



**JENA**  
**TEC**

SBI / SBG / SBS / SBM  
Linear Rail System  
Catalog

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2011

## Linear Rail System Catalog

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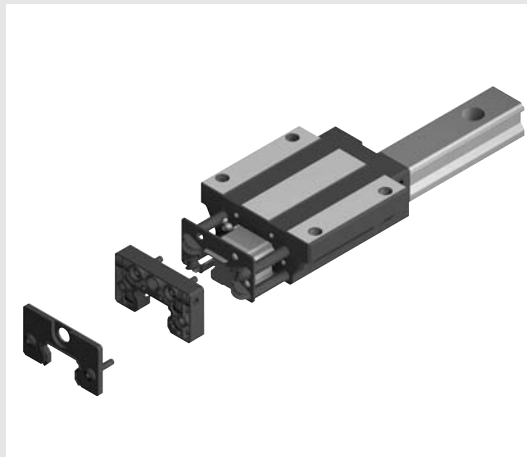
	JENA TEC			THK		HIWIN		NSK		REXROTH/STAR		THOMSON	
			Example		Example		Example		Example		Example		Example
<b>SBI High-Load SBG Standard SERIES</b>	SBI Available Block Sizes: 15, 20, 25, 30, 35, 45	SBI/SBG FL Flange Standard	SBG15FL SBI15FL	HSR A (B, CA)	HSR15CA	HGW/LG H CA, CB	HGW15CA LGH15CA	LH EL (FL)	LH20EL	FNSR1651 XX	FNSR1651 20	AG AA	AG15AA
		SBI/SBG FLL Flange High Load	SBG20FLL SBI20FLL	HSR A LA, LB	HSR20LB	HGW/LG H HA, HB, LC	HGW20HA LGH20LA	LH GL	LH20GL	FNSR1653 XX	FNSR1653 20	AG BA	AG15BA
	SBG Available Block Sizes: 15, 20, 25, 30, 35, 45, 55, 65	SBI/SBG SL Slim Standard	SBG15SL SBI15SL	HSR R	HSR15R	HGH/LGH CA	HGH15CA LGH15CA	LH AN	LH20AN	SNSR1622 XX	FNSR1622 20	AG CA	AG15CA
		SBI/SBG SLL Slim High Load	SBG20SLL SBI20SLL	HSR LR	HSR20LR	HGH/LG H HA	HGH20HA LGH20HA	LH BN	LH20BN	SNSR1623 XX	FNSR1623 20	AG DA	AG15DA
<b>SBS Compact Slim Standard SERIES</b>	Available Block Sizes: 15, 20, 25, 30, 35, 45	SBS SL Slim Standard	SBS15SL	SR W	SR15W	EGH CA	EGH20CA	LS AL	LS20AL	SNHR1621 XX	SNHR1621 20	411H C0	411H15C0
		SBS SLL Slim High Load	SBS20SLL	SHS LV	SHS20LV	-	-	LS BL	LS20BL	SNHR1623 XX	SNHR1623 20	411H E0	411H15E0
	Available Block Sizes: 15, 20, 25	SBS FV Flange, Shorter Length	SBS15FV	SR SB	SR15SB	EGW SA	EGW15SA	KL	15KL	-	-	-	-
		SBS SV Slim with Shorter Length	SBS20SV	SR V	SR15V	EGH SA	EGH15SA	LS CL	LS15CL	-	-	411H D0	411H15D0
<b>SPG Spacer Low Noise Standard SERIES</b>	Available Block Sizes: 20, 25, 30, 35	SPG FL Flange Standard Low Noise	SPG20FL	SHS C	SHS20C	QHGW CA, CB, CC	QHGW20CA	SH EL	SH20EL	FNSR1651 XX-22	FNSR1651 20-22	513H A0	513H20A0
		SPG FLL Flange High Load Low Noise	SPG20FLL	SHS LC	SHS20LC	QHGW HA, HB, HC	QHGW20HA	SH GL	SH20GL	FLSR1653 XX-22	FLSR1653 20-22	513H B0	513H20B0
	Available Block Sizes: 20, 25, 30, 35	SPG SL Slim Standard	SPG20SL	SHS R	SHS15R	QHGH CA	QHGH20CA	SH AN	SH20AN	SNSR1622 XX-22	SNSR1622 20-22	513H C0	513H20C0
		SPG SLL Slim High Load	SPG20SLL	SHS LR	SHS20LR	QHGH HA	QHGH20HA	SH BN	SH20BN	SNSR 1623 XX-22	SNHR1623 20-22	513H D0	513H20D0
<b>SPS Spacer Low Noise Compact &amp; Slim SERIES</b>	Available Block Sizes: 20, 25, 30, 35	SPS SL Slim Standard	SPS20SL	SRR XWY	SSR20XWY	AGH CA	AGH20CA	SS AL	SS20AL	SNHR1621 XX-22	SNHR1621 20-22	-	-
		SPS SLL Slim High Load	SPS20SLL	SHS LV	SHS20LV	AGW CA	AGW20CA	SS BN	SS20BN	-	-	-	-
	Available Block Sizes: 20, 25, 30, 35	SPS FV Flange Super(Short Length)	SPS20FV	SR SB	SR20SB	AGH SA	AGH20SA	-	-	-	-	-	-
		SPS SV Slim Super (Shorter Length)	SPS20SV	SR V	SR20V	AGW SA	AGW20SA	SS CL	SS20CL	-	-	-	-
<b>SBM Miniature &amp; Wide SERIES</b>	Available Block Sizes: 9, 12, 15	SBMN Standard	SBMN09	RSR VM	RSR12VM	MGN CM	MGN9C-M	LU AL	LU12AL	RO442	RO422 9	TSR MUU	TSR9MUU
		SBMW Wide Mini	SBMW09	RSR WV	RSR12WV	MGW CM	MGW9C-M	LE AL	LE12AL	RO443	RO422 9	TSR MU	TSR9MU

## The Types of Linear Rail System

## The Types of Linear Rail System

### SBI high-load type

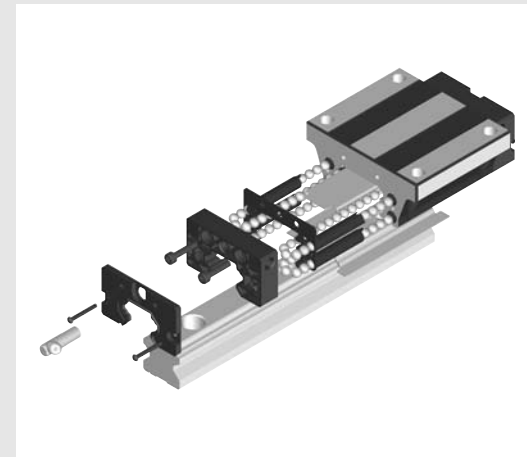
With all advantages of our SBG type, SBI improves load capacity, and increases speed capabilities for the rail system.



**SBI type**  
-Type: SBI15~65

### SBG standard

Standard SBC linear rail system.

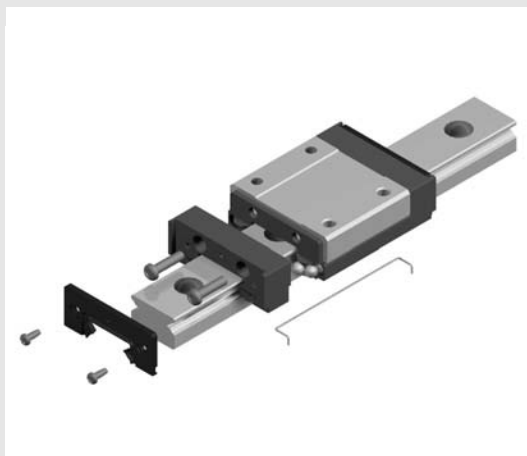


**SBG type**  
Type: SBG 15~65

**SBS type**  
-Assembly height is lower than SBG type  
-Type : SBS 15~45

### SBM miniature

Miniature linear rail system with compact size also achieve high-load.



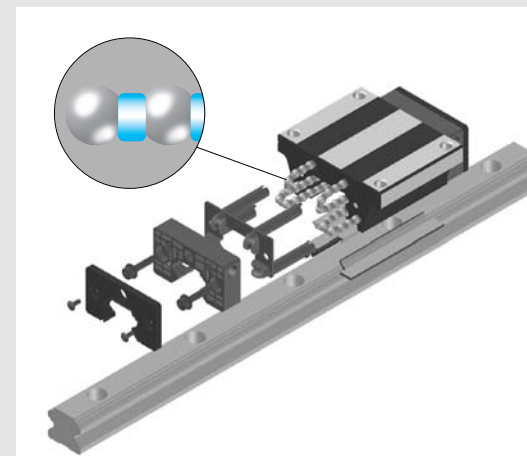
**SBM (Standard miniature)**  
-Type: SBM09~15

**SBML (High-load miniature)**  
-Type : SBML09~15

**SBMW (Wide type miniature)**  
-Type: SBMW09~15

### SPG spacer

Low noise type in which the plastic spacer are inserted in between balls.



#### Low noise (Spacer type)

Spacer are inserted in between balls

**SPG (=SBG dimensionally interchangeable)**  
Type : SPG 20~35

**SPS (=SBS dimensionally interchangeable)**  
-Type: SPS 20~35

Ordering example

**SBI20** **FL** - **N** - **MF** - **ZZ** - **K1**  
 [1] [2] [3] [4] [5] [6]

- [1] Model
- [2] Block type : FL, FLL, FV, SL, SLL, SV, HL, HLL, CL, CLL
- [3] Position of grease fitting : None (front), N (side)
- [4] Container : No symbol (standard), DF (high dust protection), MF (self lubricant)
- [5] Seal : No symbol (standard), DD, ZZ, KK
- [6] Preload : K0, K1, K2 ,K3

※ "K3" Preload is not available for SBI 15 type

[Ordering example for rail]

**SBI20** - **1000L** - **B**  
 [1] [2] [3]

- [1] Model
- [2] Rail length
- [3] Bottom mounting : No symbol (standard), B (bottom mounting rail)

※ If only rail is ordered, N grade is available.

[Ordering for assembled rail and block]

**SBI20** **FL** - **N** - **MF** - **ZZ** - **2** - **K1** - **800** - **N** - **R** - **B** - **II**  
 [1] [2] [3] [4] [5] [6] [7] [8] [9] [10] [11] [12]

- [1] Model
- [2] Block type : FL, FLL, FV, SL, SLL, SV, HL, HLL, CL, CLL
- [3] Position of grease fitting : None (front), N (side)
- [4] Container : No symbol (standard), DF (high dust protection), MF (self lubricant)
- [5] Seal : No symbol (standard), DD, ZZ, KK
- [6] Block quantity on rail
- [7] Preload : K0, K1, K2 ,K3
- [8] Rail length
- [9] Accuracy : N, H, P
- [10] Surface treatment
- [11] (B) Bottom mounting rail : No symbol (standard)
- [12] Rail : number of rails per axis, 1=I, 2=II... 4=IV etc.

※ We recommend block and rail assembled to be ordered where high-precision and high-rigidity are required.

※ For surface treatment, please mark according to each surface treatment symbol.

※ If special G dimension is required, please mark when you place an order.

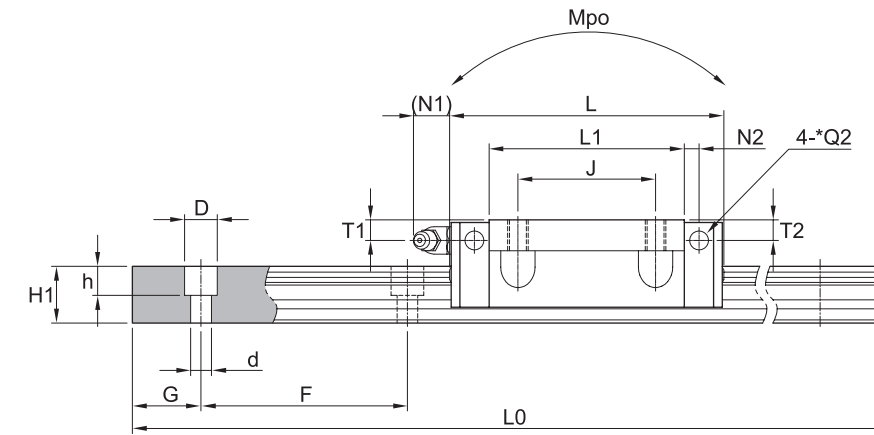
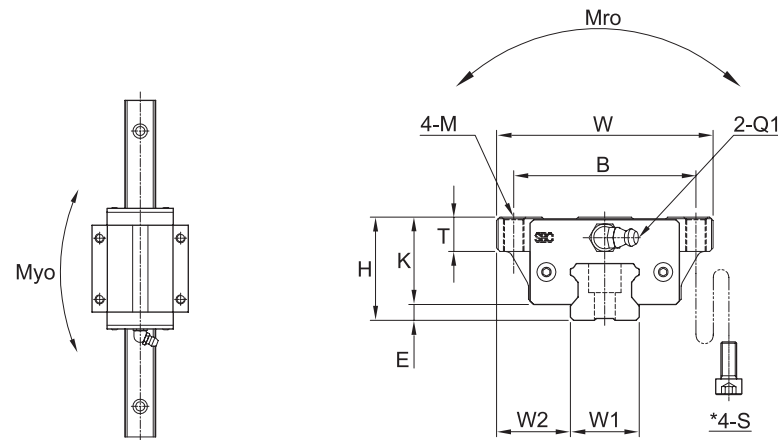
※ Please contact SBC for high temperature order.

※ "K3" Preload is not available for SBI 15 type

**SBI High-load Linear Rail System**

**SBI High-load Linear Rail System**

**SBI-FL/FLL**



(Unit : mm)

Model	Mounting dimension				Block dimensions												
	H	W	L	E	Mounting tap hole				Grease fitting								
					B	J	M	*S	L1	T±1	K	T1	N1	T2	N2	Q1	*Q2
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	Ø4
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	Ø4
SBI20 FL	30	63	78.8	4.6	53	40	M6	M5	56.8	12	25.4	6	11.7	5.8	5	M6x0.75	Ø4
SBI20 FLL	30	63	96.4	4.6	53	40	M6	M5	74.4	12	25.4	6	11.7	5.8	5	M6x0.75	Ø4
SBI25 FL	36	70	92	5.5	57	45	M8	M6	70	14	30.5	6	11.7	5	5	M6x0.75	Ø4
SBI25 FLL	36	70	108	5.5	57	45	M8	M6	86	14	30.5	6	11.7	5	5	M6x0.75	Ø4
SBI30 FL	42	90	107.6	7	72	52	M10	M8	79.6	15.5	35	8.5	11.7	7.8	5	M6x0.75	Ø6
SBI30 FLL	42	90	131.6	7	72	52	M10	M8	103.6	15.5	35	8.5	11.7	7.8	5	M6x0.75	Ø6
SBI35 FL	48	100	124.6	7.5	82	62	M10	M8	94.6	15	40.5	8	11.7	8	6	M6x0.75	Ø6
SBI35 FLL	48	100	152.6	7.5	82	62	M10	M8	122.6	15	40.5	8	11.7	8	6	M6x0.75	Ø6
SBI45 FL	60	120	142	9	100	80	M12	M10	108	18	51	10.5	13.5	9.3	6.5	PT1/8	Ø6
SBI45 FLL	60	120	174	9	100	80	M12	M10	140	18	51	10.5	13.5	9.3	6.5	PT1/8	Ø6
SBI55 FL	70	140	172.4	12	116	95	M14	M12	131	22	58	12	13	12	8	PT1/8	PT1/8
SBI55 FLL	70	140	211.8	12	116	95	M14	M12	170.4	22	58	12	13	12	8	PT1/8	PT1/8
SBI65 FL	90	170	219.8	19	142	110	M16	M14	170.4	26	71	14	13	14	10	PT1/8	PT1/8
SBI65 FLL	90	170	272.2	19	142	110	M16	M14	222.8	26	71	14	13	14	10	PT1/8	PT1/8

Rail dimension										Basic load rating		Permissible static moment			Mass	
W1	W2	H1	F	Bolt hole			G	Max length of rail L0	C	Co	Mro	Mpo	Myo	Block [kg]	Rail [kg/m]	
				d	D	h										
15	16	13	60	4.5	7.5	5.5	20	3000	14.1	24.1	0.16	0.17	0.17	0.19	1.3	
15	16	13	60	4.5	7.5	5.5	20	4000	17.1	31.7	0.21	0.29	0.29	0.26	1.3	
20	21.5	16.5	60	6	9.5	8.5	20	4000	22.2	38.2	0.36	0.33	0.33	0.41	2.2	
20	21.5	16.5	60	6	9.5	8.5	20	4000	27.9	50	0.47	0.56	0.56	0.54	2.2	
23	23.5	20	60	7	11	9	20	4000	31.5	52.1	0.56	0.56	0.56	0.69	3	
23	23.5	20	60	7	11	9	20	4000	36.7	64.4	0.69	0.84	0.84	0.85	3	
28	31	23	80	9	14	12	20	4000	42.8	65.4	0.85	0.77	0.77	1.04	4.25	
28	31	23	80	9	14	12	20	4000	51.3	84.7	1.10	1.30	1.30	1.37	4.25	
34	33	26	80	9	14	12	20	4000	59.5	89.1	1.42	1.28	1.28	1.56	6.02	
34	33	26	80	9	14	12	20	4000	71.3	115.3	1.83	2.12	2.12	2.04	6.02	
45	37.5	32	105	14	20	17	22.5	4000	79.2	116.3	2.48	1.90	1.90	2.80	9.77	
45	37.5	32	105	14	20	17	22.5	4000	94.8	150.5	3.21	3.14	3.14	3.69	9.77	
53	43.5	38	120	16	23	20	30	4000	127.3	181.8	4.81	2.97	2.97	4.42	13.72	
53	43.5	38	120	16	23	20	30	4000	147.9	224.5	5.95	4.78	4.78	5.82	13.72	
63	53.5	53	150	18	26	22	35	4000	188.3	261.7	8.24	5.57	5.57	9.1	23.17	
63	53.5	53	150	18	26	22	35	4000	232.5	354.1	11.15	9.86	9.86	11.98	23.17	

① C (Basic dynamic load rating), Co (Basic static load rating)

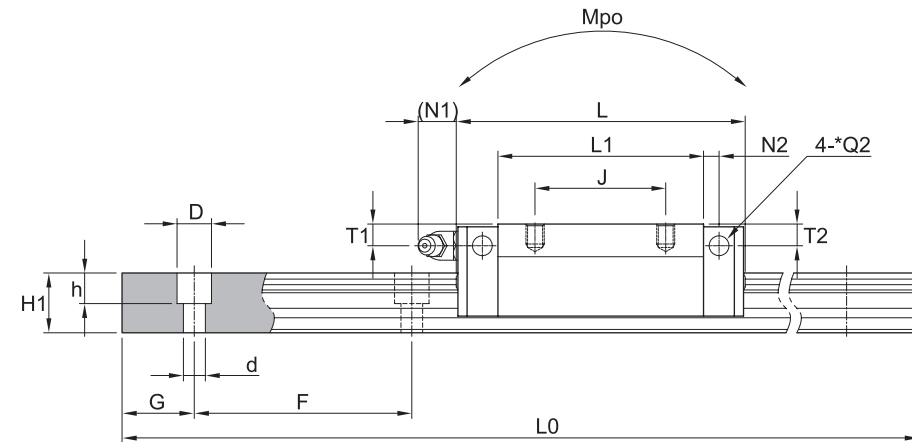
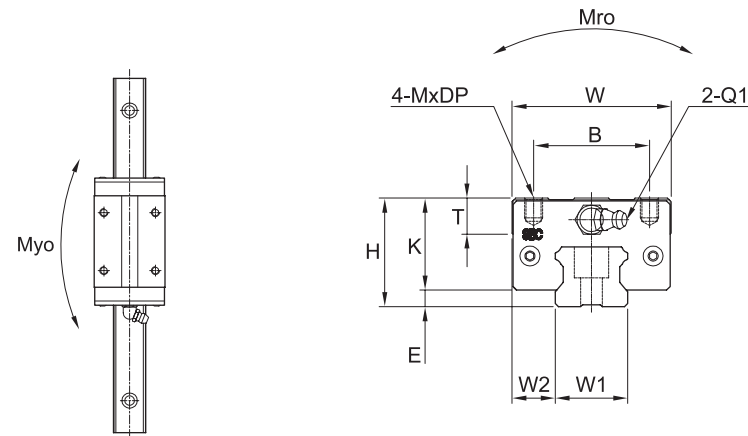
② \*S: Bolt size for bottom mounting type of block.

③ \*Q2: The hole of side grease nipple is not made to prevent a foreign substance from going into inside. When you order the side grease nipple, we build it by ourselves.

