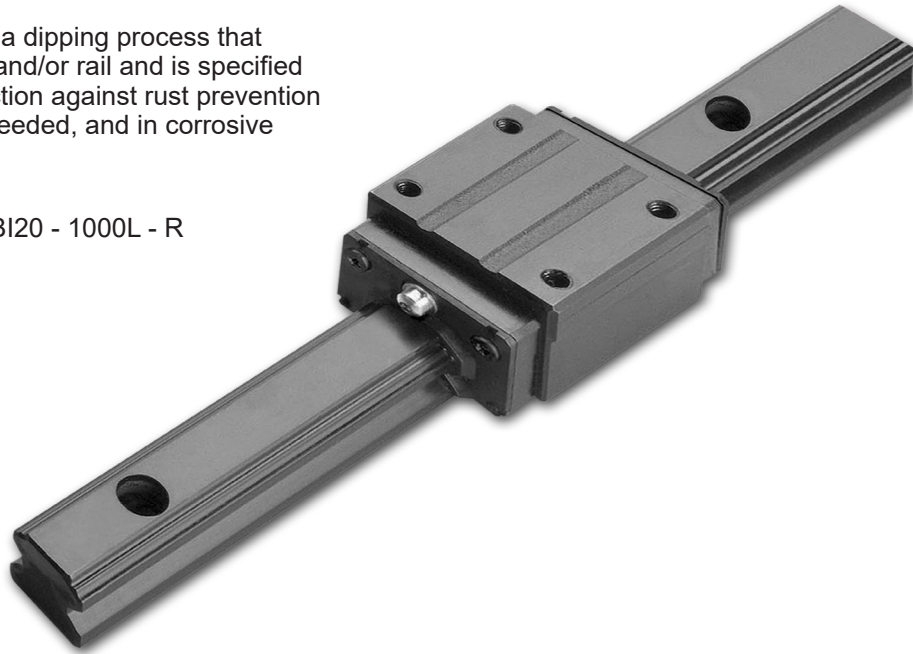
LINEAR RAIL SYSTEM

Available for Quick Delivery

Rail and Block Options: "R" Raydent Coating

RAYDENT Coating is a dipping process that coats the entire block and/or rail and is specified when additional protection against rust prevention or dust prevention is needed, and in corrosive applications.

Ordering Example: SBI20 - 1000L - R



RAYDENT Coating for Rail and Carriage:

Three types of surface treatment are available for anti-rust and appearance.

Chrome plating

It achieves high rust resistance and wear resistance with the coating film of over 750HV.

Raydent-treatment

For corrosion resistance, raydent surface treatment is available. This treatment is suitable for corrosion resistance.

Fluorocarbon raydent treatment

Fluorocarbon coating on raydent-treatment is suitable where high corrosion resistance is required (water or salty water working condition).

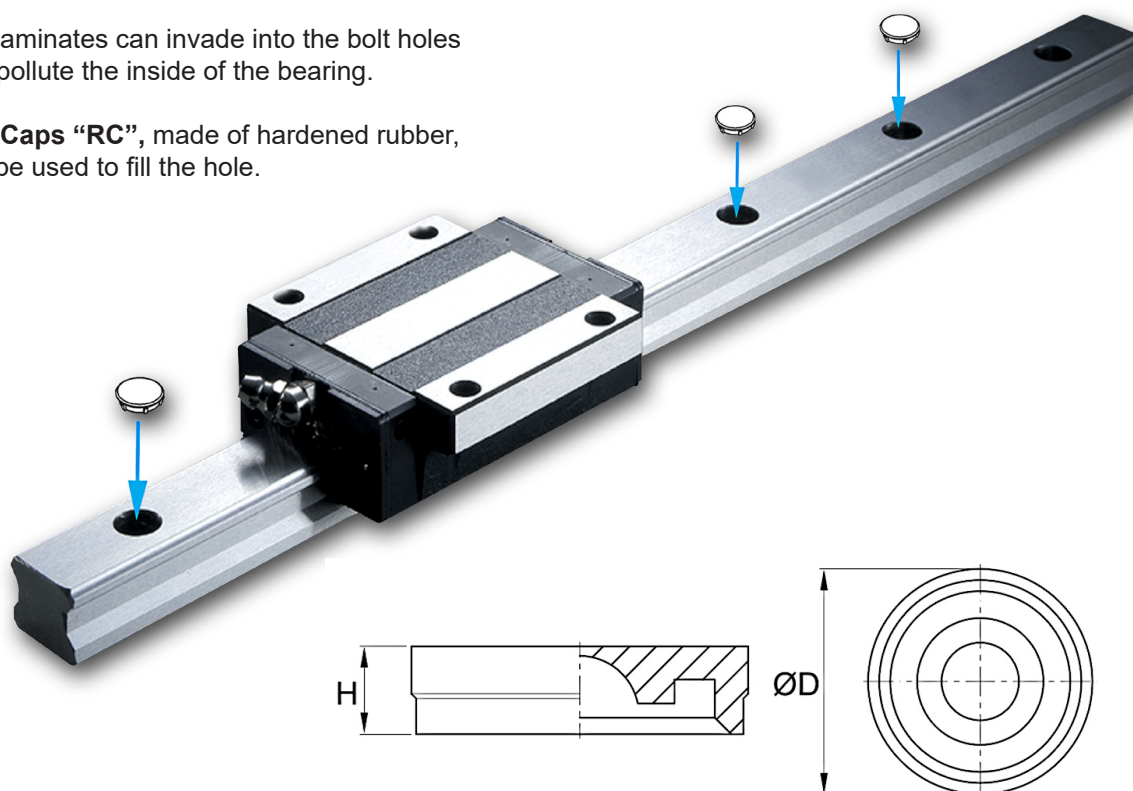
For ordering see page 7/8"