**SBI High-load Linear Rail System**

**SBI High-load Linear Rail System**

**SBI-SL/SLL**



(Unit : mm)

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 SL	28	34	63.8	3	26	26	M4	5	45.2	10	25	8.5	5.5	7.8	3.8	M4x0.7	Ø4
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	Ø4
SBI20 SL	30	44	78.8	4.6	32	36	M5	5	56.8	10	25.4	6	11.7	5.8	5	M6x0.75	Ø4
SBI20 SLL	30	44	96.4	4.6	32	50	M5	5	74.4	10	25.4	6	11.7	5.8	5	M6x0.75	Ø4
SBI25 SL	40	48	92	5.5	35	35	M6	8	70	16	34.5	10	11.7	9	5	M6x0.75	Ø4
SBI25 SLL	40	48	108	5.5	35	50	M6	8	86	16	34.5	10	11.7	9	5	M6x0.75	Ø4
SBI30 SL	45	60	107.6	7	40	40	M8	10	79.6	12	38	11.5	11.7	10.8	5	M6x0.75	Ø6
SBI30 SLL	45	60	131.6	7	40	60	M8	10	103.6	12	38	11.5	11.7	10.8	5	M6x0.75	Ø6
SBI35 SL	55	70	124.6	7.5	50	50	M8	10	94.6	15	47.5	15	11.7	15	6	M6x0.75	Ø6
SBI35 SLL	55	70	152.6	7.5	50	72	M8	10	122.6	15	47.5	15	11.7	15	6	M6x0.75	Ø6
SBI45 SL	70	86	142	9	60	60	M10	13	108	17	61	20.5	13.5	19.3	6.5	PT1/8	Ø6
SBI45 SLL	70	86	174	9	60	80	M10	13	140	17	61	20.5	13.5	19.3	6.5	PT1/8	Ø6
SBI55 SL	80	100	172.4	12	75	75	M12	18	131	21	68	22	13	22	8	PT1/8	PT1/8
SBI55 SLL	80	100	211.8	12	75	95	M12	18	170.4	21	68	22	13	22	8	PT1/8	PT1/8
SBI65 SL	90	126	219.8	19	76	70	M16	16	170.4	26	71	14	13	14	10	PT1/8	PT1/8
SBI65 SLL	90	126	272.2	19	76	120	M16	16	222.8	26	71	14	13	14	10	PT1/8	PT1/8

Rail dimension										Basic load rating		Permissible static moment			Mass	
W1	W2	H1	F	Bolt hole			G	Max length of rail L0	C	Co	Mro	Mpo	Myo	Block [kg]	Rail [kg/m]	
				d	D	h										
15	9.5	13	60	4.5	7.5	5.5	20	3000	14.1	24.1	0.16	0.17	0.17	0.19	1.3	
15	9.5	13	60	4.5	7.5	5.5	20	4000	17.1	31.7	0.21	0.29	0.29	0.26	1.3	
20	12	16.5	60	6	9.5	8.5	20	4000	22.2	38.2	0.36	0.33	0.33	0.41	2.2	
20	12	16.5	60	6	9.5	8.5	20	4000	27.9	50	0.47	0.56	0.56	0.54	2.2	
23	12.5	20	60	7	11	9	20	4000	31.5	52.1	0.56	0.56	0.56	0.69	3	
23	12.5	20	60	7	11	9	20	4000	36.7	64.4	0.69	0.84	0.84	0.85	3	
28	16	23	80	9	14	12	20	4000	42.8	65.4	0.85	0.77	0.77	1.04	4.25	
28	16	23	80	9	14	12	20	4000	51.3	84.7	1.10	1.30	1.30	1.37	4.25	
34	18	26	80	9	14	12	20	4000	59.5	89.1	1.42	1.28	1.28	1.56	6.02	
34	18	26	80	9	14	12	20	4000	71.3	115.3	1.83	2.12	2.12	2.04	6.02	
45	20.5	32	105	14	20	17	22.5	4000	79.2	116.3	2.48	1.90	1.90	2.80	9.77	
45	20.5	32	105	14	20	17	22.5	4000	94.8	150.5	3.21	3.14	3.14	3.69	9.77	
53	22.5	38	120	16	23	20	30	4000	127.3	181.8	4.81	2.97	2.97	4.42	13.72	
53	22.5	38	120	16	23	20	30	4000	147.9	224.5	5.95	4.78	4.78	5.82	13.72	
63	31.5	53	150	18	26	22	35	4000	188.3	261.7	8.24	5.57	5.57	9.1	23.17	
63	31.5	53	150	18	26	22	35	4000	232.5	354.1	11.15	9.86	9.86	11.98	23.17	

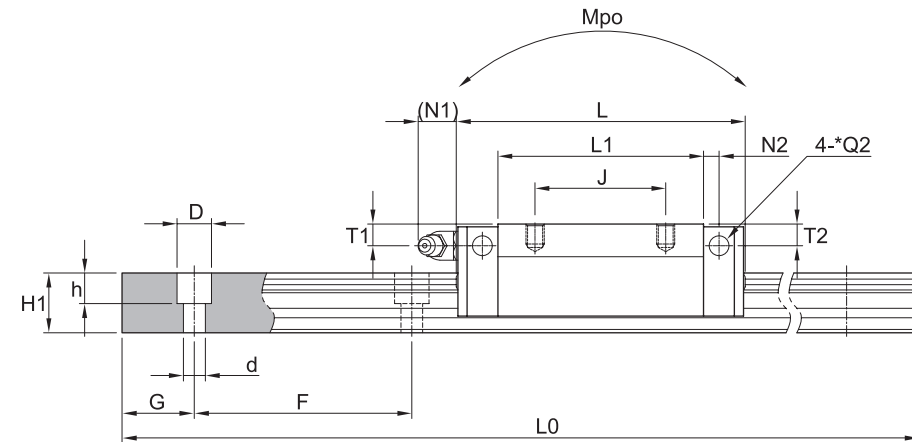
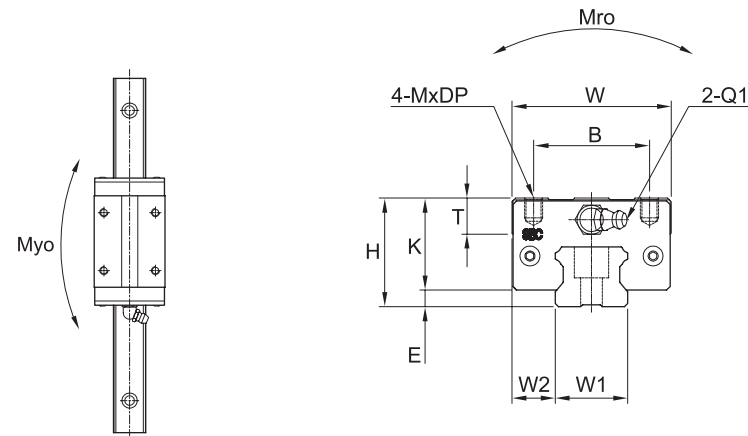
① C (Basic dynamic load rating), Co (Basic static load rating)

② \*Q2: The hole of side grease nipple is not made to prevent a foreign substance from going into inside.  
When you order the side grease nipple, we build it by ourselves.

**SBI High-load Linear Rail System**

**SBI High-load Linear Rail System**

**SBI-HL/HLL**



(Unit : mm)

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 HL	24	34	63.8	3	26	26	M4	4	45.2	6	21	4.5	5.5	3.8	3.8	M4x0.7	Ø4
SBI15 HLL	24	34	79.4	3	26	34	M4	4	60.8	6	21	4.5	5.5	3.8	3.8	M4x0.7	Ø4
SBI25 HL	36	48	92	5.5	35	35	M6	6	70	12	30.5	6	11.7	5	5.5	M6x0.75	Ø4
SBI25 HLL	36	48	108	5.5	35	50	M6	6	86	12	30.5	6	11.7	5	5.5	M6x0.75	Ø4
SBI30 HL	42	60	107.6	7	40	40	M8	8	79.6	12	35	8.5	11.7	7.8	5	M6x0.75	Ø6
SBI30 HLL	42	60	131.6	7	40	60	M8	8	103.6	12	35	8.5	11.7	7.8	5	M6x0.75	Ø6
SBI35 HL	48	70	124.6	7.5	50	50	M8	8	94.6	15	40.5	8	11.7	8	6	M6x0.75	Ø6
SBI35 HLL	48	70	152.6	7.5	50	72	M8	8	122.6	15	40.5	8	11.7	8	6	M6x0.75	Ø6
SBI45 HL	60	86	142	9	60	60	M10	10	108	17	51	10.5	13.5	9.3	6.5	PT1/8	Ø6
SBI45 HLL	60	86	174	9	60	80	M10	10	140	17	51	10.5	13.5	9.3	6.5	PT1/8	Ø6
SBI55 HL	70	100	172.4	12	75	75	M12	12	131	21	58	12	13	12	8	PT1/8	PT1/8
SBI55 HLL	70	100	211.8	12	75	95	M12	12	170.4	21	58	12	13	12	8	PT1/8	PT1/8

Rail dimension										Basic load rating		Permissible static moment			Mass	
W1	W2	H1	F	Bolt hole			G	Max length of rail L0	C	Co	Mro	Mpo	Myo	Block [kg]	Rail [kg/m]	
				d	D	h										
15	9.5	13	60	4.5	7.5	5.5	20	3000	14.1	24.1	0.16	0.17	0.17	0.19	1.3	
15	9.5	13	60	4.5	7.5	5.5	20	4000	17.1	31.7	0.21	0.29	0.29	0.26	1.3	
23	12.5	20	60	7	11	9	20	4000	31.5	52.1	0.56	0.56	0.56	0.69	3	
23	12.5	20	60	7	11	9	20	4000	36.7	64.4	0.69	0.84	0.84	0.85	3	
28	16	23	80	9	14	12	20	4000	42.8	65.4	0.85	0.77	0.77	1.04	4.25	
28	16	23	80	9	14	12	20	4000	51.3	84.7	1.10	1.30	1.30	1.37	4.25	
34	18	26	80	9	14	12	20	4000	59.5	89.1	1.42	1.28	1.28	1.56	6.02	
34	18	26	80	9	14	12	20	4000	71.3	115.3	1.83	2.12	2.12	2.04	6.02	
45	20.5	32	105	14	20	17	22.5	4000	79.2	116.3	2.48	1.90	1.90	2.80	9.77	
45	20.5	32	105	14	20	17	22.5	4000	94.8	150.5	3.21	3.14	3.14	3.69	9.77	
53	22.5	38	120	16	23	20	30	4000	127.3	181.8	4.81	2.97	2.97	4.42	13.72	
53	22.5	38	120	16	23	20	30	4000	147.9	224.5	5.95	4.78	4.78	5.82	13.72	

① C (Basic dynamic load rating), Co (Basic static load rating)

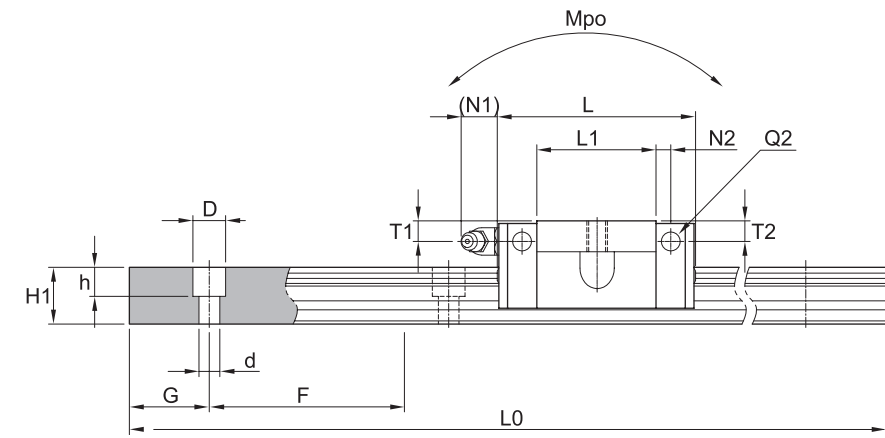
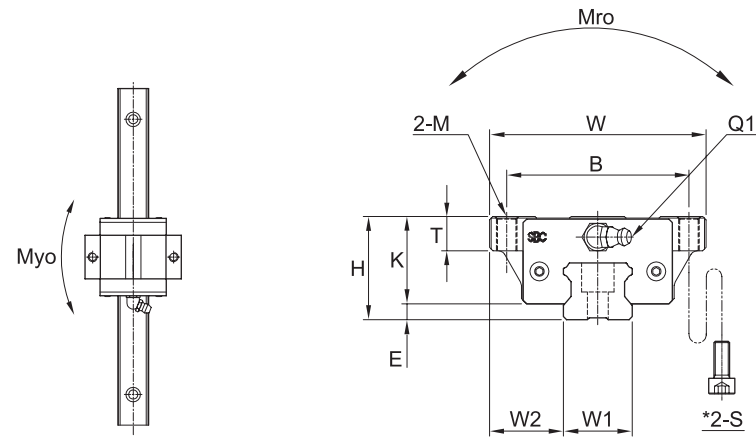
② \*Q2: The hole of side grease nipple is not made to prevent a foreign substance from going into inside.  
When you order the side grease nipple, we build it by ourselves.



**SBI High-load Linear Rail System**

**SBI High-load Linear Rail System**

**SBI-FV**



(Unit : mm)

Model	Mounting dimension				Block dimensions											
	H	W	L	E	Mounting tap hole			Grease fitting								
					B	M	*S	L1	T	K	T1	N1	T2	N2	Q1	*Q2
SBI15 FV	24	47	39.9	3	38	M5	M4	21.3	8.8	21	4.5	5.5	3.8	3.4	M4x0.7	Ø4
SBI20 FV	28	63	49.1	4.5	53	M6	M5	27.1	8	23.4	4.8	11.7	4	5	M6x0.75	Ø4
SBI25 FV	33	70	52.6	5.5	57	M8	M6	30.6	9	27.5	5.4	11.7	5.4	5	M6x0.75	Ø4

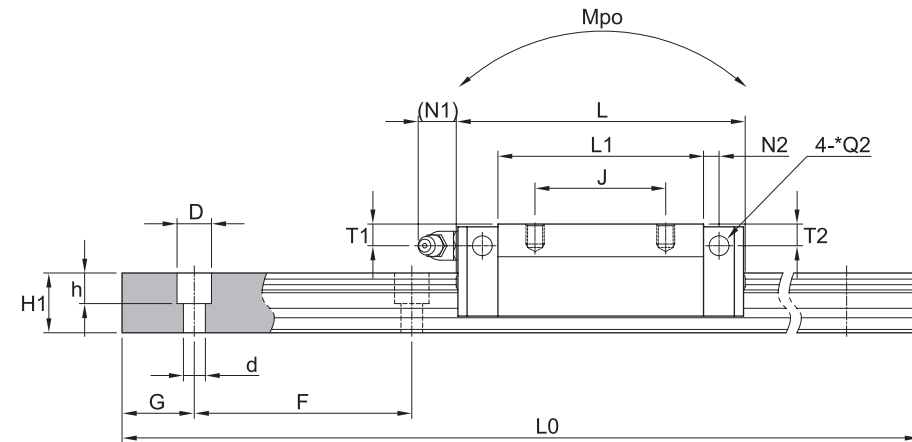
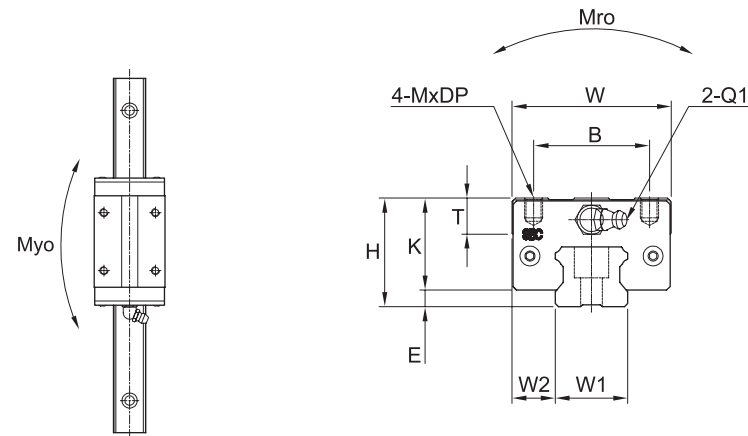
Rail dimension										Basic load rating		Permissible static moment			Mass	
W1	W2	H1	F	Bolt hole			G	Max length of rail L0	C	Co	Mro	Mpo	Myo	Block [kg]	Rail [kg/m]	
				d	D	h										
15	16	13	60	4.5	7.5	5.5	20	3000	5.8	12.8	0.04	0.03	0.03	0.10	1.3	
20	21.5	16.5	60	6	9.5	8.5	20	4000	9.4	20.2	0.12	0.10	0.10	0.24	2.2	
23	23.5	20	60	7	11	9	20	4000	12.4	26.1	0.19	0.17	0.17	0.37	3	

- ① C (Basic dynamic load rating), Co (Basic static load rating)
- ② \*S: Bolt size for bottom mounting type of block.
- ③ \*Q2: The hole of side grease nipple is not made to prevent a foreign substance from going into inside.  
When you order the side grease nipple, we build it by ourselves.

**SBI High-load Linear Rail System**

**SBI High-load Linear Rail System**

**SBI-CL/CLL**



(Unit : mm)

Model	Mounting dimension				Block dimensions												
	H	W	L	E	Mounting tap hole				L1	T	K	Grease fitting					
					B	J	M	DP				T1	N1	T2	N2	Q1	*Q2
SBI20 CL	28	44	78.8	4.6	32	32	M5	5	56.8	7.8	23.4	4.8	11.7	4	5	M6x0.75	Ø4
SBI20 CLL	28	44	96.4	4.6	32	50	M5	5	74.4	7.8	23.4	4.8	11.7	4	5	M6x0.75	Ø4
SBI25 CL	33	48	92	5.5	35	35	M6	6	70	9	27.5	5.4	11.7	5.4	5	M6x0.75	Ø4
SBI25 CLL	33	48	108	5.5	35	50	M6	6	86	9	27.5	5.4	11.7	5.4	5	M6x0.75	Ø4

Rail dimension									Basic load rating		Permissible static moment			Mass	
W1	W2	H1	F	Bolt hole			G	Max length of rail L0	C	Co	Mro	Mpo	Myo	Block [kg]	Rail [kg/m]
				d	D	h									
20	12	16.5	60	6	9.5	8.5	20	4000	22.2	38.2	0.36	0.33	0.33	0.39	2.2
20	12	16.5	60	6	9.5	8.5	20	4000	27.9	50	0.47	0.56	0.56	0.52	2.2
23	12.5	20	60	7	11	9	20	4000	31.5	52.1	0.56	0.56	0.56	0.66	3
23	12.5	20	60	7	11	9	20	4000	36.7	64.4	0.69	0.84	0.84	0.82	3

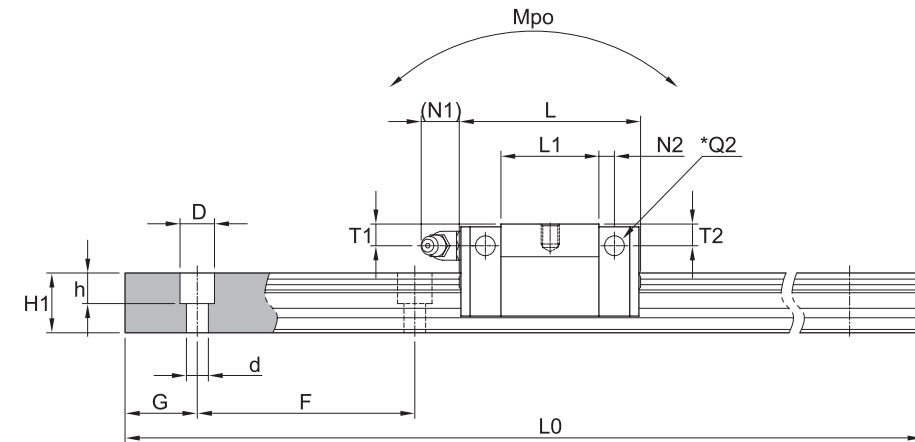
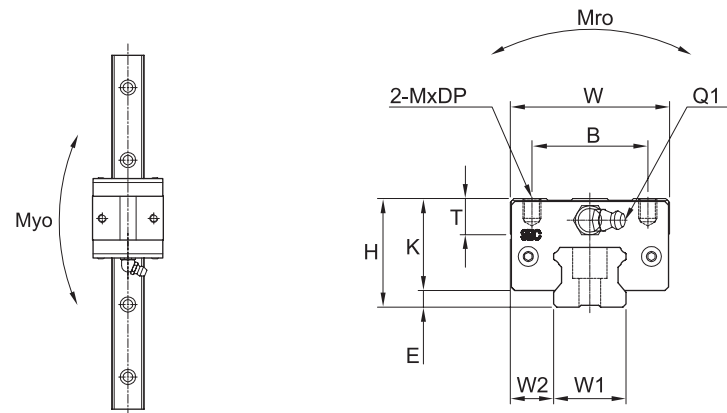
① C (Basic dynamic load rating), Co (Basic static load rating)

② \*Q2: The hole of side grease nipple is not made to prevent a foreign substance from going into inside.  
When you order the side grease nipple, we build it by ourselves.

**SBI High-load Linear Rail System**

**SBI High-load Linear Rail System**

**SBI-SV**



(Unit : mm)

Model	Mounting dimension				Block dimensions											
	H	W	L	E	Mounting tap hole			L1	T	K	Grease fitting					
					B	M	DP				T1	N1	T2	N2	Q1	*Q2
SBI15 SV	24	34	39.9	3	26	M4	5	21.3	6	21	4.5	5.5	3.8	3.4	M4x0.7	Ø4
SBI20 SV	28	44	49.1	4.6	32	M5	5	27.1	7.8	23.4	4.8	11.7	4	5	M6x0.75	Ø4
SBI25 SV	33	48	52.6	5.5	35	M6	6	30.6	9	27.5	5.4	11.7	5.4	5	M6x0.75	Ø4

Rail dimension									Basic load rating		Permissible static moment			Mass	
W1	W2	H1	F	Bolt hole			G	Max length of rail L0	C	Co	Mro	Mpo	Myo	Block [kg]	Rail [kg/m]
				d	D	h									
15	9.5	13	60	4.5	7.5	5.5	20	3000	5.8	12.8	0.04	0.03	0.03	0.10	1.3
20	12	16.5	60	6	9.5	8.5	20	4000	9.4	20.2	0.12	0.10	0.10	0.24	2.2
23	12.5	20	60	7	11	9	20	4000	12.4	26.1	0.19	0.17	0.17	0.37	3

① C (Basic dynamic load rating), Co (Basic static load rating)

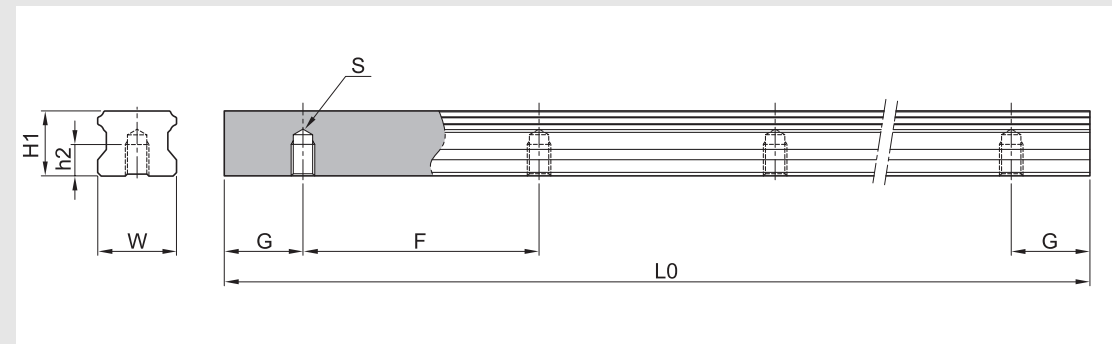
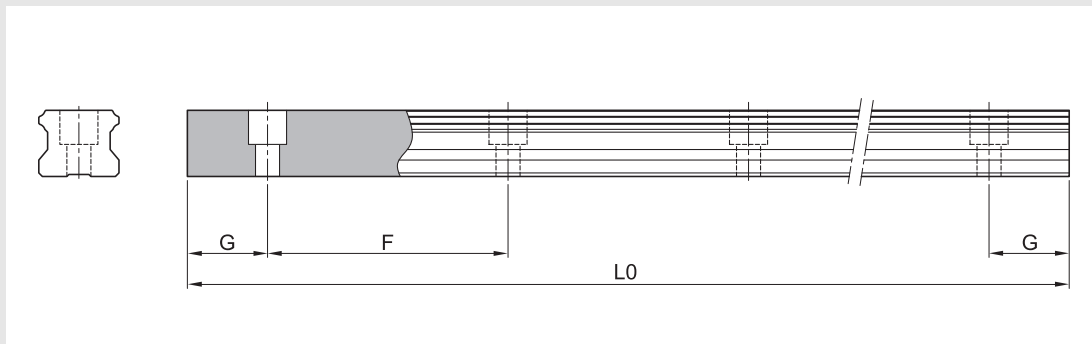
② \*Q2: The hole of side grease nipple is not made to prevent a foreign substance from going into inside.  
When you order the side grease nipple, we build it by ourselves.

**SBI High-load Linear Rail System**

**SBI High-load Linear Rail System**

Standard and Max. Length of SBI rail

Bottom mounting rail (SBI-B type)



(Unit : mm)

(Unit : mm)

Model number	SBI15	SBI20	SBI25	SBI30	SBI35	SBI45	SBI55	SBI65
Standard length	160	220	220	280	280	570	780	1270
	220	280	280	440	440	885	900	1570
	280	240	340	600	600	1095	1020	2020
	340	460	460	760	760	1200	1140	2470
	460	640	640	1000	1000	1410	1260	2620
	640	820	820	1240	1240	1620	1380	2920
	820	1000	1000	1480	1480	1830	1500	3070
	1000	1240	1240	1640	1640	2040	1620	4000
	1240	1480	1480	1800	1800	2250	1740	-
	1480	1600	1600	2040	2040	2460	1860	-
	1600	1840	1840	2200	2200	2985	1980	-
	1960	2080	2080	2520	2520	3510	2220	-
	2200	2200	2200	2840	2840	4000	2580	-
	2500	2500	2500	3000	3000	-	2940	-
	2860	2960	2980	3480	3480	-	3540	-
3000	3520	3520	4000	4000	-	4000	-	
-	4000	4000	-	-	-	-	-	
F	60	60	60	80	80	105	120	150
G	20	20	20	20	20	22.5	30	35
L0(Max length)	3,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000

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 SBC.

\* If the maximum length exceeds this size, butt joints can be supplied.

\* For more information about butt jointing, please refer to the page of safety design.

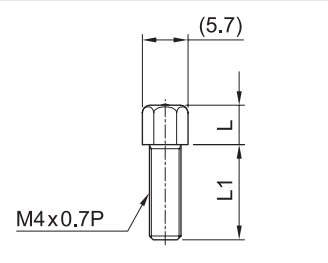
\* If the G is not standard, please indicate it in the order sheet.

**SBI High-load Linear Rail System**

**SBI High-load Linear Rail System**

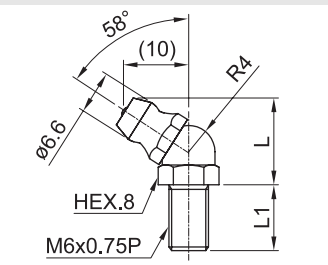
(1) Standard grease fitting (Front grease fitting)

(Unit : mm)



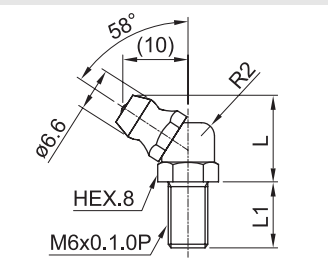
Specification		M4x0.7P		
Applied model	Grease fitting model	Symbol	L	L1
SBI 15	1N	None	7	6
	1D	DD, ZZ	5	9
	1Z	KK	5	11
	1F	D(M)F	5	13

(Unit : mm)



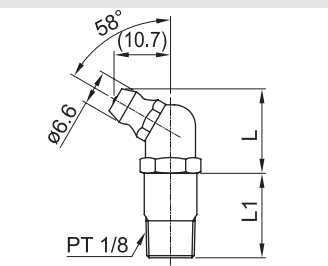
Specification		M6x0.75P, Asia type		
Applied model	Grease fitting model	Symbol	L	L1
SBI 20~35	IA2N	None	14	8
	IA2D	DD, ZZ	14	10
	IA2Z	KK, D(M)F	14	13
	IA2F	D(M)FDD, D(M)FZZ, D(M)FKK	14	18

(Unit : mm)



Specification		M6x1.0P, Europe type		
Applied model	Grease fitting model	Symbol	L	L1
SBI 20~35	IE2N	None	14	8
	IE2D	DD, ZZ	14	10
	IE2Z	KK, D(M)F	14	13
	IE2F	D(M)FDD, D(M)FZZ, D(M)FKK	14	18

(Unit : mm)



Specification		PT 1/8		
Applied model	Grease fitting model	Symbol	L	L1
SBI 45~65	4N	None	17	13
	4D	DD, KK, ZZ	17	16
	4Z	D(M)F	17	21
	4F	D(M)FDD, D(M)FKK, D(M)FZZ	17	24

(2) Side grease fitting

Specification	M4x0.7P	Specification	M4x0.7P	Specification	M6x0.75P	Specification	PT1/8
Applied model	SBI 15	Applied model	SBI 20, 25	Applied model	SBI 30, 35, 45	Applied model	SBI 55, 65
Grease fitting model	S1N	Grease fitting model	S2N	Grease fitting model	S3N	Grease fitting model	S4N

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

Specification	M4x0.7P	Specification	M4x0.7P	Specification	M6x0.75P
Applied model	SBI 15	Applied model	SBI 20, 25	Applied model	SBI 30, 35, 45
Grease fitting model	S1C	Grease fitting model	S2C	Grease fitting model	S4C

\* For size 30~45, two pieces of FS nipple connector are applied.

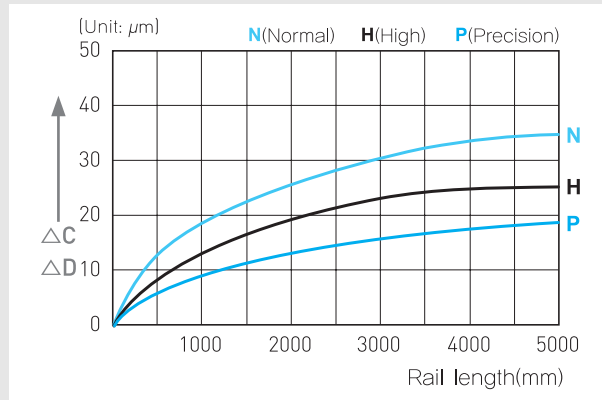
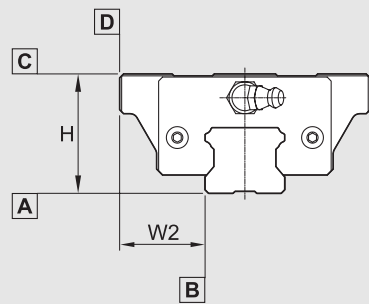
(4) Copper pipe

Input size	PT1/8	Input size	PT1/8	Input size	PT1/8
Output size	M6x0.75P	Output size	M6x0.75P	Output size	PT1/8
Applied model	SBI 20	Applied model	SBI 25, 30, 35	Applied model	SBI 45
Grease fitting model	S2P	Grease fitting model	S3P	Grease fitting model	S4P

**SBI High-load Linear Rail System**

**SBI High-load Linear Rail System**

**Accuracy**



(Unit : mm)

Item	N	H	P
Tolerance for the height <b>H</b>	±0.1	±0.04	±0.02
Tolerance for the rail-to-block lateral distance <b>W2</b>	±0.1	±0.04	±0.02
Tolerance for the height <b>H</b> difference among blocks	0.03	0.015	0.007
Tolerance for rail-to-block lateral distance <b>W2</b> distance among blocks	0.03	0.015	0.007
Running parallelism of surface <b>C</b> with surface <b>A</b>		ΔC	
Running parallelism of surface <b>D</b> with surface <b>B</b>		ΔD	

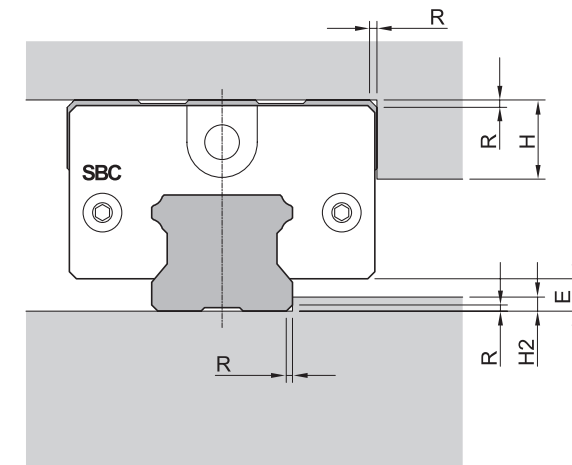
● **N** : Normal    ● **H** : High    ● **P** : Precision

**Preload**

Reference	Volume of preload
K0 (None)	Clearance within 0.01mm
K1 (Normal)	0.00 ~ 0.02C
K2 (Light)	0.04 ~ 0.06C
K3 (Heavy)	0.08 ~ 0.10C

● **C(kN)** : Basic dynamic load rating  
※ "K3" Preload is not available for SBI15 type

**Shoulder height and fillet radius R**

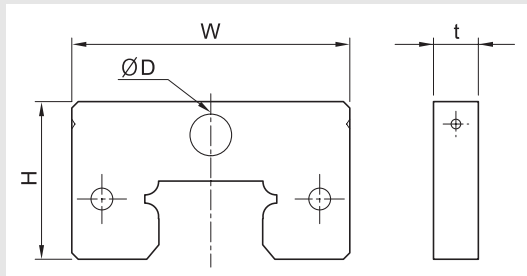


(Unit : mm)

Model number	Fillet radius R	Shoulders height H1	Shoulders height H2	E
15	0.6	7	2.5	3
20	1	8	3.5	4.6
25	1	10	4.5	5.5
30	1	11	5	7
35	1	13	6	7.5
45	1.6	16	8	9
55	1.6	20	10	12
65	1.6	25	15	19

**SBI High-load Linear Rail System**

**SBI High-load Linear Rail System**



[Dimension of MF container]

(Unit : mm)

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

(Unit : N)

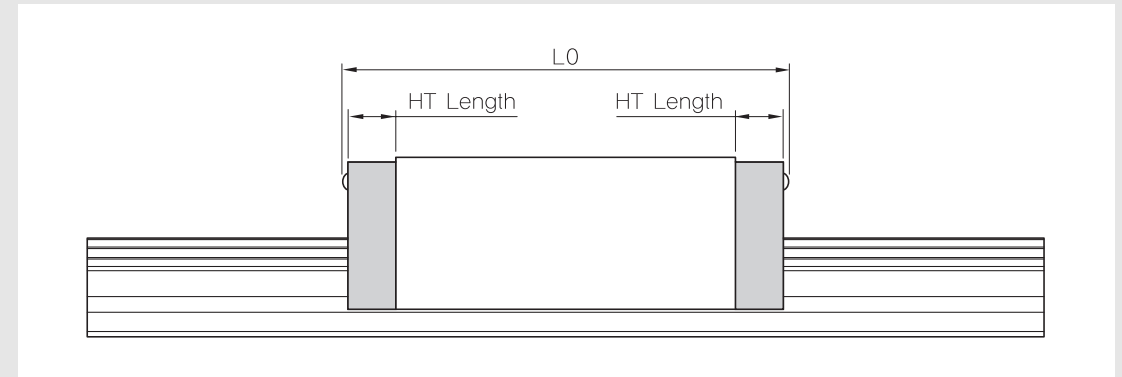
[Seal resistance]

For the maximum value of seal resistance of SBI standard type per block, in which grease is not applied.

※ Scraper has no resistance because it is not contacting rail.

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

HT high temperature end plate



(Unit : mm)

Reference	HT Length	Overall length					
		Applied model	LO	Applied model	LO	Applied model	LO
HT 15A	6.5	SBI 15V	38.3	SBI 15	62.2	SBI 15L	77.8
HT 20A	8	SBI 20V	47.1	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

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

※ All plastic components are replace with steel or aluminum in the High Temperature Blocks.

※ Side grease fitting is not available for high temperature end plates

**Grease and nipple specification**

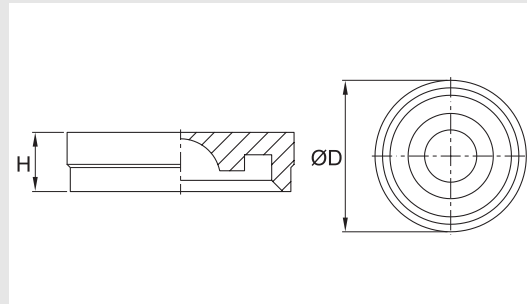
[Grease]

SBI uses two types of grease according to working conditions. For details, please see the technical data for grease.

**SBI High-load Linear Rail System**

**SBI High-load Linear Rail System**

**RC Cap**

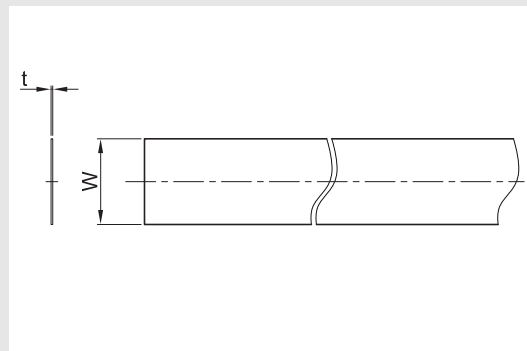


(Unit : mm)

Model	D±0.1	H±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.
- SBI, SBG type use same RC cap.

**ST Tape**



(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

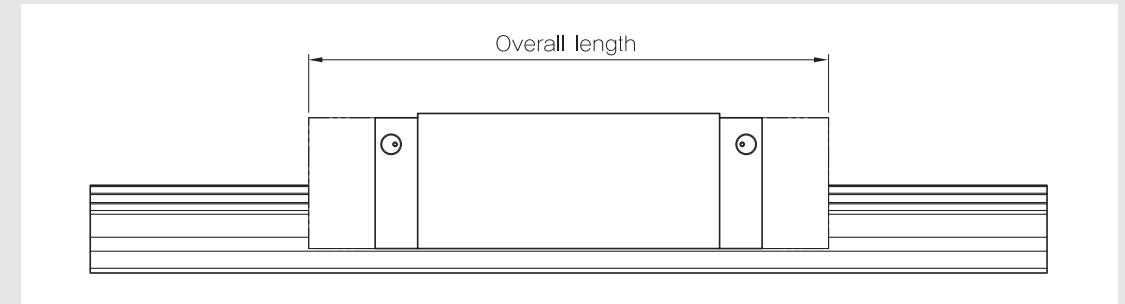
Ordering example : **ST15A - 1000L**

①      ②

- ① Model number
- ② Length

**Seal and MF container**

[Method and overall length with each seal]



• E : End seal    S : Scraper    F : DF (High dust protection seal).    MF (Self lubricant)    (Unit : mm)

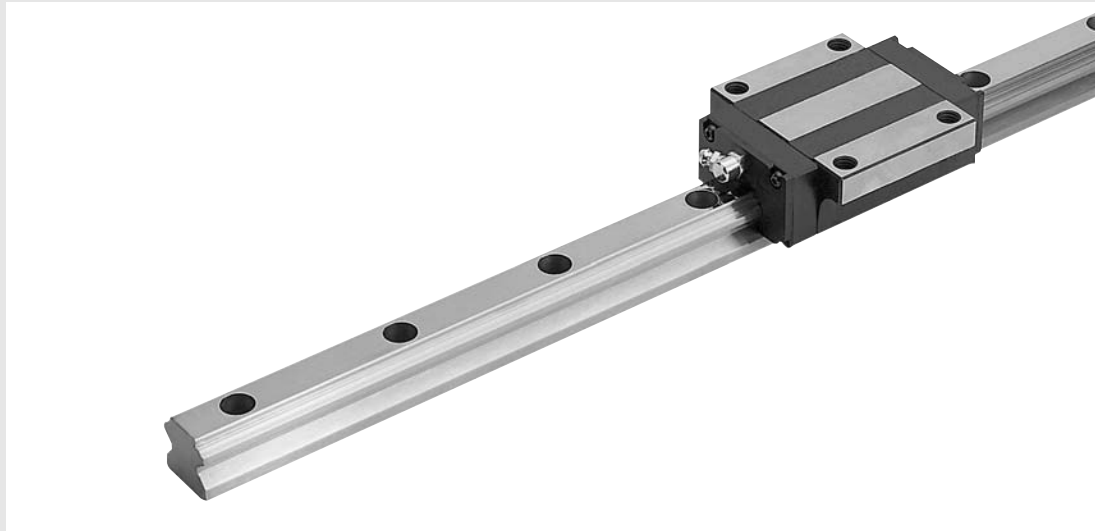
Additional seal	Standard	DD	ZZ	KK	D(M)F	D(M)FDD	D(M)FZZ	D(M)FKK	
Indication of seal	E	E+E	E+S	E+E+S	F+E	F+E+E	F+E+S	F+E+E+S	
Overall length with seal	15V	39.9	44.5	45.3	49.9	53.9	58.5	59.3	63.9
	15	63.8	68.4	69.2	73.8	77.8	82.4	83.2	87.8
	15L	79.4	84	84.8	89.4	93.4	98	98.8	103.4
	20V	49.1	54.1	54.5	59.5	63.1	68.1	68.5	73.5
	20	78.8	83.8	84.2	89.2	92.8	97.8	98.2	103.2
	20L	96.4	101.4	101.8	106.8	110.4	115.4	115.8	120.8
	25V	52.6	57.6	58	63	66.6	71.6	72	77
	25	92	97	97.4	102.4	106	111	111.4	116.4
	25L	108	113	113.4	118.4	122	127	127.4	132.4
	30	107.6	113.6	114	120	123.6	129.6	130	136
	30L	131.6	137.6	138	144	147.6	153.6	154	160
	35	124.6	130.6	131	137	140.6	146.6	147	153
	35L	152.6	158.6	159	165	168.6	174.6	175	181
	45	142	148	148.4	154.4	158	164	164.4	170.4
	45L	174	180	180.4	186.4	190	196	196.4	202.4
	55	172.4	179.4	179.2	186.2	190.4	197.4	197.2	204.2
55L	211.8	218.8	218.6	225.6	229.8	236.8	236.6	243.6	
65	219.8	226.8	226.6	233.6	237.8	244.8	244.6	251.6	
65L	272.2	279.2	279	286	290.2	297.2	297	304	

- 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.



**SBG Standard Linear Rail System**

**SBG Standard Linear Rail System**



**Circular arc groove**

Two pint contact structure of circular arc groove. It keeps the function of self-aligning and smooth rolling performance.

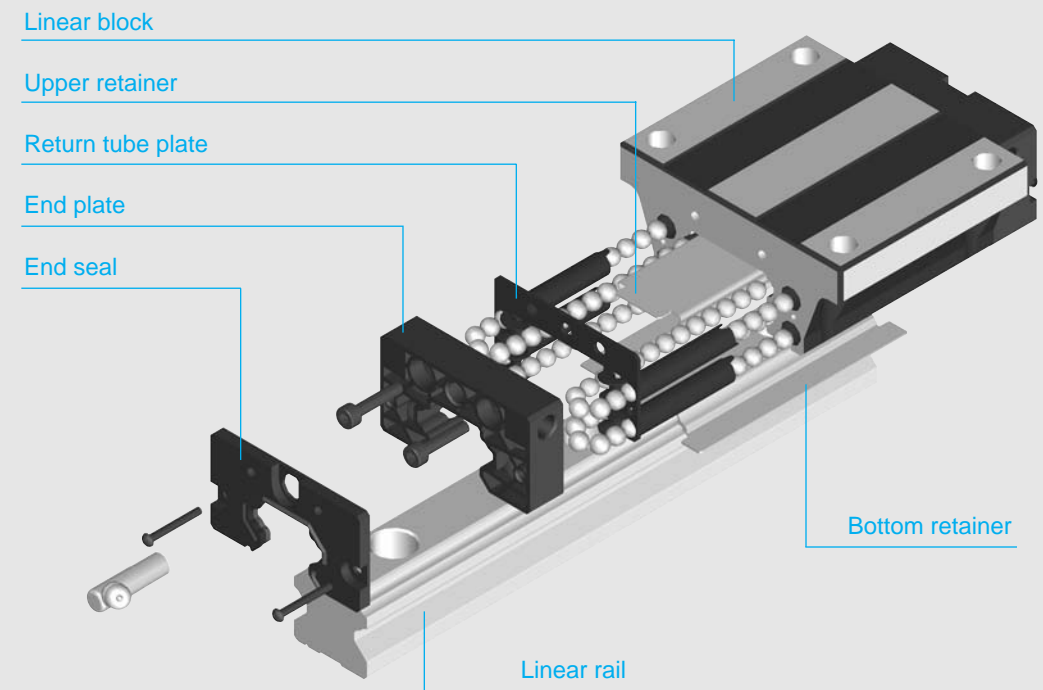
**45° angle of contact**

Four rows of circular arc groove contact balls at an angle of 45 degree. It provides the same load capacity in all directions.

**DF structure**

**The same dimension**

**The Block Structure**



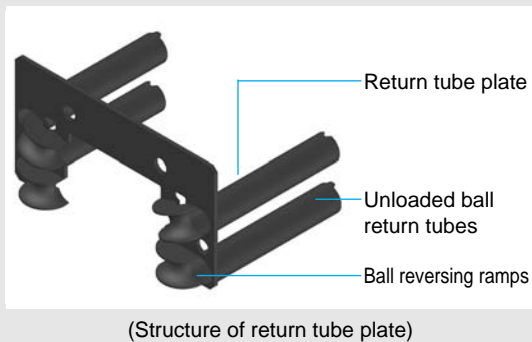
**Linear rail** The same rail profile may be used for every type of block (SBG, SBS, SPG and SPS). SBC uses only high strength and heat-treated special steels in all rails.