SBI Linear Rail Series

Rail Options: "RC" Hardened Rubber RAIL CAPS

Contaminates can invade into the bolt holes and pollute the inside of the bearing.

Rail Caps "RC", made of hardened rubber, can be used to fill the hole.



Dimension of RC Rail Cap

RC Dimensions and Ordering Specifications

(unit : mm)

Model	D $\pm$ 0.1	H $\pm$ 0.1
RC 15	7.6	1.3
RC 20	9.6	3.5
RC 25	11.1	2.8
*RC 30	14.2	3.7
RC 45	20.2	4.7
RC 55	23.2	6
RC 65	26.2	6

- RC 30 is used for SBI 30, 35 rail.

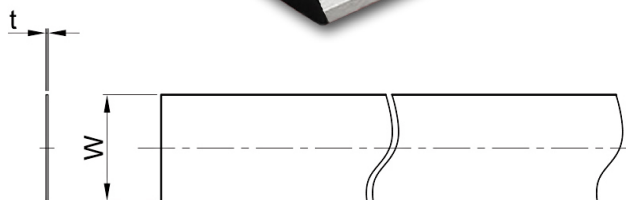
LINEAR RAIL SYSTEM

Available for Quick Delivery

Rail Options: “ST” Dust Proof Stainless Steel Tape

Stainless Steel Tape “ST” greatly improves rail face sealing and works in conjunction with guide block seals.

Compared to other seal options, dust-proof tape offers maximum performance under the worst conditions, such as coolant, hot metal chips, etc.



ST Ordering Example: ST15A - 1000L

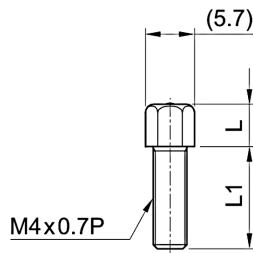
ST Dimensions and Ordering Specifications

(Unit : mm)

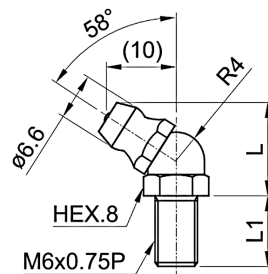
Model	W	t
ST 15A	11	0.1
ST 20A	15	0.1
ST 25A	17	0.1
ST 30A	21	0.1
ST 35A	27	0.1
ST 45A	37	0.1
ST 55A	43	0.1
ST 65A	51	0.1

GREASE FITTINGS

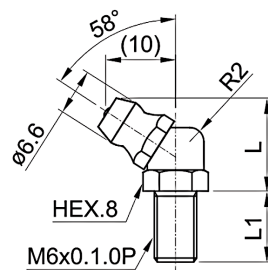
Standard Grease Fitting



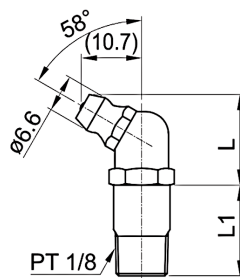
Specification		M4x0.7P		
Applied model	Grease fitting model	Symbol	L	L1
SBI 15	1N	None	7.0	5.5
	1D	DD, ZZ	5.0	9.0
	1Z	KK	5.0	11.0
	1F	ZZDF	5.0	13.0