**Linear block** SBG, SBS, SPG and SPS types are available. All blocks are dimensionally interchangeable.

**End seal** New double lip structure which improves resistance to dust and particle contamination.

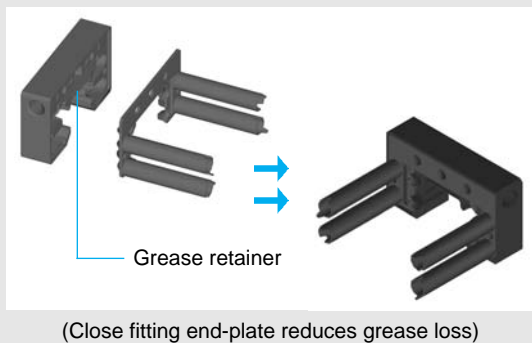
SBG Standard Linear Rail System

SBG Standard Linear Rail System



**Single component Return tube & reversing plate structure** Inserting a molded tube into the ball return paths keeps lubricant cleaner by providing better loose ball control and free lubricant flow while preventing metal to metal skidding contact with what is normally an imprecise return path wall.

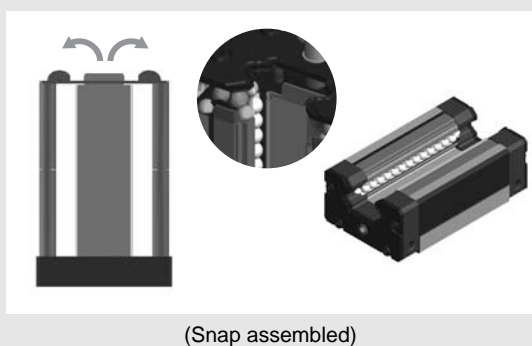
※ Return tube plate is available for SBG(S), SPG(S) 20~35.



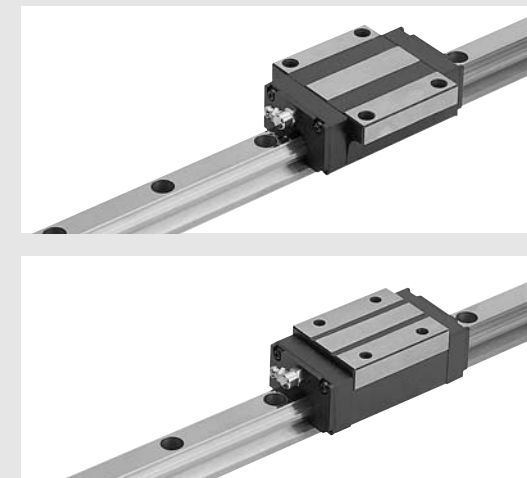
**Retainer** Ball retainers are snap assembled to the internal body and end-plate without fixed position screws. The retainers can self align according to load orientation and direct the balls smoothly into the load zone. This function eliminates ball skid and hot zone pre-load creating smoother running and longer life. These new retainers are made of stainless steel (SUS304) and are corrosion resistant.

Bottom retainer is one body type with rubber seal to prevent contamination from bottom.

※ Bottom seal is not available for size 15 of SBG(S), SPG(S).



SBG type



SBG is SBC standard linear block and FL, FLL, SL, SLL are available.

SBG-FL/FLL

-Flange type  
-Size 15~65

SBG-SL/SLL

-Slim type  
-Size 15~65

SBS type



SBS type use same rail as SBG rail and the height is lower than SBG-SL type.

SBS-SL/SLL

-Slim type  
-Size 15~45

SBS-HL/HLL

-SBS-SL (Height is higher than SBS-SL/SLL type)  
-Size 25

SBS-FV

-Flange type with shorter length  
-Size 15~25

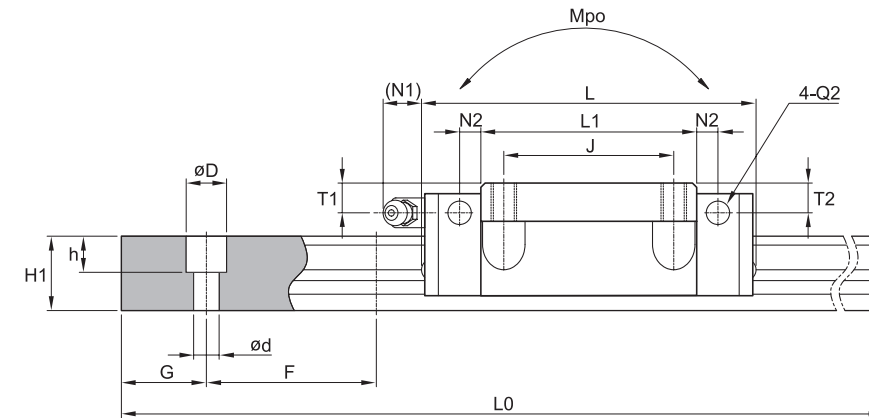
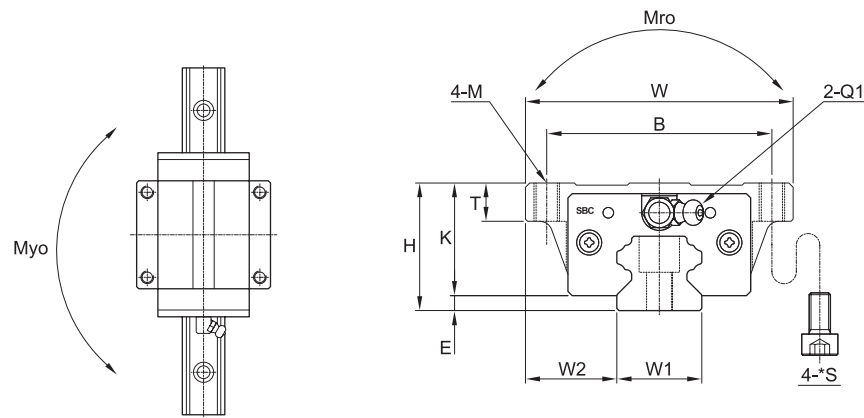
SBS-SV

-Slim type with shorter length  
-Size 15~25

**SBG Standard Linear Rail System**

**SBG Standard Linear Rail System**

**SBG-FL/FLL**



(Unit : mm)

Model	Mounting dimension				Block dimensions												
	H	W	L	E	Mounting tap hole				L1	T	K	Grease fitting					
					B	J	M	*S				T1	N1	T2	N2	Q1	*Q2
SBG15 FL	24	47	60.8	3	38	30	M5	M4	38.8	7.2	21	4	5	5.5	4.5	M4x0.7	Ø4
SBG20 FL	30	63	77.2	3.5	53	40	M6	M5	50.8	9	26.5	7	9.8	11.7	5	M6x0.75	Ø6
SBG20 FLL	30	63	93.2	3.5	53	40	M6	M5	66.8	9	26.5	7	9.8	11.7	5	M6x0.75	Ø6
SBG25 FL	36	70	86.9	6.5	57	45	M8	M6	59.5	10	29.5	8.2	9.8	11.7	5.5	M6x0.75	Ø6
SBG25 FLL	36	70	106.4	6.5	57	45	M8	M6	79	10	29.5	8.2	9.8	11.7	5.5	M6x0.75	Ø6
SBG30 FL	42	90	100	7	72	52	M10	M8	70.4	12	35	8.5	10.7	11.7	5.5	M6x0.75	Ø6
SBG30 FLL	42	90	122.5	7	72	52	M10	M8	92.9	12	35	8.5	10.7	11.7	5.5	M6x0.75	Ø6
SBG35 FL	48	100	112.6	7.5	82	62	M10	M8	80.4	13	40.5	8	10.7	11.7	6	M6x0.75	Ø6
SBG35 FLL	48	100	138.1	7.5	82	62	M10	M8	105.9	13	40.5	8	10.7	11.7	6	M6x0.75	Ø6
SBG45 FL	60	120	140.4	10	100	80	M12	M10	98	15	50	10	11	16.5	8	PT1/8	Ø6
SBG45 FLL	60	120	172.4	10	100	80	M12	M10	130	15	50	10	11	16.5	8	PT1/8	Ø6
SBG55 FL	70	140	164.8	13	116	95	M14	M12	118	17	57	12	11	16.5	10	PT1/8	PT1/8
SBG55 FLL	70	140	202.8	13	116	95	M14	M12	156	17	57	12	11	16.5	10	PT1/8	PT1/8
SBG65 FL	90	170	195.2	17.5	142	110	M16	M14	147	23	72.5	15	11	16.5	10	PT1/8	PT1/8
SBG65 FLL	90	170	255.2	17.5	142	110	M16	M14	207	23	72.5	15	11	16.5	10	PT1/8	PT1/8

Rail dimension										Basic load rating		Permissible static moment			Mass	
W1	W2	H1	F	Bolt hole			G	Max length of rail L0	C	Co	Mro	Mpo	Myo	Block [kg]	Rail [kg/m]	
				d	D	h										
15	16	15	60	4.5	7.5	5.3	20	3000	8.33	13.4	0.07	0.05	0.05	0.18	1.45	
20	21.5	17.5	60	6	9.5	8.5	20	4000	14.2	25	0.22	0.18	0.18	0.42	2.2	
20	21.5	17.5	60	6	9.5	8.5	20	4000	16.9	36.5	0.28	0.31	0.31	0.54	2.2	
23	23.5	21.8	60	7	11	9	20	4000	20.9	39.2	0.35	0.31	0.3	0.62	3.1	
23	23.5	21.8	60	7	11	9	20	4000	24.6	48	0.43	0.49	0.48	0.78	3.1	
28	31	25	80	9	14	12	20	4000	29.2	53.8	0.59	0.49	0.48	1.1	4.45	
28	31	25	80	9	14	12	20	4000	35.3	67.9	0.74	0.79	0.78	1.44	4.45	
34	33	29	80	9	14	12	20	4000	38.8	68.6	0.94	0.74	0.72	1.57	6.4	
34	33	29	80	9	14	12	20	4000	46	90.4	1.24	1.3	1.28	2.14	6.4	
45	37.5	38	105	14	20	17	22.5	4000	61.6	110.6	1.98	1.56	1.54	2.96	11.25	
45	37.5	38	105	14	20	17	22.5	4000	75.5	138.5	2.45	2.33	2.3	3.75	11.25	
53	43.5	45	120	16	23	20	30	4000	91.2	156.9	3.37	2.69	2.65	4.49	15.25	
53	43.5	45	120	16	23	20	30	4000	111.8	196.6	4.19	4.05	3.97	5.68	15.25	
63	53.5	58.5	150	18	26	22	35	4000	147.9	240.1	6.17	4.85	4.75	8.7	23.9	
63	53.5	58.5	150	18	26	22	35	4000	189.1	320.4	8.18	8.34	8.14	9.5	23.9	

① C (Basic dynamic load rating), Co (Basic static load rating)

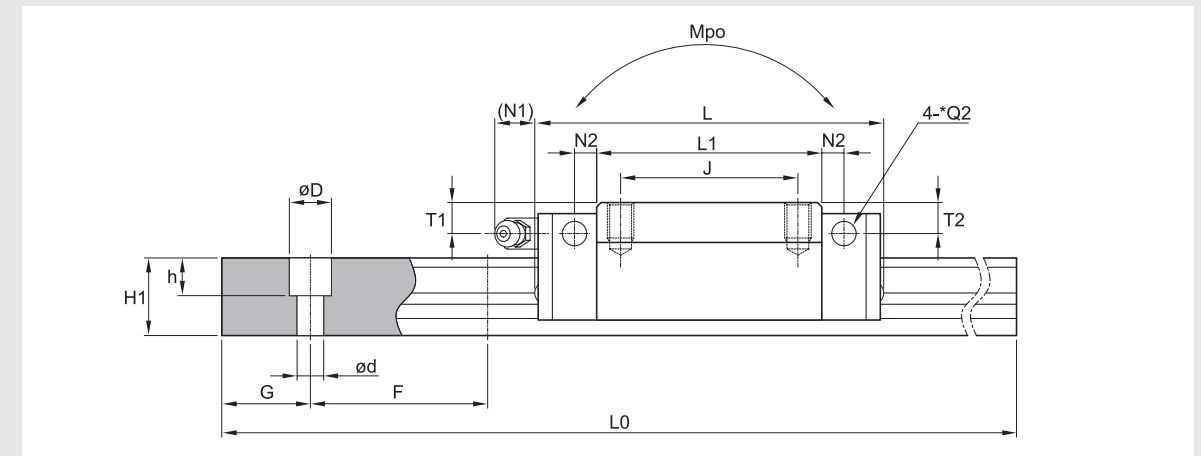
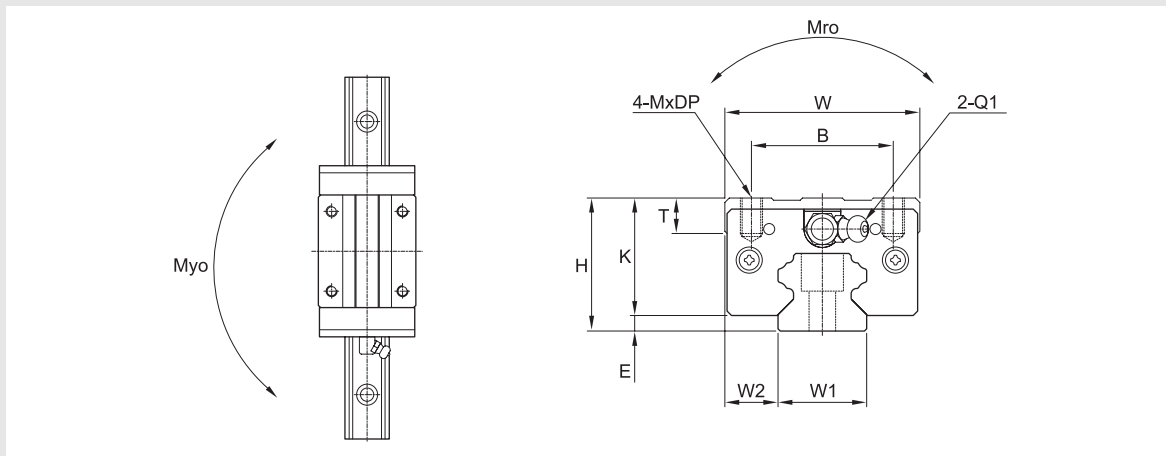
② \*S: Bolt size for bottom mounting type of block.

③ \*Q2: The hole of side grease nipple is not made to prevent a foreign substance from going into inside. When you order the side grease nipple, we build it by ourselves.

**SBG Standard Linear Rail System**

**SBG Standard Linear Rail System**

**SBG-SL/SLL**



Model	Mounting dimension				Block dimensions														
	H	W	L	E	Mounting tap hole				L1	T	K	Grease fitting						Q1	*Q2
					B	J	M	DP				T1	N1	T2	N2				
SBG15 SL	28	34	60.8	3	26	26	M4	5	38.8	8	25	8	5.5	8.5	4.5	M4x0.7	Ø4		
SBG20 SL	30	44	77.2	3.5	32	36	M5	8	50.8	8	26.5	7	11.7	7	5	M6x0.75	Ø6		
SBG20 SLL	30	44	93.2	3.5	32	50	M5	8	66.8	8	26.5	7	11.7	7	5	M6x0.75	Ø6		
SBG25 SL	40	48	86.9	6.5	35	35	M6	8	59.5	12	33.5	12.2	11.7	12.1	5.5	M6x0.75	Ø6		
SBG25 SLL	40	48	106.4	6.5	35	50	M6	8	79	12	33.5	12.2	11.7	12.1	5.5	M6x0.75	Ø6		
SBG30 SL	45	60	100	7	40	40	M8	10	70.4	12	38	11.5	11.7	11.5	5.5	M6x0.75	Ø6		
SBG30 SLL	45	60	122.5	7	40	60	M8	10	92.9	12	38	11.5	11.7	11.5	5.5	M6x0.75	Ø6		
SBG35 SL	55	70	112.6	7.5	50	50	M8	12	80.4	15	47.5	15	11.7	15	6	M6x0.75	Ø6		
SBG35 SLL	55	70	138.1	7.5	50	72	M8	12	105.9	15	47.5	15	11.7	15	6	M6x0.75	Ø6		
SBG45 SL	70	86	140.4	10	60	60	M10	13	98	15	60	15	16.5	20	8	PT1/8	Ø6		
SBG45 SLL	70	86	172.4	10	60	80	M10	13	130	15	60	15	16.5	20	8	PT1/8	Ø6		
SBG55 SL	80	100	164.8	13	75	75	M12	18	118	18	67	18	16.5	20.5	10	PT1/8	PT1/8		
SBG55 SLL	80	100	202.8	13	75	95	M12	18	156	18	67	18	16.5	20.5	10	PT1/8	PT1/8		
SBG65 SL	90	126	195.2	17.5	76	70	M16	20	147	23	72.5	23	16.5	12	10	PT1/8	PT1/8		
SBG65 SLL	90	126	255.2	17.5	76	120	M16	20	207	23	72.5	23	16.5	12	10	PT1/8	PT1/8		

① C (Basic dynamic load rating), Co (Basic static load rating)

(Unit : mm)

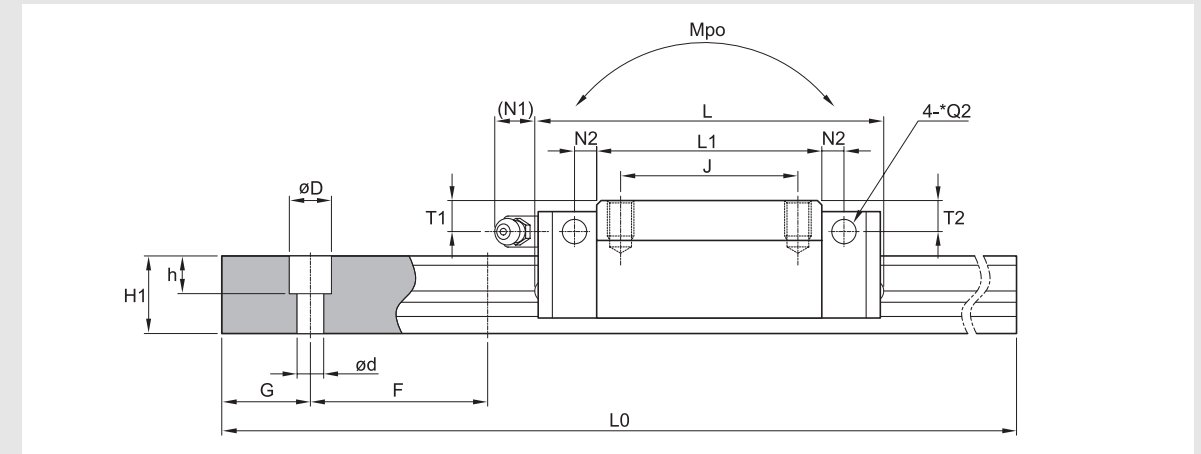
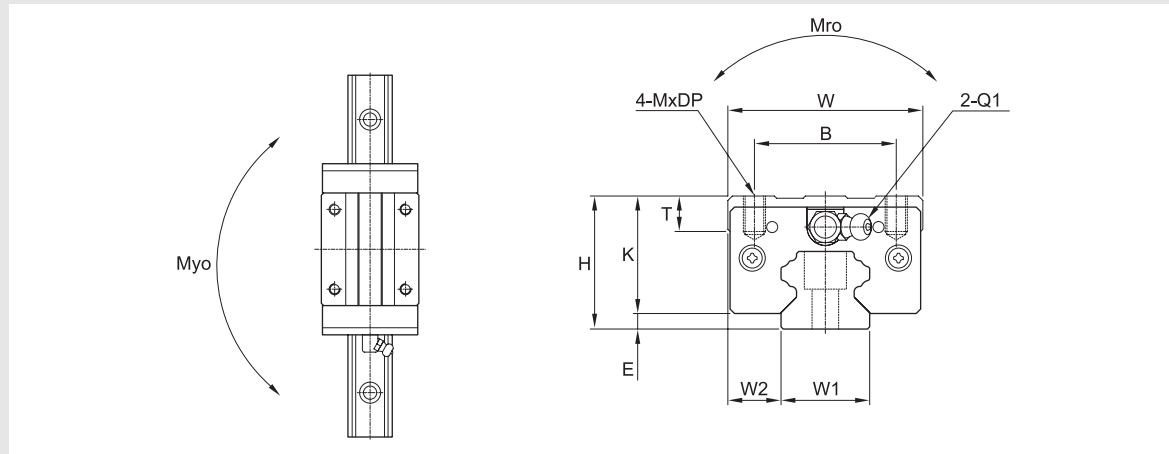
Rail dimension										Basic load rating		Permissible static moment			Mass	
W1	W2	H1	F	Bolt hole			G	Max length of rail L0	C	Co	Mro	Mpo	Myo	Block [kg]	Rail [kg/m]	
				d	D	h										
15	9.5	15	60	4.5	7.5	5.3	20	3000	8.33	13.4	0.07	0.05	0.05	0.2	1.45	
20	12	17.5	60	6	9.5	8.5	20	4000	14.2	25	0.22	0.18	0.18	0.33	2.2	
20	12	17.5	60	6	9.5	8.5	20	4000	16.9	36.5	0.28	0.31	0.31	0.45	2.2	
23	12.5	21.8	60	7	11	9	20	4000	20.9	39.2	0.35	0.31	0.3	0.56	3.1	
23	12.5	21.8	60	7	11	9	20	4000	24.6	48	0.43	0.49	0.48	0.73	3.1	
28	16	25	80	9	14	12	20	4000	29.2	53.8	0.59	0.49	0.48	0.98	4.45	
28	16	25	80	9	14	12	20	4000	35.3	67.9	0.74	0.79	0.78	1.28	4.45	
34	18	29	80	9	14	12	20	4000	38.8	68.6	0.94	0.74	0.72	1.63	6.4	
34	18	29	80	9	14	12	20	4000	46	90.4	1.24	1.3	1.28	2.12	6.4	
45	20.5	38	105	14	20	17	22.5	4000	61.6	110.6	1.98	1.56	1.54	2.96	11.25	
45	20.5	38	105	14	20	17	22.5	4000	75.5	138.5	2.45	2.33	2.3	3.75	11.25	
53	23.5	45	120	16	23	20	30	4000	91.2	156.9	3.37	2.69	2.65	4.52	15.25	
53	23.5	45	120	16	23	20	30	4000	111.8	196.6	4.19	4.05	3.97	5.68	15.25	
63	31.5	58.5	150	18	26	22	35	4000	147.9	240.1	6.17	4.85	4.75	7.43	23.9	
63	31.5	58.5	150	18	26	22	35	4000	189.1	320.4	8.18	8.34	8.14	12.05	23.9	

② \*Q2: The hole of side grease nipple is not made to prevent a foreign substance from going into inside. When you order the side grease nipple, we build it by ourselves.