Specification		M6x0.75P, Standard		
Applied model	Grease fitting model	Symbol	L	L1
SBI20-35	IA2N	None	13.5	7.0
	IA2D	DD, ZZ	13.5	10.0
	IA2Z	KK, DF	13.5	13.0
	IA2F	DFDD, DFZZ, DFKK	13.5	18.0



Specification		M6x1.0P, Custom		
Applied model	Grease fitting model	Symbol	L	L1
SBI20-35	IE2N	None	13.5	7.0
	IE2D	DD, ZZ	13.5	10.0
	IE2Z	KK, DF	13.5	13.0
	IE2F	DFDD, DFZZ, DFKK	13.5	18.0

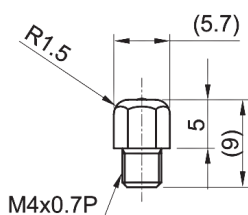


Specification		PT 1/8		
Applied model	Grease fitting model	Symbol	L	L1
SBI45-65	4N	None	17.0	12.0
	4D	DD, KK, ZZ	17.0	16.0
	4F	DF, DFDD, DFKK, DFZZ	17.0	23.0

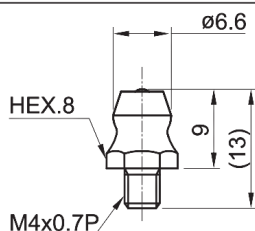
LINEAR RAIL SYSTEM

GREASE FITTINGS

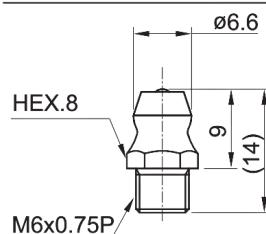
Side Grease Fitting



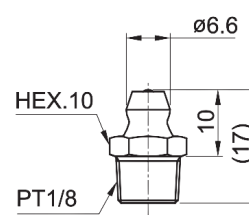
Specification	M4x0.7P
Applied model	SBI 15
Grease fitting model	S1N



Specification	M4x0.7P
Applied model	SBI 20, 25
Grease fitting model	S2N

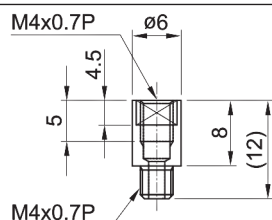


Specification	M6x0.75P
Applied model	SBI 30, 35, 45
Grease fitting model	S3N

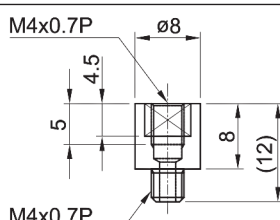


Specification	PT 1/8
Applied model	SBI 55, 65
Grease fitting model	S4N

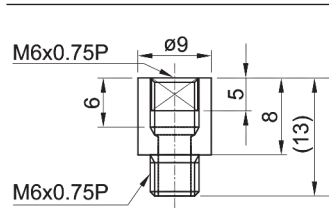
FS nipple connector for side grease fitting (FL, FLL flange-type only)



Specification	M4x0.7P
Applied model	SBI 15
Grease fitting model	S1C



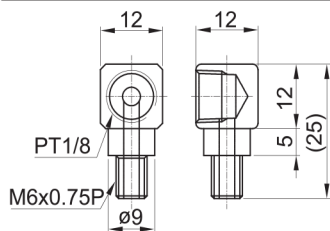
Specification	M4x0.7P
Applied model	SBI 20, 25
Grease fitting model	S2C



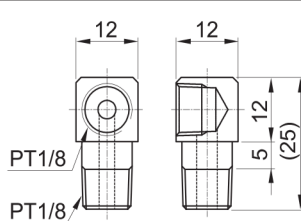
Specification	M6x0.75P
Applied model	SBI 30, 35, 45
Grease fitting model	S3C

*For Sizes 30-45, two pieces of FS nipple connectors are applied.

Copper pipe



Input Size	PT 1/8
Output Size	M6x0.75P
Applied model	SBI 20, 25, 30, 35
Grease fitting model	SB01



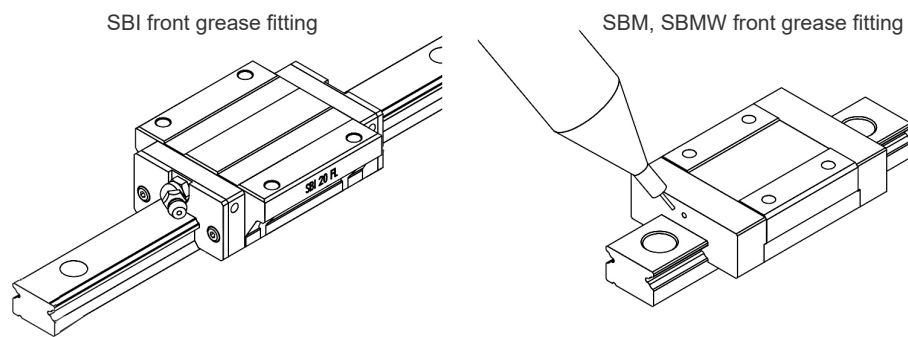
Input Size	PT 1/8
Output Size	PT 1/8
Applied model	SBI 45, 55, 65
Grease fitting model	SB21

GREASE FITTINGS

Select the appropriate grease fitting from below options in accordance with design.

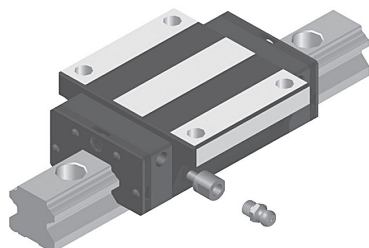
Standard Grease Fitting

Front grease fitting (except Miniature Series) for linear rail system is standard grease fitting.

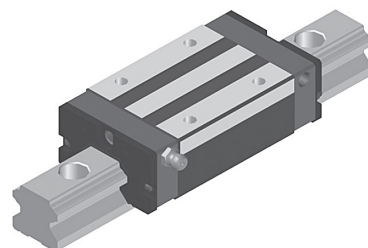


Side Grease Fitting

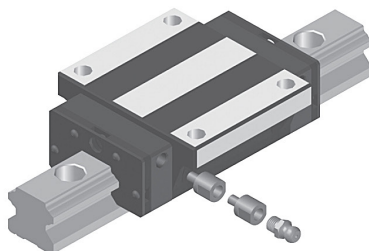
When greasing is difficult because of limited space in front of the grease nipple, a side grease fitting can be supplied. (*Side grease fitting is not available for SBM, SBMW, SBML, SBMWL.)



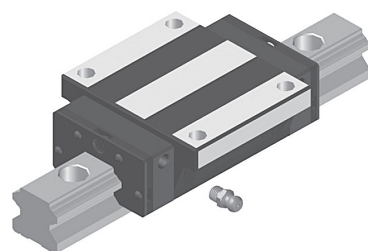
SBI 15-25 FL Side Grease Fitting



SBI 15-25 SL Side Grease Fitting



SBI 30-35 FL Side Grease Fitting



SBI 45-65 FL Side Grease Fitting

Lubrication

Lubrication for Linear Rail system is a key part of its performance.

- Reduce friction and wearing for each moving part.
- Eliminate the heat on the linear rail system.
- Prevent corrosion on the inside and outside of the linear rail system.
- Dust-prevention.

Lubrication requirements for linear rail system

- Form a strong oil film
- Have high thermal stability
- Low-friction
- High water resistance
- Non-corrosive
- Oil must have high-viscosity and grease must have consistency again repeated agitation of grease.

Comparison of Lubrication

A comparison of the application features for oil and grease used in the Linear Rail System is shown in the table below.

Item	Grease	Oil
Rotation	Low, intermediate	High
Seal	Simple	Cautious
Lubrication change	Complicated	Simple
Life	Short	Long
Thermal radiation	Bad	Good
Friction torque	Large	Less
Performance	Good	Excellent

How to Grease

- With **grease gun** : The grease is fed through the grease fitting on the linear rail system.
- With **pump** : The grease is fed periodically by automated pump.

How to Feed Oil

- Oil-Brushed on, sprayed or pumped

Lubricant Interval

Lubricants intervals vary accordingly to the environment and working condition of machine. Therefore, below lubricant intervals are recommended. Do not mix oil and grease systems.