**SBG Standard Linear Rail System**

**SBG Standard Linear Rail System**

SBS-SL, HL/SLL, HLL



(Unit : mm)

Model	Mounting dimension				Block dimensions													
	H	W	L	E	Mounting tap hole				L1	T	K	Grease fitting						
					B	J	M	DP				T1	N1	T2	N2	Q1	*Q2	
SBS15 SL	24	34	60.8	3	26	26	M4	5	38.8	6	21	4	5.5	4.5	4.5	M4x0.7	Ø4	
SBS20 SL	28	44	77.2	3.5	32	32	M5	7	50.8	7.5	24.5	5	11.7	5	5	M6x0.75	Ø6	
SBS20 SLL	28	44	93.2	3.5	32	50	M5	7	66.8	7.5	24.5	5	11.7	5	5	M6x0.75	Ø6	
SBS25 SL	33	48	86.9	6.5	35	35	M6	6	59.5	8	26.5	5.2	11.7	5.1	5.5	M6x0.75	Ø6	
SBS25 SLL	33	48	106.4	6.5	35	50	M6	6	79	8	26.5	5.2	11.7	5.1	5.5	M6x0.75	Ø6	
SBS25 HL	36	48	86.9	6.5	35	35	M6	8	59.5	11	29.5	8.2	11.7	8.1	5.5	M6x0.75	Ø6	
SBS25 HLL	36	48	106.4	6.5	35	50	M6	8	79	11	29.5	8.2	11.7	8.1	5.5	M6x0.75	Ø6	
SBS30 SL	42	60	100	7	40	40	M8	10	70.4	12	35	8.5	11.7	8.5	5.5	M6x0.75	Ø6	
SBS30 SLL	42	60	122.5	7	40	60	M8	10	92.9	12	35	8.5	11.7	8.5	5.5	M6x0.75	Ø6	
SBS35 SL	48	70	112.6	7.5	50	50	M8	12	80.4	15	40.5	8	11.7	8	6	M6x0.75	Ø6	
SBS35 SLL	48	70	138.1	7.5	50	72	M8	12	105.9	15	40.5	8	11.7	8	6	M6x0.75	Ø6	
SBS45 SL	60	86	140.4	10	60	60	M10	10	98	15	50	10	16.5	10	8	PT1/8	PT1/8	
SBS45 SLL	60	86	172.4	10	60	80	M10	10	130	15	50	10	16.5	10	8	PT1/8	PT1/8	

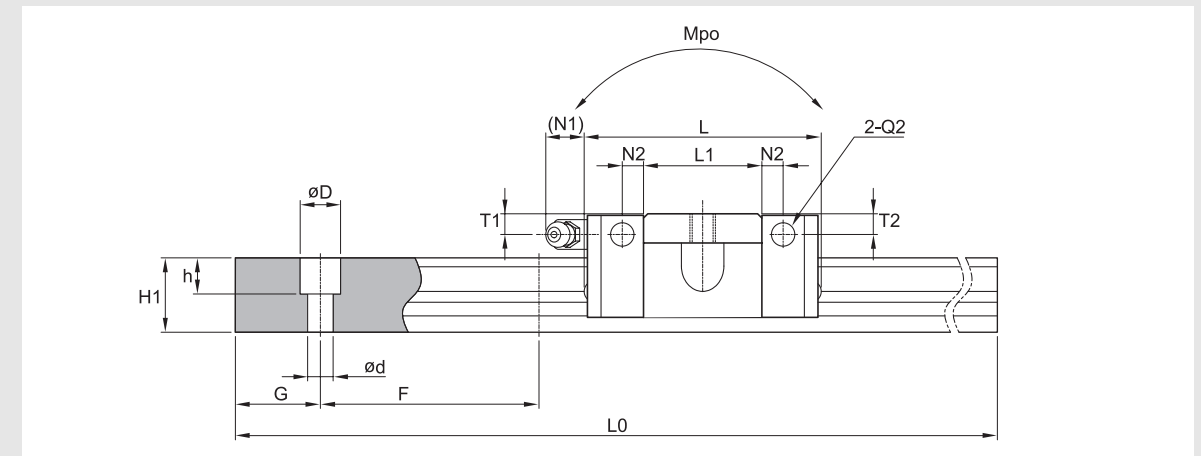
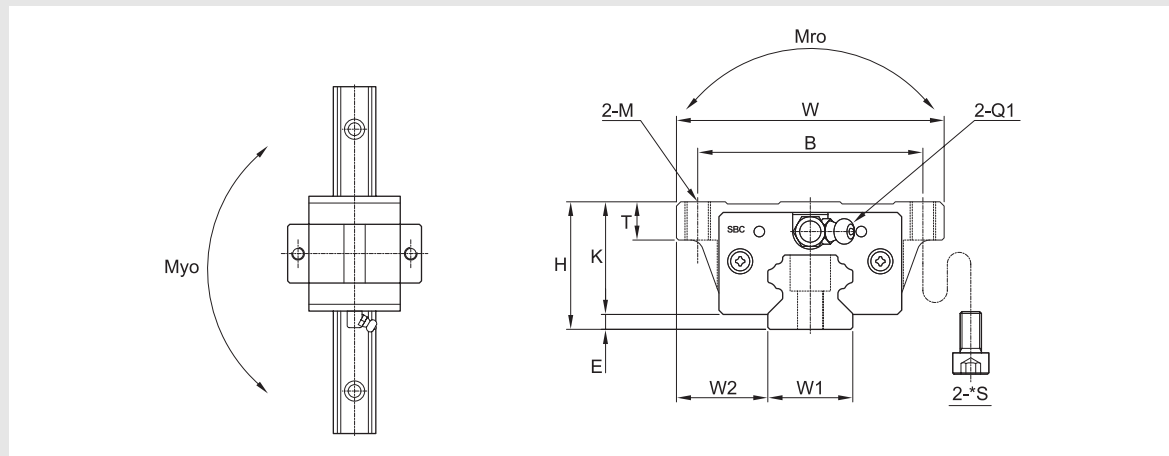
Rail dimension										Basic load rating		Permissible static moment			Mass	
W1	W2	H1	F	Bolt hole			G	Max length of rail L0	C	Co	Mro	Mpo	Myo	Block [kg]	Rail [kg/m]	
				d	D	h										
15	9.5	15	60	4.5	7.5	5.3	20	3000	8.33	13.4	0.07	0.05	0.05	0.2	1.45	
20	12	17.5	60	6	9.5	8.5	20	4000	14.2	25	0.22	0.18	0.18	0.33	2.2	
20	12	17.5	60	6	9.5	8.5	20	4000	16.9	36.5	0.28	0.31	0.31	0.45	2.2	
23	12.5	21.8	60	7	11	9	20	4000	20.9	39.2	0.35	0.31	0.3	0.56	3.1	
23	12.5	21.8	60	7	11	9	20	4000	24.6	48	0.43	0.49	0.48	0.73	3.1	
23	12.5	21.8	60	7	11	9	20	4000	20.9	39.2	0.35	0.31	0.3	0.98	3.1	
23	12.5	21.8	60	7	11	9	20	4000	24.6	48	0.43	0.49	0.48	1.28	3.1	
28	16	25	80	9	14	12	20	4000	29.2	53.8	0.59	0.49	0.48	0.98	4.45	
28	16	25	80	9	14	12	20	4000	35.3	67.9	0.74	0.79	0.78	1.28	4.45	
34	18	29	80	9	14	12	20	4000	38.8	68.6	0.94	0.74	0.72	1.63	6.4	
34	18	29	80	9	14	12	20	4000	46	90.4	1.24	1.3	1.28	2.12	6.4	
45	20.5	38	105	14	20	17	22.5	4000	61.6	110.6	1.98	1.56	1.54	2.96	11.25	
45	20.5	38	105	14	20	17	22.5	4000	75.5	138.5	2.45	2.33	2.3	3.75	11.25	

- ① C (Basic dynamic load rating), Co (Basic static load rating)
- ② \*Q2: The hole of side grease nipple is not made to prevent a foreign substance from going into inside. When you order the side grease nipple, we build it by ourselves.

**SBG Standard Linear Rail System**

**SBG Standard Linear Rail System**

**SBS-FV**



(Unit : mm)

Model	Mounting dimension				Block dimensions											
	H	W	L	E	Mounting tap hole			L1	T	K	Grease fitting					
					B	M	*S				T1	N1	T2	N2	Q1	*Q2
SBS15 FV	24	47	44.9	3	38	M5	M4	22.9	7.2	21	4	5.5	4.5	4.5	M4x0.7	Ø4
SBS20 FV	28	63	54.2	3.5	53	M6	M5	27.8	7	24.5	5	11.7	5	5	M6x0.75	Ø6
SBS25 FV	33	70	62.6	6.5	57	M8	M6	35.2	7	26.5	5.2	11.7	5.1	5.5	M6x0.75	Ø6

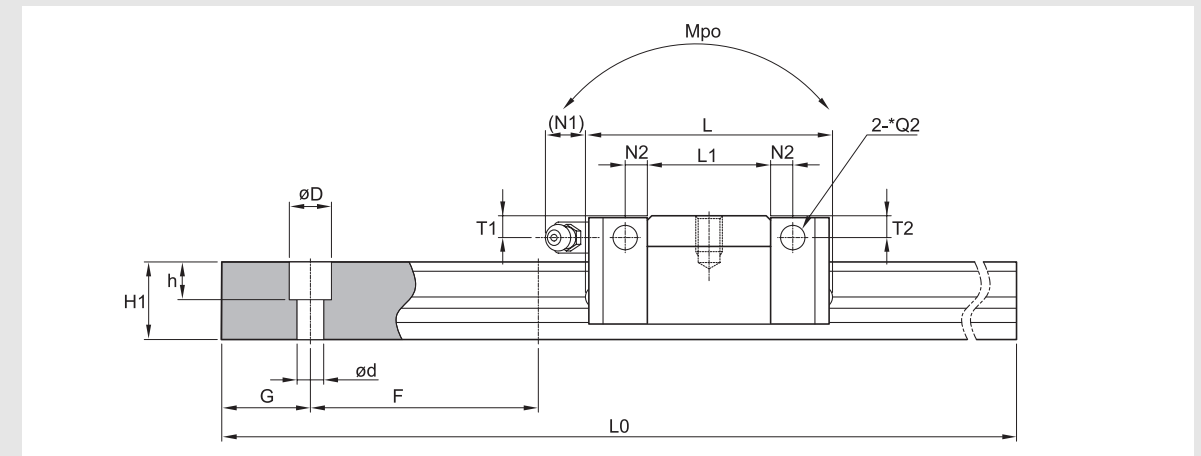
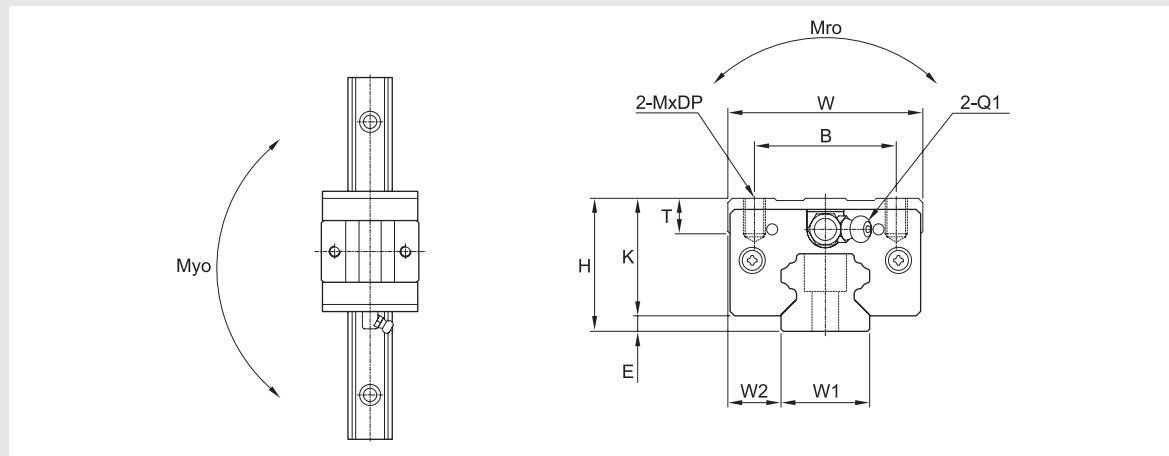
Rail dimension										Basic load rating		Permissible static moment			Mass	
W1	W2	H1	F	Bolt hole			G	Max length of rail L0	C	Co	Mro	Mpo	Myo	Block [kg]	Rail [kg/m]	
				d	D	h										
15	16	15	60	4.5	7.5	5.3	20	3000	4.48	7.23	0.04	0.03	0.03	0.1	1.45	
20	21.5	17.5	60	6	9.5	8.5	20	4000	7.65	13.5	0.12	0.1	0.1	0.24	2.2	
23	23.5	21.8	60	7	11	9	20	4000	11.29	21.1	0.19	0.17	0.17	0.37	3.1	

- ① C (Basic dynamic load rating), Co (Basic static load rating)
- ② \*S: Bolt size for bottom mounting type of block.
- ③ \*Q2: The hole of side grease nipple is not made to prevent a foreign substance from going into inside.  
When you order the side grease nipple, we build it by ourselves.

**SBG Standard Linear Rail System**

**SBG Standard Linear Rail System**

**SBS-SV**



(Unit : mm)

Model	Mounting dimension				Block dimensions											
	H	W	L	E	Mounting tap hole			L1	T	K	Grease fitting					
					B	M	DP				T1	N1	T2	N2	Q1	*Q2
SBS15 SV	24	34	44.9	3	26	M4	5	22.9	6	21	4	5.5	4.5	4.5	M4x0.7	Ø4
SBS20 SV	28	44	54.2	3.5	32	M5	7	27.8	7.5	24.5	5	11.7	5	5	M6x0.75	Ø6
SBS25 SV	33	48	62.6	6.5	35	M6	6	35.2	8	26.5	5.2	11.7	5.1	5.5	M6x0.75	Ø6

Rail dimension									Basic load rating		Permissible static moment			Mass	
W1	W2	H1	F	Bolt hole			G	Max length of rail L0	C	Co	Mro	Mpo	Myo	Block [kg]	Rail [kg/m]
				d	D	h									
15	9.5	15	60	4.5	7.5	5.3	20	3000	4.48	7.23	0.04	0.03	0.03	0.1	1.45
20	12	17.5	60	6	9.5	8.5	20	4000	7.65	13.5	0.12	0.1	0.1	0.19	2.2
23	12.5	21.8	60	7	11	9	20	4000	11.29	21.1	0.19	0.17	0.17	0.32	3.1

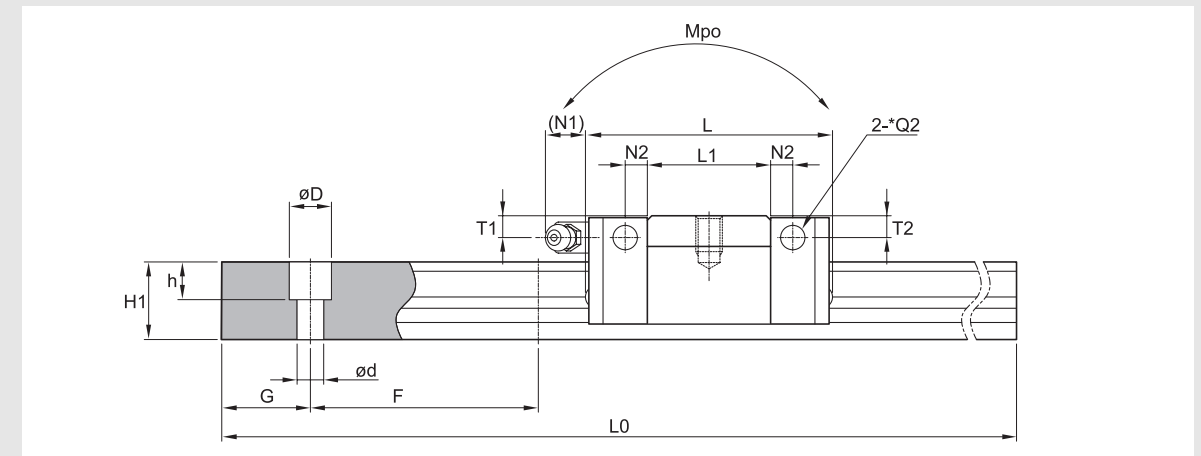
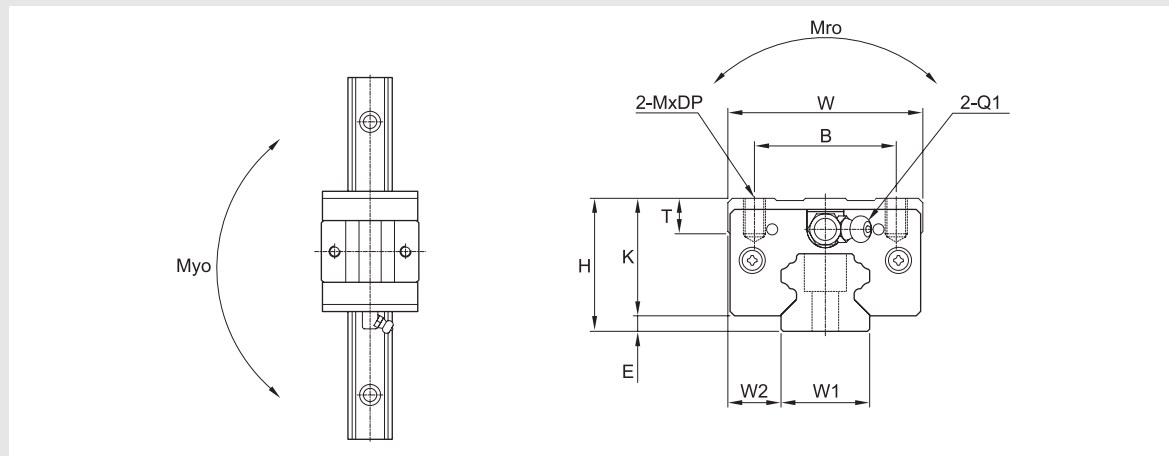
① C (Basic dynamic load rating), Co (Basic static load rating)

② \*Q2: The hole of side grease nipple is not made to prevent a foreign substance from going into inside. When you order the side grease nipple, we build it by ourselves.

**SBG Standard Linear Rail System**

**SBG Standard Linear Rail System**

**SBS-SV**



Model	Mounting dimension				Block dimensions											
	H	W	L	E	Mounting tap hole			Grease fitting								
					B	M	DP	L1	T	K	T1	N1	T2	N2	Q1	*Q2
SBS15 SV	24	34	44.9	3	26	M4	5	22.9	6	21	4	5.5	4.5	4.5	M4x0.7	Ø4
SBS20 SV	28	44	54.2	3.5	32	M5	7	27.8	7.5	24.5	5	11.7	5	5	M6x0.75	Ø6
SBS25 SV	33	48	62.6	6.5	35	M6	6	35.2	8	26.5	5.2	11.7	5.1	5.5	M6x0.75	Ø6

(Unit : mm)

Rail dimension									Basic load rating		Permissible static moment			Mass	
W1	W2	H1	F	Bolt hole			G	Max length of rail L0	C	Co	Mro	Mpo	Myo	Block [kg]	Rail [kg/m]
				d	D	h									
15	9.5	15	60	4.5	7.5	5.3	20	3000	4.48	7.23	0.04	0.03	0.03	0.1	1.45
20	12	17.5	60	6	9.5	8.5	20	4000	7.65	13.5	0.12	0.1	0.1	0.19	2.2
23	12.5	21.8	60	7	11	9	20	4000	11.29	21.1	0.19	0.17	0.17	0.32	3.1

① C (Basic dynamic load rating), Co (Basic static load rating)

② \*Q2: The hole of side grease nipple is not made to prevent a foreign substance from going into inside. When you order the side grease nipple, we build it by ourselves.

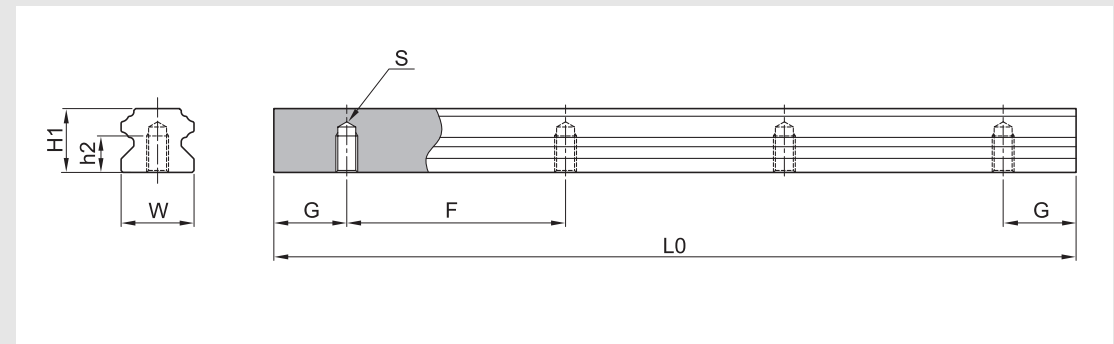
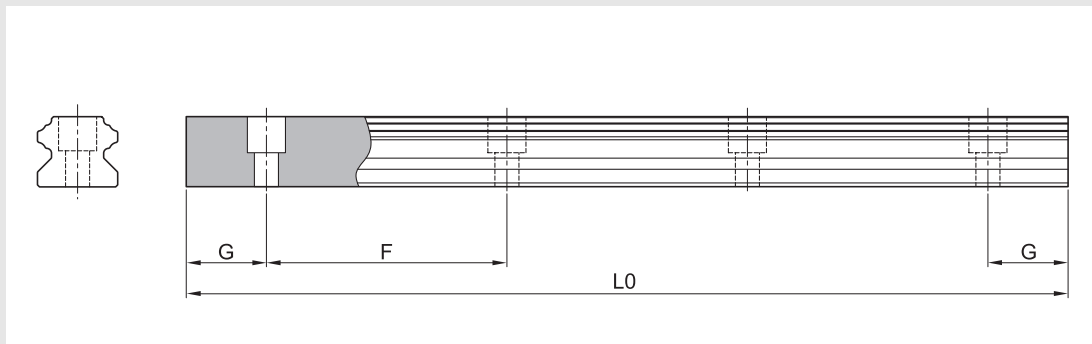


**SBG Standard Linear Rail System**

**SBG Standard Linear Rail System**

Standard and Max. Length of SBG rail

Bottom mounting rail (SBG-B type)



(Unit : mm)

(Unit : mm)

Model number	SBG15	SBG20	SBG25	SBG30	SBG35	SBG45	SBG55	SBG65
Standard length	160	220	220	280	280	570	780	1270
	220	280	280	440	440	885	900	1570
	280	240	340	600	600	1095	1020	2020
	340	460	460	760	760	1200	1140	2470
	460	640	640	1000	1000	1410	1260	2620
	640	820	820	1240	1240	1620	1380	2920
	820	1000	1000	1480	1480	1830	1500	3070
	1000	1240	1240	1640	1640	2040	1620	4000
	1240	1480	1480	1800	1800	2250	1740	
	1480	1600	1600	2040	2040	2460	1860	
	1600	1840	1840	2200	2200	2985	1980	
	1960	2080	2080	2520	2520	3510	2220	
	2200	2200	2200	2840	2840	4000	2580	
	2500	2500	2500	3000	3000		2940	
	2860	2960	2980	3480	3480		3540	
3000	3520	3520	4000	4000		4000		
	4000	4000						
F	60	60	60	80	80	105	120	150
G	20	20	20	20	20	22.5	30	35
L0(Max length)	3,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000

Model number	W1	H1	S	h2	G	F	L0 (Max length)	Weight (kg/m)
SBG 15-B	15	15	M5x0.8	8	20	60	3,000	1.53
SBG 20-B	20	17.5	M6	10	20	60	4,000	2.28
SBG 25-B	23	21.8	M6	12	20	60	4,000	3.21
SBG 30-B	28	25	M8	15	20	80	4,000	4.58
SBG 35-B	34	29	M8	17	20	80	4,000	6.62
SBG 45-B	45	38	M12	24	22.5	105	4,000	11.43

\* The rail for SBG(S), SPG(S) is identical

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

\* The rail for SBG(S), SPG(S) is identical.