Item	Checking time	Lubricant interval	Working condition and outcome
Grease	3 - 6 months	6 months -1 year 3000km	Normal working condition 3000km/6 months
Oil	1 week Everyday	Any time Any time	Volume and contamination of oil Volume of oil

Class of Oil

Lubricant	Class
Oil	Coolant oil, turbine oil ISOVG32 - 68

Classification and Selection of Lubrication

Lubricants must be selected after considering vibration, clean room, vacuum and working condition. Two kinds of grease are standard with the SBI Linear Rail System.

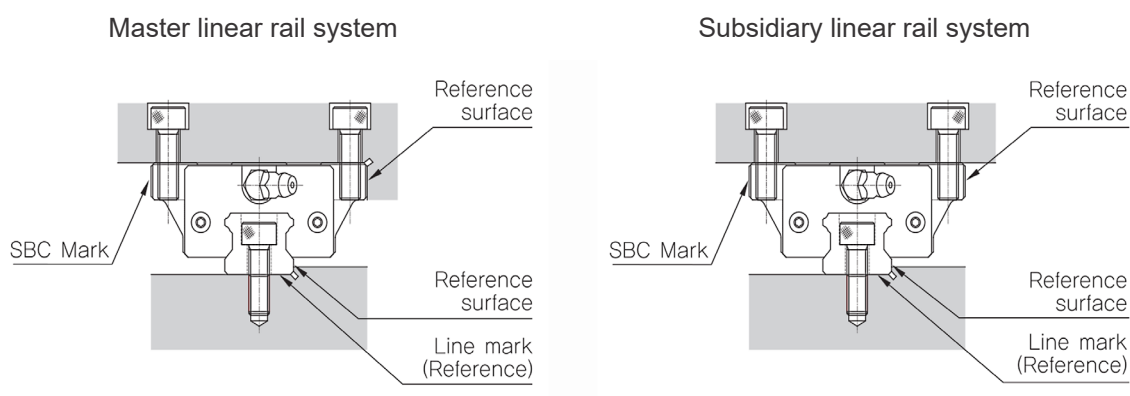
Item	Application	Brand
Normal working condition	Multi-purpose industrial application	SHELL Alvania EP(LF)0 Korea Shell
Special working condition	Clean Room Vibration Wide Temperature	SNG 5050 NTG Korea

Installation of System

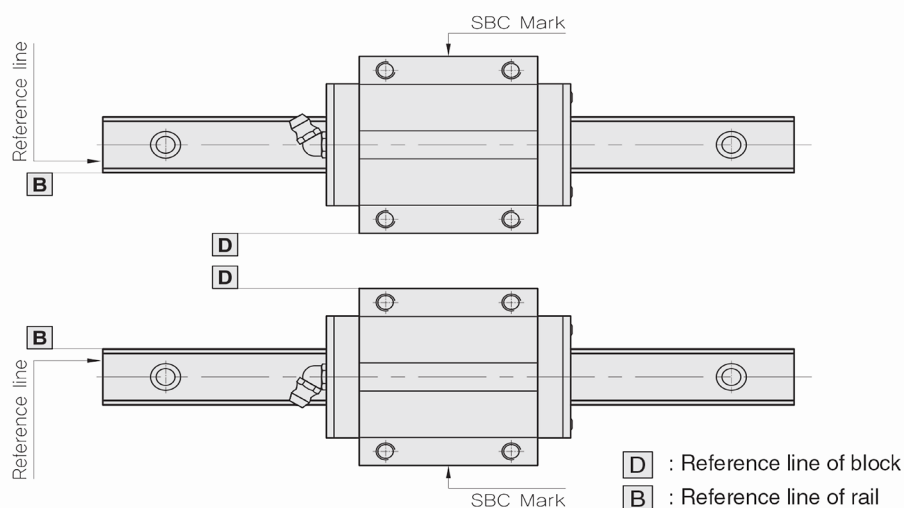
Mounting method, tolerance of the mounting surfaces, and order in which the rails are mounted all affect the accuracy of machine. Therefore, we recommend that conditions listed below are considered:

Identifying Reference Surface

The unmarked edge of the block and the lined edge of the rail define the reference surfaces. Please note the methods below for locating these surfaces in your design.