\* If the maximum length exceeds this size, butt joints can be supplied.

\* For more information about butt jointing, please refer to the page of safety design.

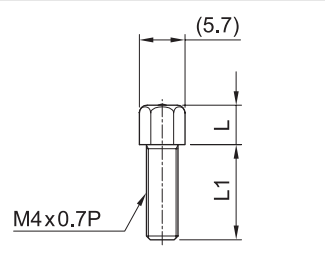
\* If the G is not standard, please indicate it in the order sheet.

**SBG Standard Linear Rail System**

**SBG Standard Linear Rail System**

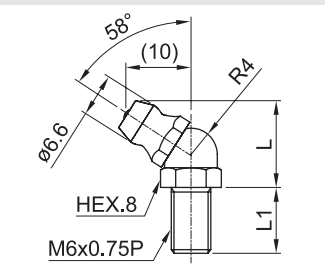
(1) Standard grease fitting (Front grease fitting)

(Unit : mm)



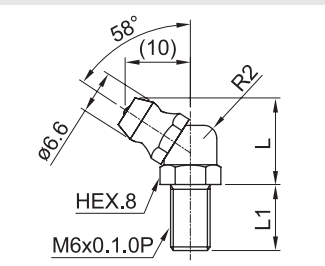
Specification		M4x0.7P		
Applied model	Grease fitting model	Symbol	L	L1
SBG(S) 15	1N	None	7	6
	1D	DD, ZZ	5	9
	1Z	KK	5	11
	1F	MF	5	13

(Unit : mm)



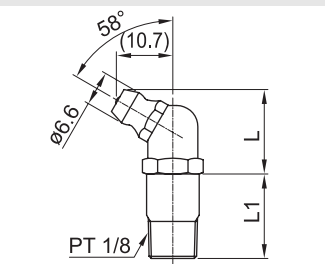
Specification		M6x0.75P, Asia type		
Applied model	Grease fitting model	Symbol	L	L1
SBG(S) 20~35	IA2N	None	14	8
	IA2D	DD, ZZ	14	10
SPG(S) 20~35	IA2Z	KK, MF	14	13
	IA2F	MFDD, MFZZ, MFKK	14	18

(Unit : mm)



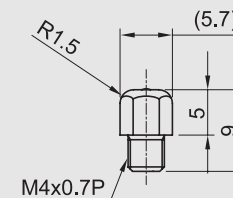
Specification		M6x1.0P, Europe type		
Applied model	Grease fitting model	Symbol	L	L1
SBG(S) 20~35	IE2N	None	14	8
	IE2D	DD, ZZ	14	10
SPG(S) 20~35	IE2Z	KK, MF	14	13
	IE2F	MFDD, MFZZ, MFKK	14	18

(Unit : mm)

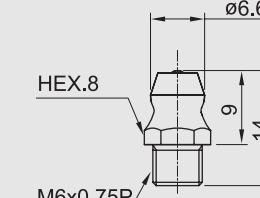


Specification		PT 1/8		
Applied model	Grease fitting model	Symbol	L	L1
SBG(S) 45~65	4N	None	17	13
	4D	DD, KK, ZZ	17	16
	4Z	MF	17	21
	4F	MFDD, MFKK, MFZZ	17	24

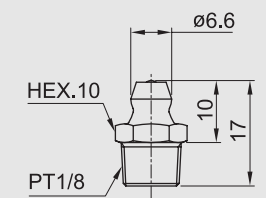
(2) Side grease fitting



Specification	M4x0.7P
Applied model	SBG(S) 15
Grease fitting model	S1N

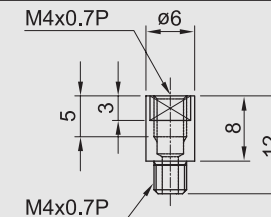


Specification	M6x0.75P
Applied model	SBG(S) 20~45
Grease fitting model	S3N

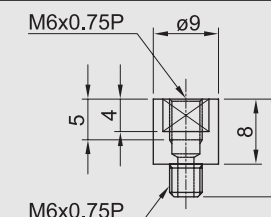


Specification	PT1/8
Applied model	SBG 55~65
Grease fitting model	S4N

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



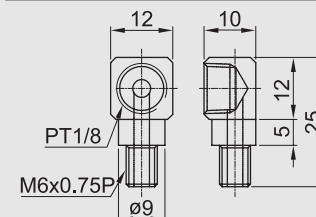
Specification	M4x0.7P
Applied model	SBG(S) 15
Grease fitting model	S1C



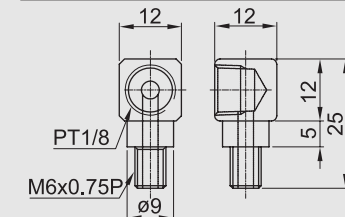
Specification	M6x0.75P
Applied model	SBG(S) 20, 25, 30, 35, 45
Grease fitting model	S4C

\* For size 30~45, two pieces of FS nipple connector are applied.

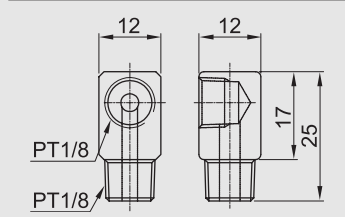
(4) Copper pipe



Input size	PT1/8
Output size	M6x0.75P
Applied model	SBG(S), SPG(S) 20
Grease fitting model	S2P



Input size	PT1/8
Output size	M6x0.75P
Applied model	SBG(S), SPG(S) 25~35
Grease fitting model	S3P

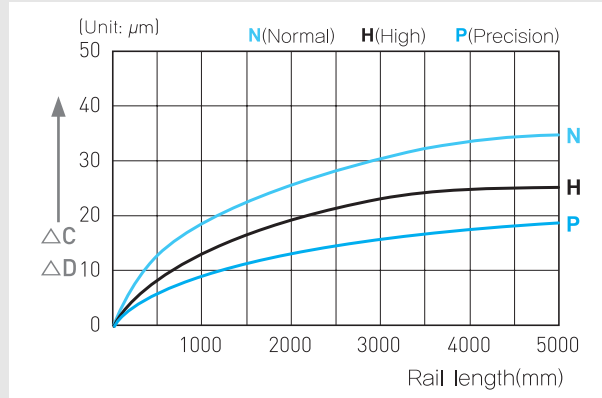
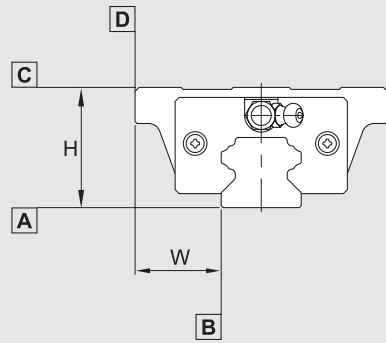


Input size	PT1/8
Output size	PT1/8
Applied model	SBG(S) 45~65
Grease fitting model	S4P

**SBG Standard Linear Rail System**

**SBG Standard Linear Rail System**

**Accuracy**



(Unit : mm)

Item	N	H	P
Tolerance for the height <b>H</b>	±0.1	±0.04	±0.02
Tolerance for the rail-to-block lateral distance <b>W2</b>	±0.1	±0.04	±0.02
Tolerance for the height <b>H</b> difference among blocks	0.03	0.015	0.007
Tolerance for rail-to-block lateral distance <b>W2</b> distance among blocks	0.03	0.015	0.007
Running parallelism of surface <b>C</b> with surface <b>A</b>		ΔC	
Running parallelism of surface <b>D</b> with surface <b>B</b>		ΔD	

● **N** : Normal    ● **H** : High    ● **P** : Precision

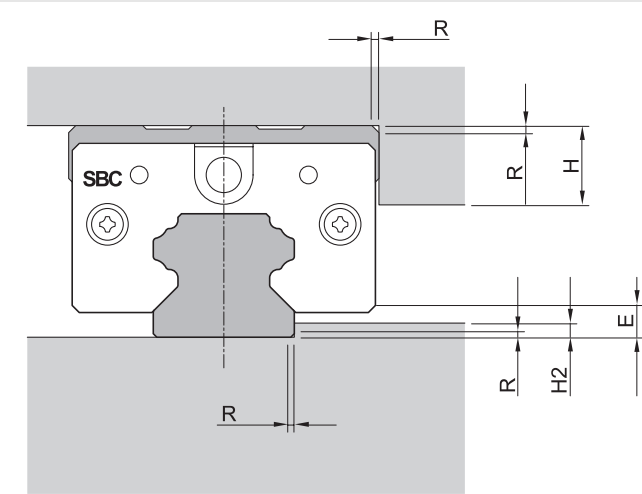
**Preload**

Reference	Volume of preload
K1 (Normal)	0.00 ~ 0.02C
K2 (Light)	0.04 ~ 0.06C
K3 (Heavy)	0.08 ~ 0.10C

● C(kN) : Basic dynamic load rating

※ "K3" Preload is not available for SBG, SBS 15 type

**Shoulder height and fillet radius R**



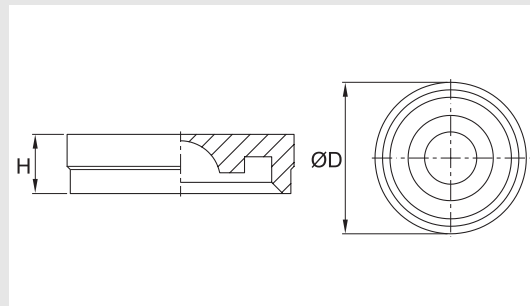
(Unit : mm)

Model number	Fillet radius R	Shoulders height H1	Shoulders height H2	E
15	0.5	4	2	3
20	0.5	5	2.5	3.5
25	1.0	5	3.5	6.5
30	1.0	5	4.5	7
35	1.0	6	6	7.5
45	1.0	8	8	10
55	1.5	8	8	13
65	1.5	10	10	17.5

**SBG Standard Linear Rail System**

**SBG Standard Linear Rail System**

**RC Cap**

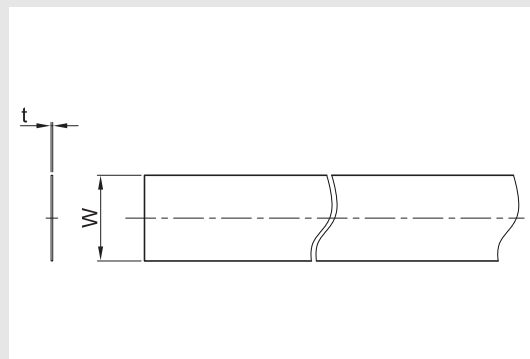


(Unit : mm)

Model	D±0.1	H±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 SBG 30, 35 rail.
- SBI, SBG type use same RC cap.

**ST Tape**



(Unit : mm)

Model	W	t
ST 15	8.3	0.1
ST 20	11	0.1
ST 25	13	0.1
ST 30	17	0.1
ST 35	21	0.1
ST 45	30	0.1
ST 55	34	0.1
ST 65	40	0.1

Ordering example : **ST15 - 1000L**

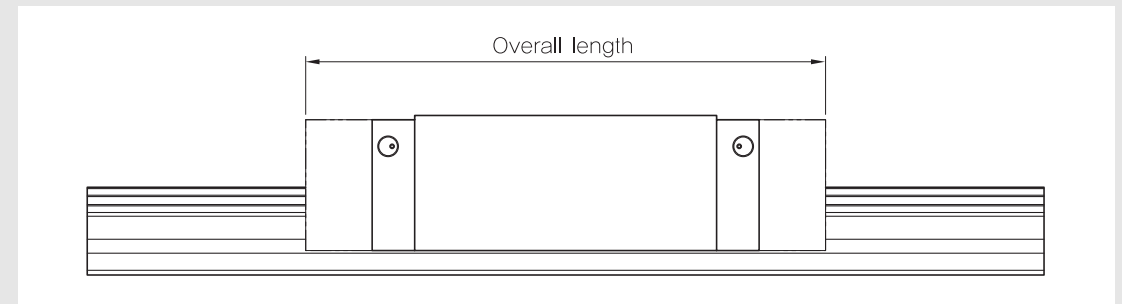
①    ②

- ① Model number
- ② Length

- Equivalent rail is used for SBG, SBS, SPG, SPS

**Seal and MF container**

[Method and overall length with each seal]



• E : End seal    S : Scraper    F : MF (Self lubricant) (Unit : mm)

Additional seal	Standard	DD	ZZ	KK	MF	MFDD	MFZZ	MFKK
Indication of seal	E	E+E	E+S	E+E+S	F+E	F+E+E	F+E+S	F+E+E+S
Overall length with seal	15	60.8	66.8	65.2	71.2	-	-	-
	15V	44.9	50.9	49.3	55.3	-	-	-
	20	77.2	83.6	82.6	89	93.2	99.6	98.6
	20L	93.2	99.6	98.6	105	109.2	115.6	114.6
	20V	54.2	60.6	59.6	66	70.2	76.6	75.6
	25	86.9	93.3	92.7	99.1	102.9	109.3	108.7
	25L	106.4	112.8	112.2	118.6	122.4	128.8	128.2
	25V	62.6	69	68.4	74.8	78.6	85	84.4
	30	100	104.6	105.4	110	116	120.6	121.4
	30L	122.5	127.1	127.9	132.5	138.5	143.1	143.9
	35	112.6	117.2	117.4	122	128.6	133.2	133.4
	35L	138.1	142.7	142.9	147.5	154.1	158.7	158.9
	45	140.3	145.1	145.2	150	156.3	161.1	161.2
	45L	172.3	177.1	177.2	182	188.3	193.1	193.2
	55	166.8	172.8	170.4	176.4	-	-	-
	55L	204.8	210.8	208.4	214.4	-	-	-
65	195.2	201.2	202.4	208.4	-	-	-	
65L	255.2	261.2	262.4	268.4	-	-	-	

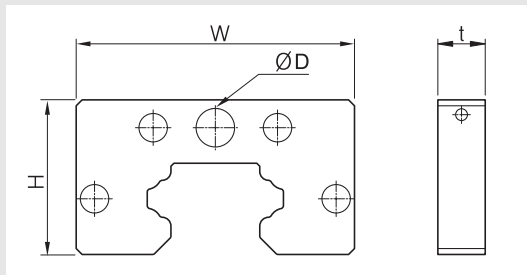
- Bottom seal of SBG(S) type is integrated with bottom retainer. (Except SBG, SBS15)
- If block is assembled with MF container, the grease fitting is not supplied. If you would like to feed the grease to the block, please order side grease fitting type.

**SBG Standard Linear Rail System**

**SBG Standard Linear Rail System**

[Dimension of MF container]

(Unit : mm)



Reference	Model	W	t	H	D
MF	20	43	8	24	6.5
	25	47	8	26.1	6.5
	30	59	8	34.5	6.5
	35	68	8	40	6.5
	45	84	8	49	8.5

※ Container is available for SBG(S), SPG(S) 20-45

[Seal resistance]

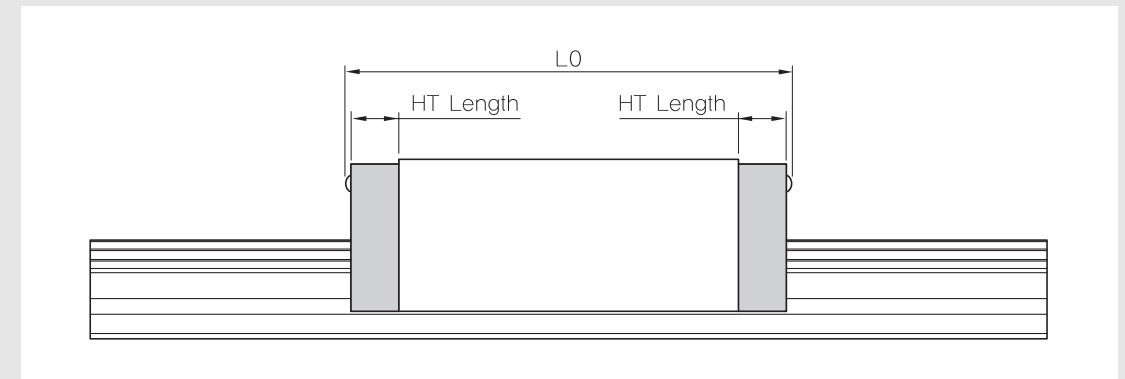
For the maximum value of seal resistance of SBG standard type per block, in which grease is not applied.

※ Scraper has no resistance because it is not contacting rail.

(Unit : N)

Model	End seal	MF
SBG 15	1.96	-
SBG 20	2.58	1.61
SBG 25	3.92	4.21
SBG 30	7.84	6.37
SBG 35	11.76	7.06
SBG 45	19.6	7.35
SBG 55	19.6	-
SBG 65	34.3	-

HT high temperature end plate



(Unit : mm)

Reference	HT Length	Overall length					
		Applied model	LO	Applied model	LO	Applied model	LO
HT 15	8	SBG(S) 15	54.8	-	-	SBS 15V	38.9
HT 20	10	SBG(S) 20	70.8	SBG(S) 20L	86.8	SBS 20V	47.8
HT 25	10.5	SBG(S) 25	83.9	SBG(S) 25L	103.4	SBS 25V	59.6
HT 30	11.5	SBG(S) 30	98.4	SBG(S) 30L	120.9	-	-
HT 35	12	SBG(S) 35	110.4	SBG(S) 35L	135.9	-	-
HT 45	16	SBG(S) 45	138	SBG(S) 45L	170	-	-
HT 55	18	SBG(S) 55	162	SBG(S) 55L	200	-	-
HT 65	18	SBG(S) 65	194	SBG(S) 65L	254	-	-

Ordering example : **SBG25FL - 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

※ All plastic components are replace with steel or aluminum in the High Temperature Blocks.

※ Side grease fitting is not available for high temperature end plates

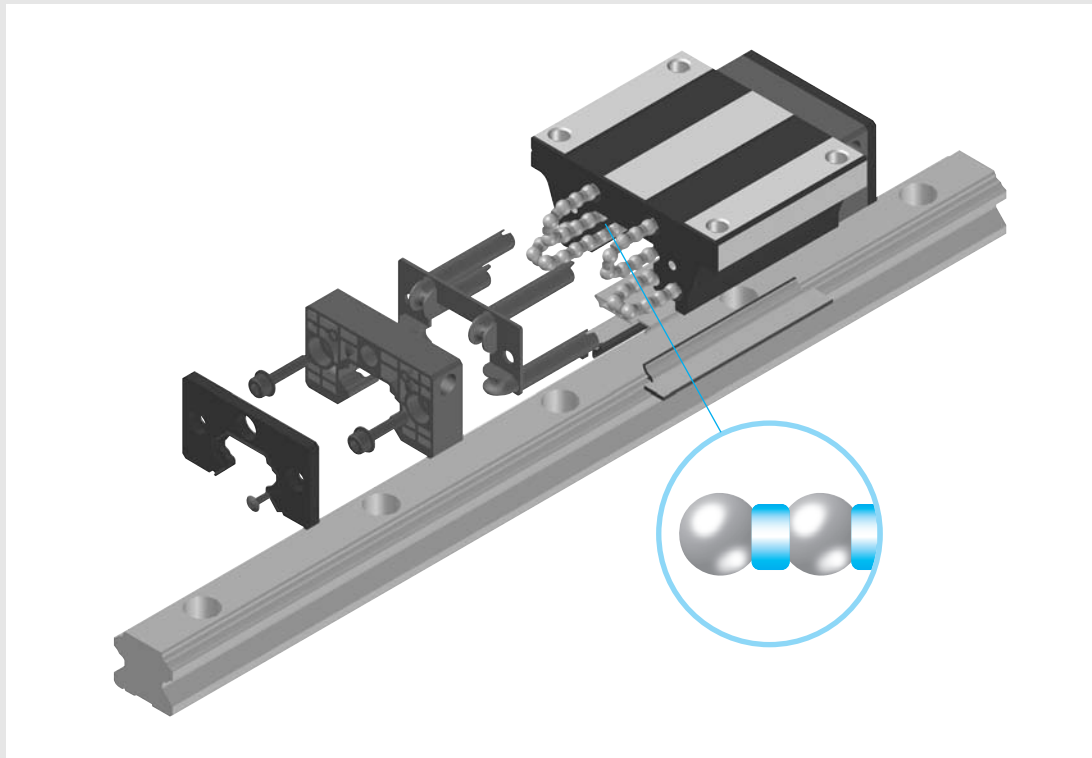
**Grease and nipple specification**

[Grease]

SBG uses two types of grease according to working conditions. For details, please see the technical data for grease.