Example of identifying reference line for pair usage

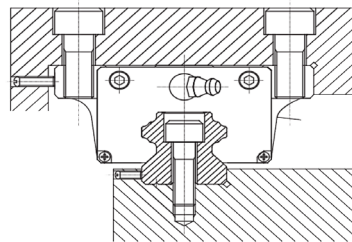


Mounting the Linear Rail System

Securing method for blocks and rail: Normally, both the bearing and rail are mounted to the structure with bolts. When a horizontal load with shock or vibration is applied, it is recommended that the rail be clamped horizontally against the reference surface.

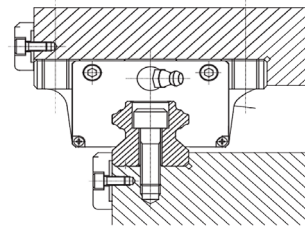
1-Cap Screw Mounting

Small bolts are used when space is limited. The number of bolts can be adjusted as necessary.



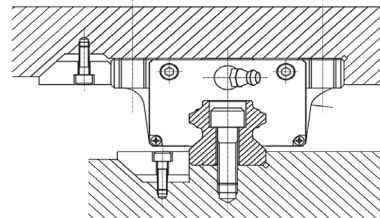
2-Horizontal Clamp Mounting

This method provides an easy solution for shock and vibration applications.



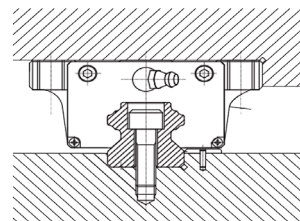
3-Tapered Gib

This method offers the most secure means for locating the rail and blocks against the reference surface.



4-Dowel Pin

Dowel pins can be used as an alternate method to secure the rail.

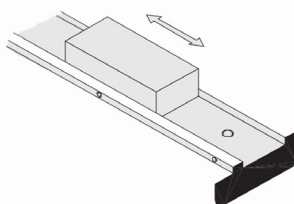


Rail Mounting Procedure

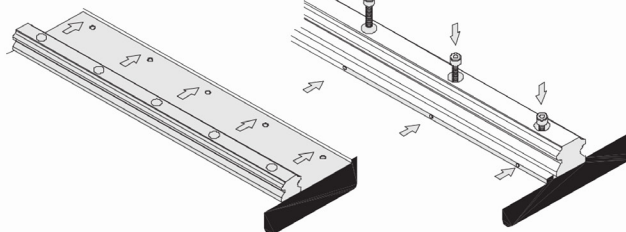
1. Clean and dry the mounting surface.
2. Coat each surface with low viscosity spindle oil, then place the rail on the surface and then lightly tighten the mounting bolts temporarily.
3. Place the carriage plate on the blocks carefully and tighten the mounting bolts temporarily.
4. Position the carriage plate by tightening the master block against the reference surface using the selected securing method and tighten the mounting bolts with a torque wrench.

Follow the above order to mount subsidiary blocks.

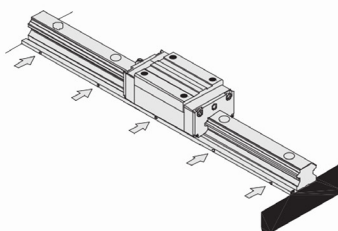
① Checking the mounting



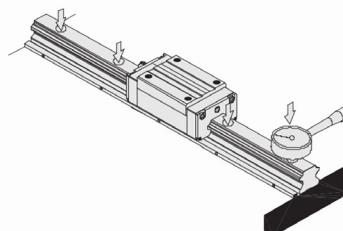
② Setting the rail against the datum plane



③ Tightening set screws

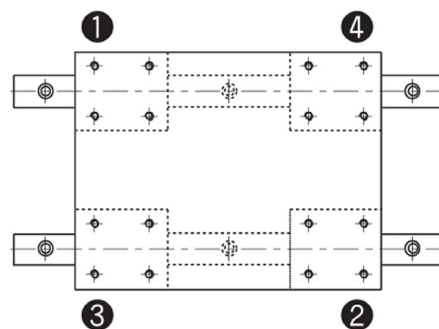


④ Final tightening of mounting bolts



Block Mounting Procedure

1. Clamp the reference rail in place and tighten the mounting bolts with a torque wrench, making several passes to reach the desired torque.
2. Carefully position the table with bearings onto the rails and tighten the non-reference blocks with a torque wrench.
3. Starting at one end, move the table along the rail and tighten the non-reference rail slowly during several passes with a final pass using the torque wrench. Do not over tighten.



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