**SPG / SPS Spacer Linear Rail System**

**SPG / SPS Spacer Linear Rail System**



**[Design feature]**

SPG, SPS type is ball spacer inserted type between balls. This spacer minimizes the noise level by eliminating metal to metal contact and storing grease which provides long term, maintenance free operation.

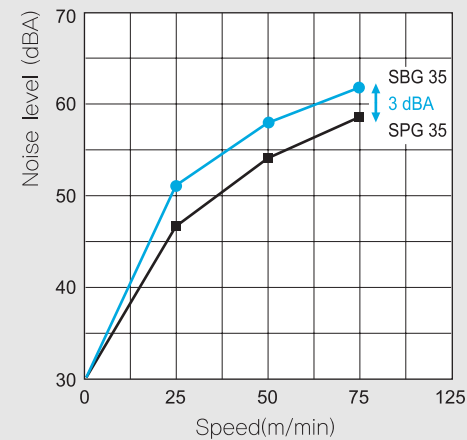
**[Using SBG standard rail]**

SPG, SPS type are using SBG standard rail.

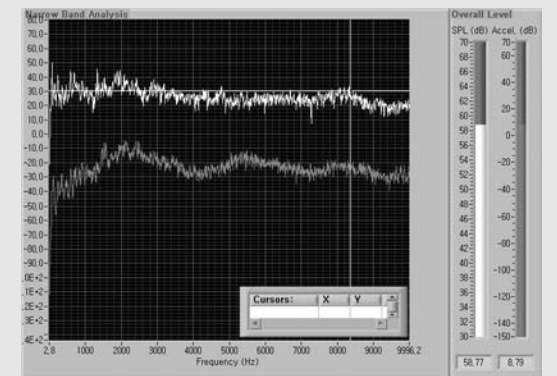
**[Dimensionally interchangeable with SBG type]**

SPG/SPS spacer series blocks are dimensionally interchangeable with SBG/SBS blocks.

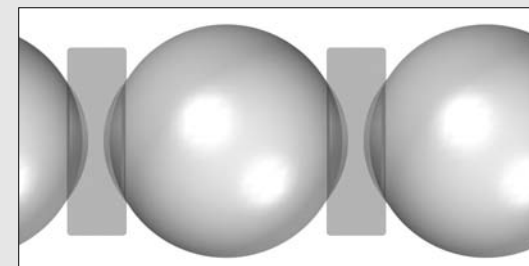
**[Noise level test for SBG35 and SPG35]**



(Comparison of noise level)



(SPG35 1.3m/sec)



**[Grease retention]**

The spacers provide grease storage areas providing long term, maintenance free operation.

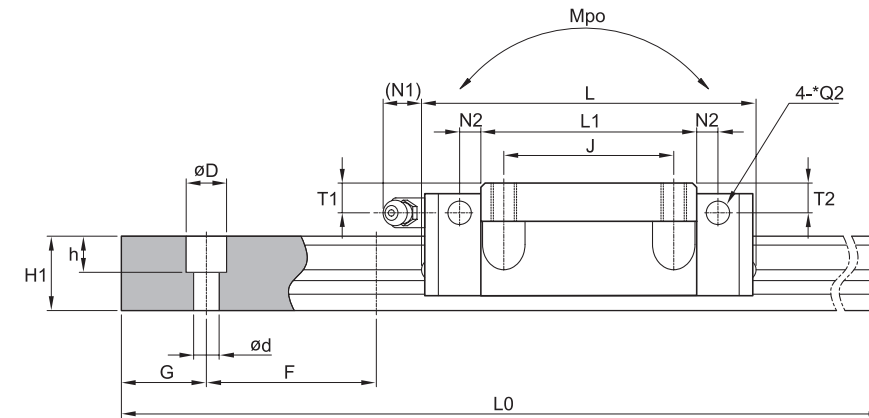
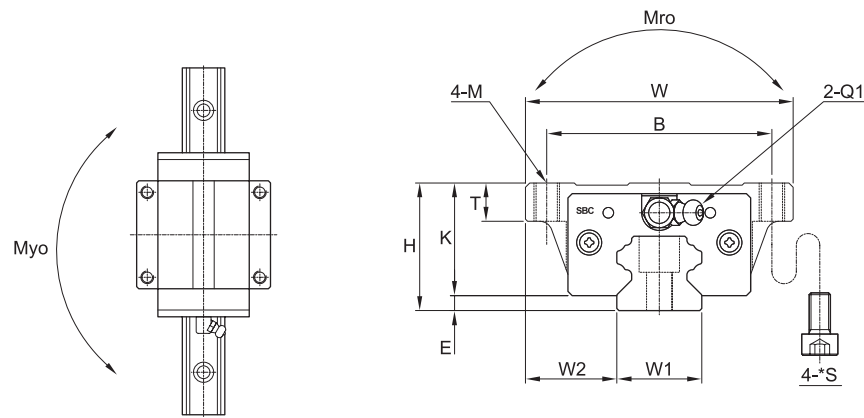
**[Ordering example]**

Ordering example for SPG/SPS type are identical with SBG type ordering. Therefore, please see the ordering example for SBG type.

SPG / SPS Spacer Linear Rail System

SPG / SPS Spacer Linear Rail System

SPG-FL/FLL



(Unit : mm)

Model	Mounting dimension				Block dimensions												
	H	W	L	E	Mounting tap hole				L1	T	K	Grease fitting					
					B	J	M	*S				T1	N1	T2	N2	Q1	*Q2
SPG20 FL	30	63	77.2	3.5	53	40	M6	M5	50.8	9	26.5	7	11.7	7	5	M6x0.75	Ø6
SPG20 FLL	30	63	93.2	3.5	53	40	M6	M5	66.8	9	26.5	7	11.7	7	5	M6x0.75	Ø6
SPG25 FL	36	70	86.9	6.5	57	45	M8	M6	59.5	10	29.5	8.2	11.7	8.1	5.5	M6x0.75	Ø6
SPG25 FLL	36	70	106.4	6.5	57	45	M8	M6	79	10	29.5	8.2	11.7	8.1	5.5	M6x0.75	Ø6
SPG30 FL	42	90	100	7	72	52	M10	M8	70.4	12	35	8.5	11.7	8.5	5.5	M6x0.75	Ø6
SPG30 FLL	42	90	122.5	7	72	52	M10	M8	92.9	12	35	8.5	11.7	8.5	5.5	M6x0.75	Ø6
SPG35 FL	48	100	112.6	7.5	82	62	M10	M8	80.4	13	40.5	8	11.7	8	6	M6x0.75	Ø6
SPG35 FLL	48	100	138.1	7.5	82	62	M10	M8	105.9	13	40.5	8	11.7	8	6	M6x0.75	Ø6

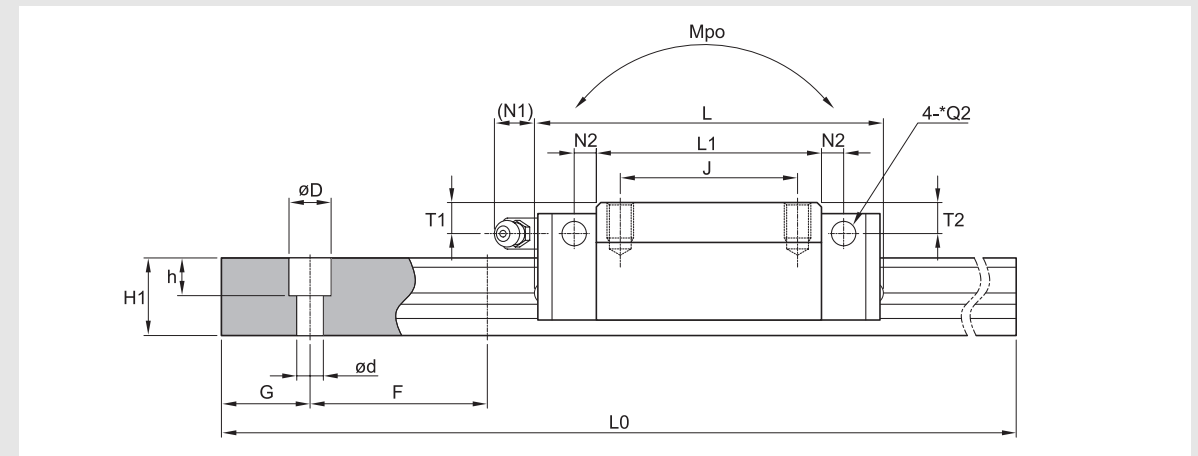
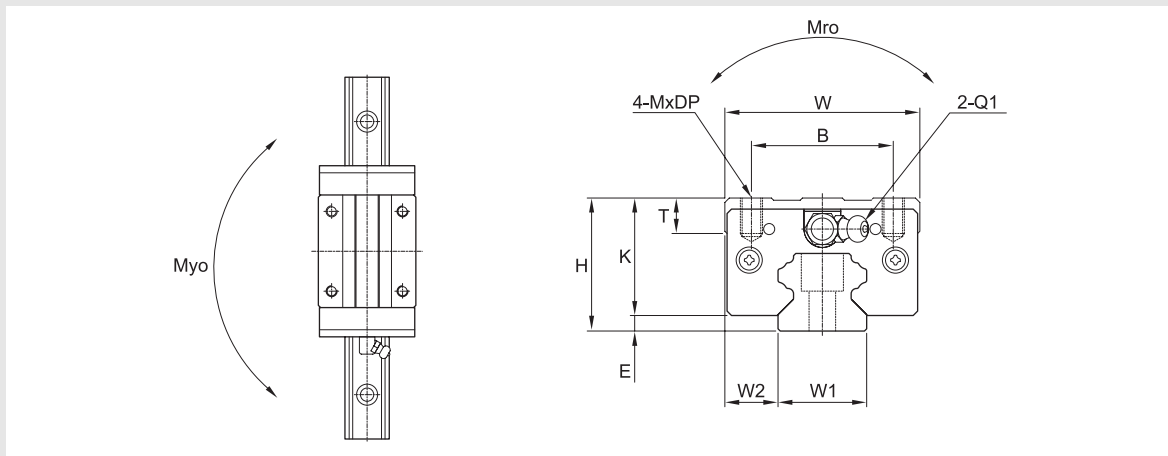
Rail dimension									Basic load rating		Permissible static moment			Mass	
W1	W2	H1	F	Bolt hole			G	Max length of rail L0	C	Co	Mro	Mpo	Myo	Block [kg]	Rail [kg/m]
				d	D	h									
20	21.5	17.5	60	6	9.5	8.5	20	4000	14.2	25	0.22	0.18	0.18	0.42	2.2
20	21.5	17.5	60	6	9.5	8.5	20	4000	16.9	36.5	0.28	0.31	0.31	0.54	2.2
23	23.5	21.8	60	7	11	9	20	4000	20.9	39.2	0.35	0.31	0.3	0.62	3.1
23	23.5	21.8	60	7	11	9	20	4000	24.6	48	0.43	0.49	0.48	0.78	3.1
28	31	25	80	9	14	12	20	4000	29.2	53.8	0.59	0.49	0.48	1.1	4.45
28	31	25	80	9	14	12	20	4000	35.3	67.9	0.74	0.79	0.78	1.44	4.45
34	33	29	80	9	14	12	20	4000	38.8	68.6	0.94	0.74	0.72	1.57	6.4
34	33	29	80	9	14	12	20	4000	46	90.4	1.24	1.3	1.28	2.14	6.4

- ① C (Basic dynamic load rating), Co (Basic static load rating)
- ② \*S: Bolt size for bottom mounting type of block.
- ③ \*Q2: The hole of side grease nipple is not made to prevent a foreign substance from going into inside.  
When you order the side grease nipple, we build it by ourselves.

SPG / SPS Spacer Linear Rail System

SPG / SPS Spacer Linear Rail System

SPG-SL/SL



(Unit : mm)

Model	Mounting dimension				Block dimensions													
	H	W	L	E	Mounting tap hole				L1	T	K	Grease fitting						Ø6
					B	J	M	DP				T1	N1	T2	N2	Q1	*Q2	
SPG20 SL	30	44	77.2	3.5	32	36	M5	8	50.8	8	26.5	8	11.7	7	5	M6x0.75	Ø6	
SPG20 SLL	30	44	93.2	3.5	32	50	M5	8	66.8	8	26.5	8	11.7	7	5	M6x0.75	Ø6	
SPG25 SL	40	48	86.9	6.5	35	35	M6	8	59.5	12	33.5	12	11.7	12.2	5.5	M6x0.75	Ø6	
SPG25 SLL	40	48	106.4	6.5	35	50	M6	8	79	12	33.5	12	11.7	12.2	5.5	M6x0.75	Ø6	
SPG30 SL	45	60	100	7	40	40	M8	10	70.4	12	38	12	11.7	11.5	5.5	M6x0.75	Ø6	
SPG30 SLL	45	60	122.5	7	40	60	M8	10	92.9	12	38	12	11.7	11.5	5.5	M6x0.75	Ø6	
SPG35 SL	55	70	112.6	7.5	50	50	M8	12	80.4	15	47.5	15	11.7	15	6	M6x0.75	Ø6	
SPG35 SLL	55	70	138.1	7.5	50	72	M8	12	105.9	15	47.5	15	11.7	15	6	M6x0.75	Ø6	

Rail dimension									Basic load rating		Permissible static moment			Mass	
W1	W2	H1	F	Bolt hole			G	Max length of rail L0	C	Co	Mro	Mpo	Myo	Block [kg]	Rail [kg/m]
				d	D	h									
20	12	17.5	60	6	9.5	8.5	20	4000	14.2	25	0.22	0.18	0.18	0.33	2.2
20	12	17.5	60	6	9.5	8.5	20	4000	16.9	36.5	0.28	0.31	0.31	0.45	2.2
23	12.5	21.8	60	7	11	9	20	4000	20.9	39.2	0.35	0.31	0.3	0.56	3.1
23	12.5	21.8	60	7	11	9	20	4000	24.6	48	0.43	0.49	0.48	0.73	3.1
28	16	25	80	9	14	12	20	4000	29.2	53.8	0.59	0.49	0.48	0.98	4.45
28	16	25	80	9	14	12	20	4000	35.3	67.9	0.74	0.79	0.78	1.28	4.45
34	18	29	80	9	14	12	20	4000	38.8	68.6	0.94	0.74	0.72	1.63	6.4
34	18	29	80	9	14	12	20	4000	46	90.4	1.24	1.3	1.28	2.12	6.4

① C (Basic dynamic load rating), Co (Basic static load rating)

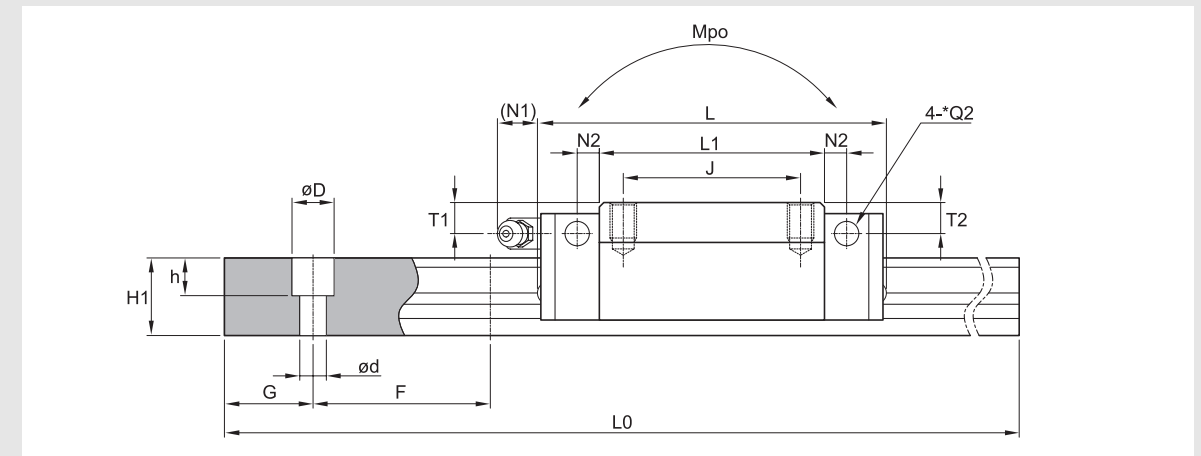
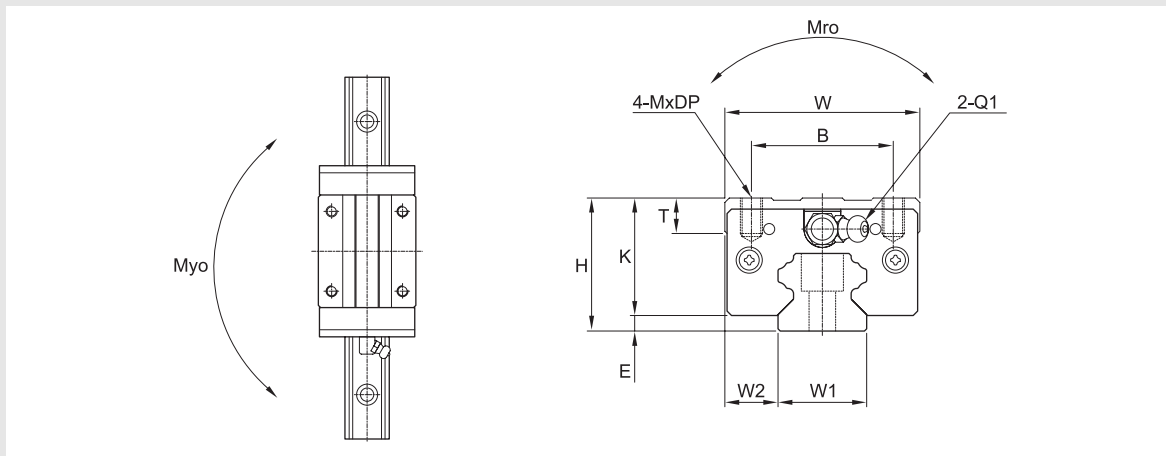
② \*Q2: The hole of side grease nipple is not made to prevent a foreign substance from going into inside.  
When you order the side grease nipple, we build it by ourselves.



SPG / SPS Spacer Linear Rail System

SPG / SPS Spacer Linear Rail System

SPS-SL, HL/SLL, HL



(Unit : mm)

Model	Mounting dimension				Block dimensions												
	H	W	L	E	Mounting tap hole				L1	T	K	Grease fitting					
					B	J	M	DP				T1	N1	T2	N2	Q1	*Q2
SPS20 SL	28	44	77.2	3.5	32	32	M5	7	50.8	7.5	24.5	5	11.7	5	5	M6x0.75	Ø6
SPS20 SLL	28	44	93.2	3.5	32	50	M5	7	66.8	7.5	24.5	5	11.7	5	5	M6x0.75	Ø6
SPS25 SL	33	48	86.9	6.5	35	35	M6	6	59.5	8	26.5	5.2	11.7	5.1	5.5	M6x0.75	Ø6
SPS25 SLL	33	48	106.4	6.5	35	50	M6	6	79	8	26.5	5.2	11.7	5.1	5.5	M6x0.75	Ø6
SPS25 HL	36	48	86.9	6.5	35	35	M6	8	59.5	11	29.5	8.2	11.7	8.1	5.5	M6x0.75	Ø6
SPS25 HLL	36	48	106.4	6.5	35	50	M6	8	79	11	29.5	8.2	11.7	8.1	5.5	M6x0.75	Ø6
SPS30 SL	42	60	100	7	40	40	M8	10	70.4	12	35	8.5	11.7	8.5	5.5	M6x0.75	Ø6
SPS30 SLL	42	60	122.5	7	40	60	M8	10	92.9	12	35	8.5	11.7	8.5	5.5	M6x0.75	Ø6
SPS35 SL	48	70	112.6	7.5	50	50	M8	12	80.4	15	40.5	8	11.7	8	6	M6x0.75	Ø6
SPS35 SLL	48	70	138.1	7.5	50	72	M8	12	105.9	15	40.5	8	11.7	8	6	M6x0.75	Ø6

Rail dimension									Basic load rating		Permissible static moment			Mass	
W1	W2	H1	F	Bolt hole			G	Max length of rail L0	C	Co	Mro	Mpo	Myo	Block [kg]	Rail [kg/m]
				d	D	h									
20	12	17.5	60	6	9.5	8.5	20	4000	14.2	25	0.22	0.18	0.18	0.33	2.2
20	12	17.5	60	6	9.5	8.5	20	4000	16.9	36.5	0.28	0.31	0.31	0.45	2.2
23	12.5	21.8	60	7	11	9	20	4000	20.9	39.2	0.35	0.31	0.3	0.56	3.1
23	12.5	21.8	60	7	11	9	20	4000	24.6	48	0.43	0.49	0.48	0.73	3.1
23	12.5	21.8	60	7	11	9	20	4000	20.9	39.2	0.35	0.31	0.3	0.98	3.1
23	12.5	21.8	60	7	11	9	20	4000	24.6	48	0.43	0.49	0.48	1.28	3.1
28	16	25	80	9	14	12	20	4000	29.2	53.8	0.59	0.49	0.48	0.98	4.45
28	16	25	80	9	14	12	20	4000	35.3	67.9	0.74	0.79	0.78	1.28	4.45
34	18	29	80	9	14	12	20	4000	38.8	68.6	0.94	0.74	0.72	1.63	6.4
34	18	29	80	9	14	12	20	4000	46	90.4	1.24	1.3	1.28	2.12	6.4

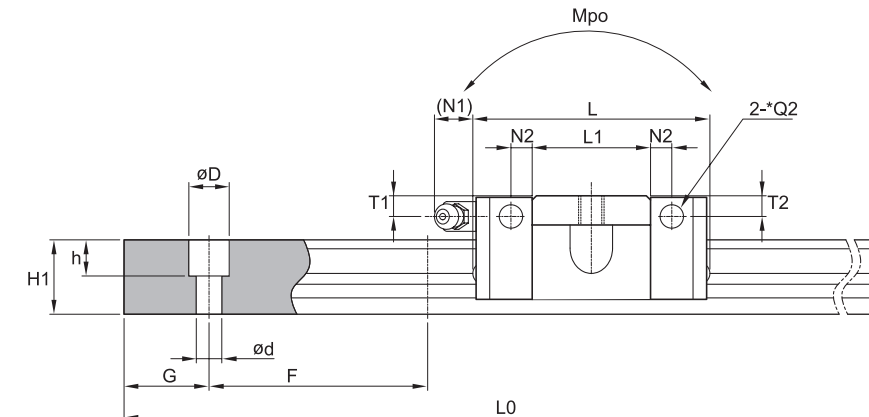
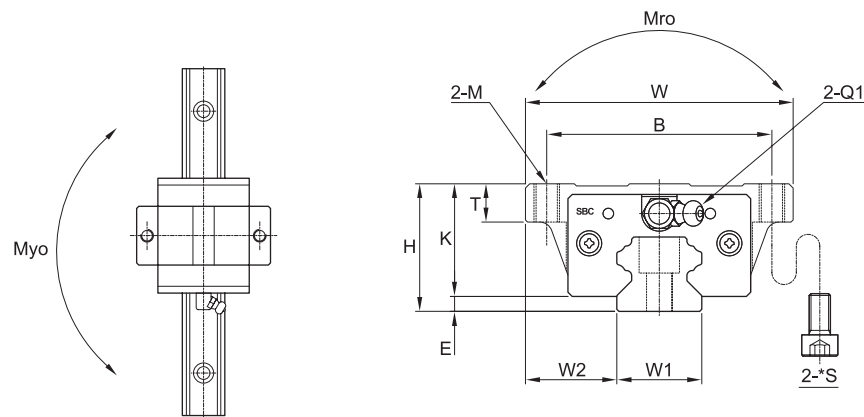
① C (Basic dynamic load rating), Co (Basic static load rating)

② \*Q2: The hole of side grease nipple is not made to prevent a foreign substance from going into inside.  
When you order the side grease nipple, we build it by ourselves.

SPG / SPS Spacer Linear Rail System

SPG / SPS Spacer Linear Rail System

SPS-FV



Model	Mounting dimension				Block dimensions											
	H	W	L	E	Mounting tap hole			L1	T	K	Grease fitting					
					B	M	*S				T1	N1	T2	N2	Q1	*Q2
SPS20 FV	28	63	54.2	3.5	53	M6	M5	27.8	7	24.5	5	11.7	5	5	M6x0.75	Ø6
SPS25 FV	33	70	62.6	6.5	57	M8	M6	35.2	7	26.5	5.2	11.7	5.1	5.5	M6x0.75	Ø6

(Unit : mm)

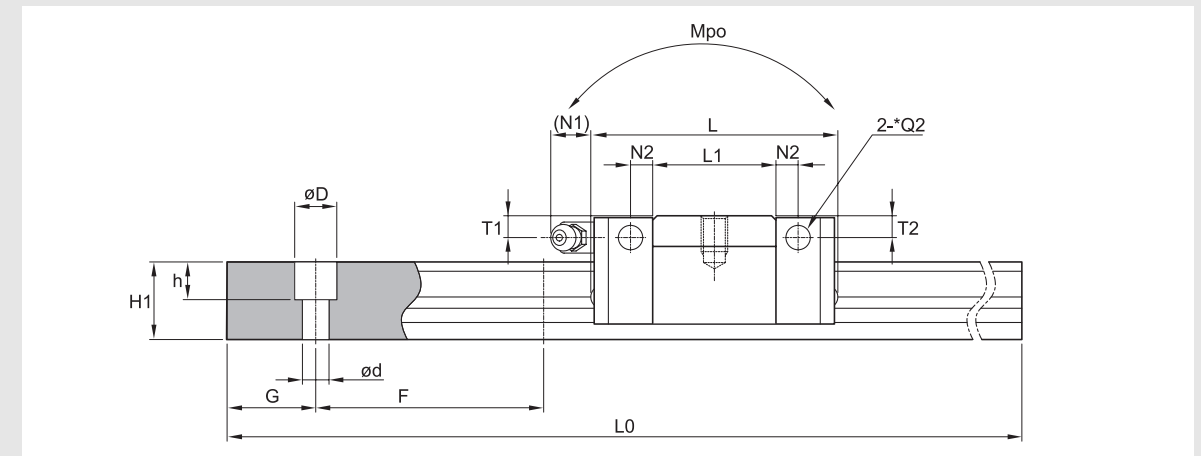
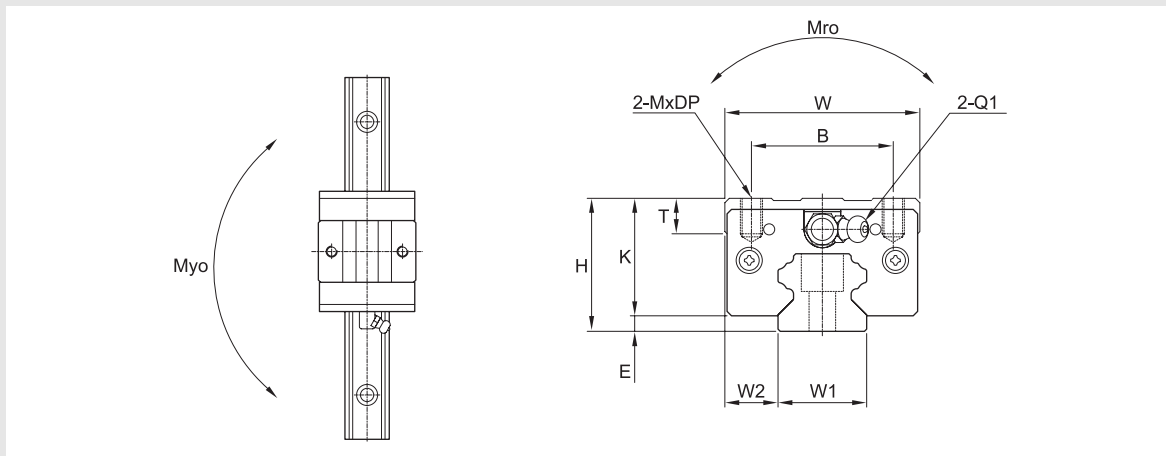
Rail dimension									Basic load rating		Permissible static moment			Mass	
W1	W2	H1	F	Bolt hole			G	Max length of rail L0	C	Co	Mro	Mpo	Myo	Block [kg]	Rail [kg/m]
				d	D	h									
20	21.5	17.5	60	6	9.5	8.5	20	4000	7.65	13.5	0.12	0.1	0.1	0.24	2.2
23	23.5	21.8	60	7	11	9	20	4000	11.29	21.1	0.19	0.17	0.17	0.37	3.1

- ① C (Basic dynamic load rating), Co (Basic static load rating)
- ② \*S: Bolt size for bottom mounting type of block.
- ③ \*Q2: The hole of side grease nipple is not made to prevent a foreign substance from going into inside. When you order the side grease nipple, we build it by ourselves.

SPG / SPS Spacer Linear Rail System

SPG / SPS Spacer Linear Rail System

SPS-SV



(Unit : mm)

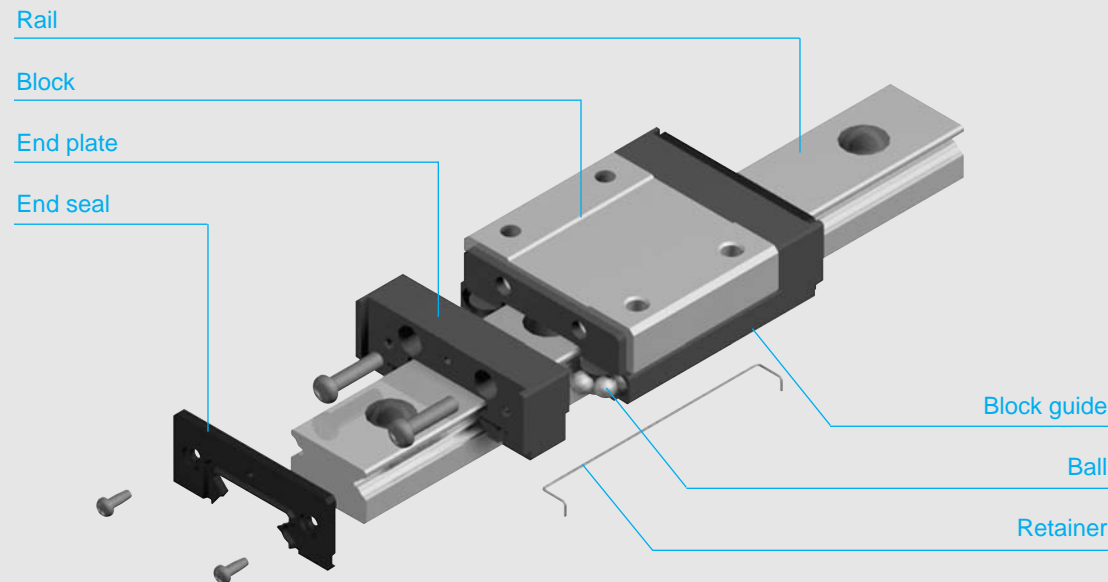
Model	Mounting dimension				Block dimensions											
	H	W	L	E	Mounting tap hole			L1	T	K	Grease fitting					
					B	M	DP				T1	N1	T2	N2	Q1	*Q2
SPS20 SV	28	44	54.2	3.5	32	M5	7	27.8	7.5	24.5	5	11.7	5	5	M6x0.75	Ø6
SPS25 SV	33	48	62.6	6.5	35	M6	6	35.2	8	26.5	5.2	11.7	5.1	5.5	M6x0.75	Ø6

Rail dimension									Basic load rating		Permissible static moment			Mass	
W1	W2	H1	F	Bolt hole			G	Max length of rail L0	C	Co	Mro	Mpo	Myo	Block [kg]	Rail [kg/m]
				d	D	h									
20	12	17.5	60	6	9.5	8.5	20	4000	7.65	13.5	0.12	0.1	0.1	0.19	2.2
23	12.5	21.8	60	7	11	9	20	4000	11.29	21.1	0.19	0.17	0.17	0.32	3.1

- ① C (Basic dynamic load rating), Co (Basic static load rating)
- ② \*Q2: The hole of side grease nipple is not made to prevent a foreign substance from going into inside. When you order the side grease nipple, we build it by ourselves.

**Miniature Linear Rail System**

**Miniature Linear Rail System**



**[Feature of structure]**

SBC Miniature linear rail system utilizes two rows of ball bearings which make four point contact between the rail and block. This design achieves both a slim profile and high rigidity. The special engineered plastic is used for the end-plate allows for long life ball recirculation.

**[Ball retention]**

To retain the ball bearings inside the block, a wire retainer is used between the block and rail. With this retainer, the block can be carefully removed from the rail without losing ball bearings.

**[Low noise]**

With a ball return path made from engineered plastic, contact noise between the balls and block wall is removed, therefore achieving low noise.

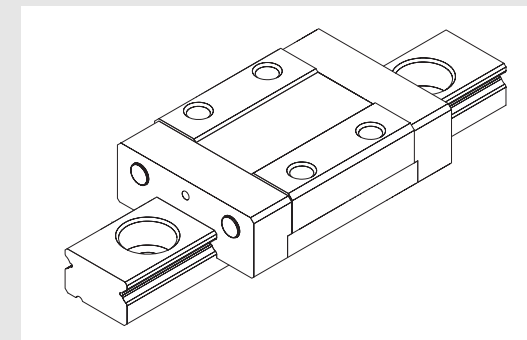
**[Smooth movement]**

The steel block, ball returns, and end caps are carefully engineered to act as a single path enabling smooth operation in both horizontal and vertical applications.

**[Excellent corrosion resistance]**

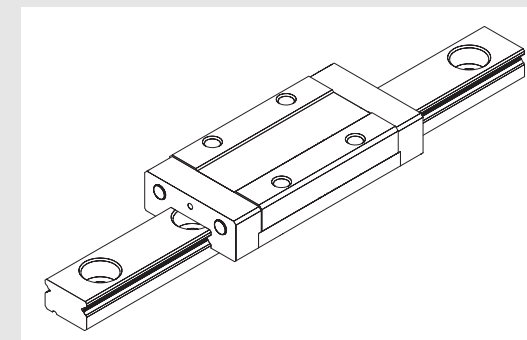
Both the rail and block are made from stainless steel for excellent corrosion resistance. This is ideal for semiconductor, life science, LCD, or other clean room production environments.

**Types and features**



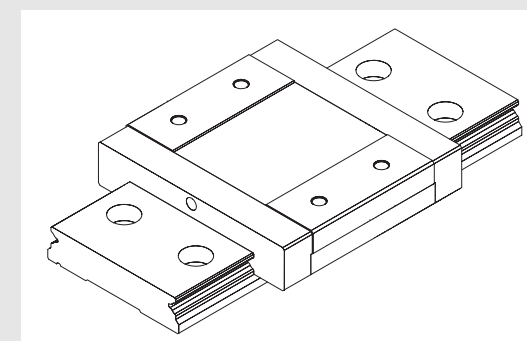
**[SBM type]**

Standard type of miniature.



**[SBML type]**

Block length is modified type to increase load capacity.



**[SBMW type]**

The width and length of linear block and rail are modified to increase load ratings and permissible moments.

Miniature Linear Rail System

Miniature Linear Rail System

Ordering example

[Seal resistance]

**SBM09 – K1**  
[1] [2]

- [1] Model : SBM, SBML, SBMW
- [2] Preload : K1, K2

[Ordering example for rail]

**SBM09 – 600L – B**  
[1] [2] [3]

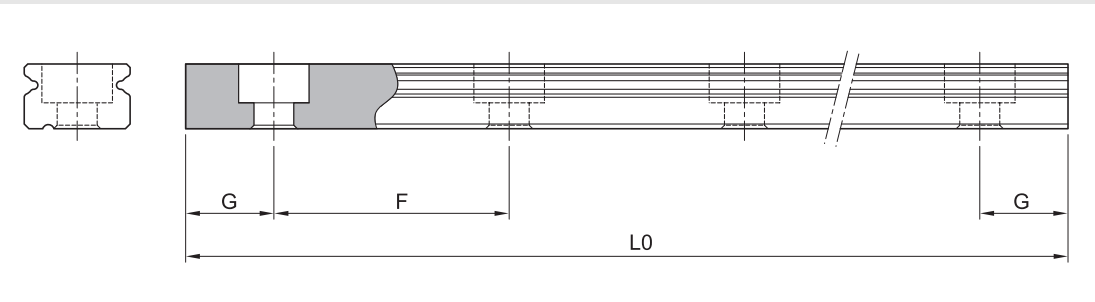
- [1] Model : SBM, SBMW
- [2] Rail length
- [3] Through tap hole rail : Standard (No symbol)  
※ If only rail is ordered, N grade is available.

[Ordering for assembled rail and block]

**SBM09 – 2 – K1 – 600 – N – R – B – II**  
[1] [2] [3] [4] [5] [6] [7] [8]

- [1] Model : SBM, SBML, SBMW
  - [2] Block quantity on rail
  - [3] Preload : K1, K2
  - [4] Rail length
  - [5] Accuracy : N, H, P
  - [6] Surface treatment
  - [7] Through tap hole rail : Standard (No symbol)
  - [8] Rail : Number of rails per axis 1=I, 2=II... 4+IV etc.
- ※ We recommend block and rail assembled to be ordered where high-precision and high-rigidity are required.
- ※ For surface treatment, please mark according to each surface treatment symbol.
- ※ If special G dimension is required, please mark when you place an order.

Standard and Max length



(Unit : mm)

Model number	SBM(L)09	SBM(L)12	SBM(L)15	SBMW09	SBMW12	SBMW15
Standard length	55	70	70	50	70	110
	75	95	110	80	110	150
	95	120	150	110	150	190
	115	145	190	140	190	230
	135	170	230	170	230	270
	155	195	270	200	270	350
	175	220	310	260	350	430
	215	245	350	320	430	510
	255	270	390	380	510	590
	295	320	430	440	590	670
	355	395	470	500	670	750
	415	470	590	560	750	830
	495	545	670	620	830	910
	535	620	830	680	910	990
	615	695	910	740	990	1070
	675	770	990	800	1070	1190
	715	870	1070	860	1190	
	735	970	1190	920		
	795	1020		980		
	875	1195		1040		
955			1100			
995			1190			
1035						
1115						
1195						
F	20	25	40	30	40	40
G	7.5	10	15	15	15	15
L0(Max length)	1195	1195	1190	1190	1190	1190

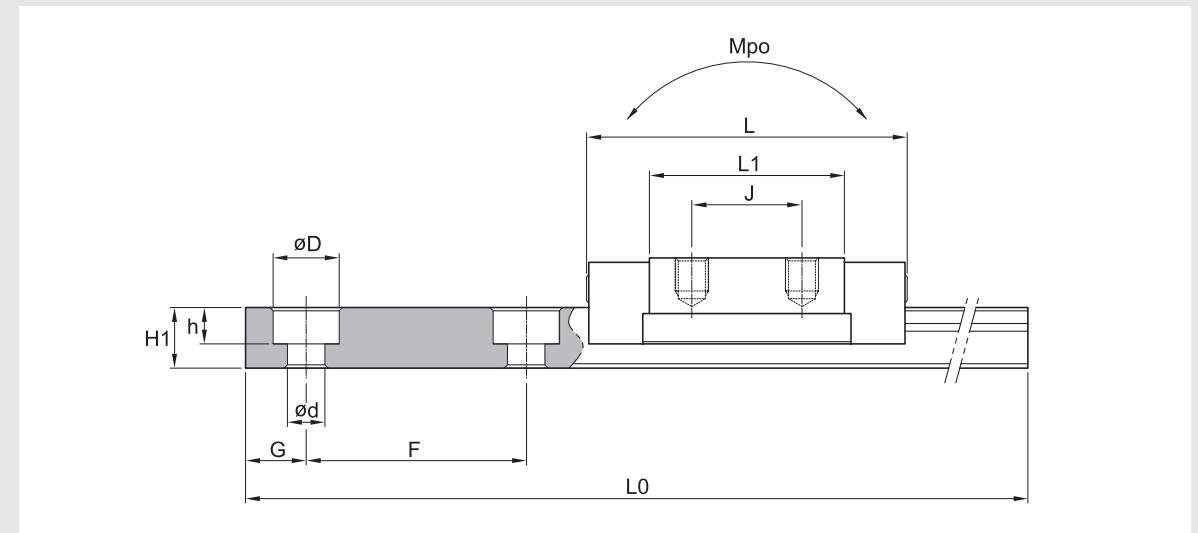
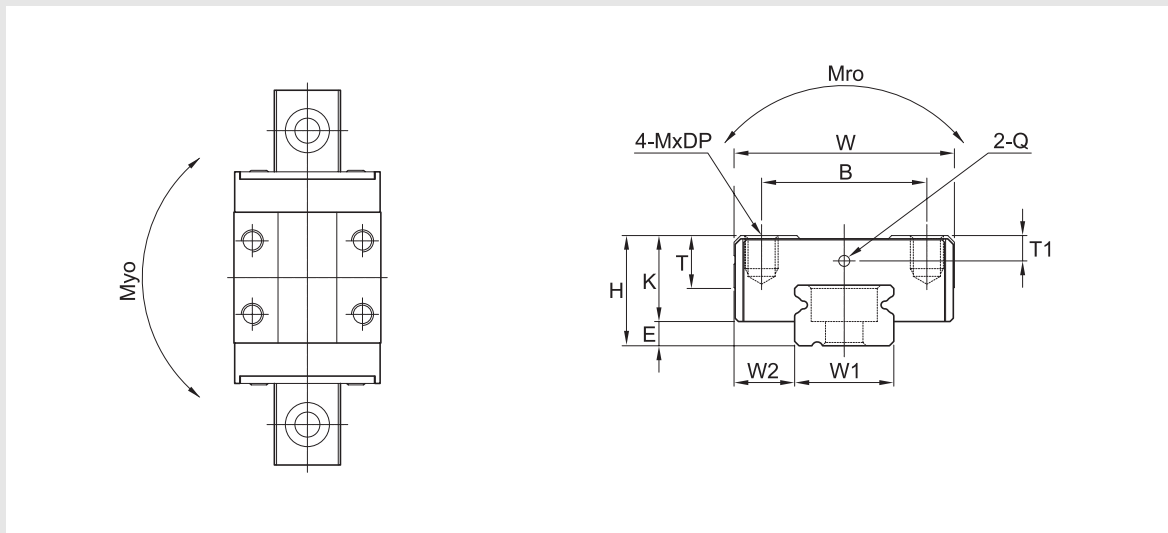
\* SBM, SBML use same rail.

\* If special G dimension is required, please mark when you place an order.

Miniature Linear Rail System

Miniature Linear Rail System

SBM/SBML



(Unit : mm)

Model	Mounting dimension				Block dimensions								
	H	W	L	E	Mounting tap hole				L1	T	K	Greasing hole	
					B	J	M	DP				T1	Q
SBM 09	10	20	30.4	2.2	15	10	M3	3	17.8	5	7.8	2.3	Ø1
SBML 09	10	20	40.8	2.2	15	16	M3	3	28.2	5	7.8	2.3	Ø1
SBM 12	13	27	35	3	20	15	M3	3.5	19.8	6	10	2.8	Ø1
SBML 12	13	27	47.6	3	20	20	M3	3.5	32.6	6	10	2.8	Ø1
SBM 15	16	32	43	4	25	20	M3	4	25.4	7	12	3.1	Ø1
SBML 15	16	32	58.8	4	25	25	M3	4	41.2	7	12	3.1	Ø1

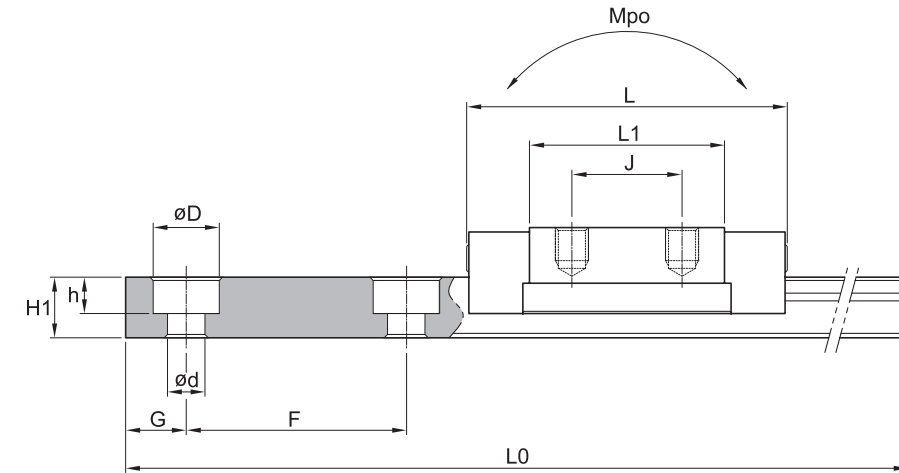
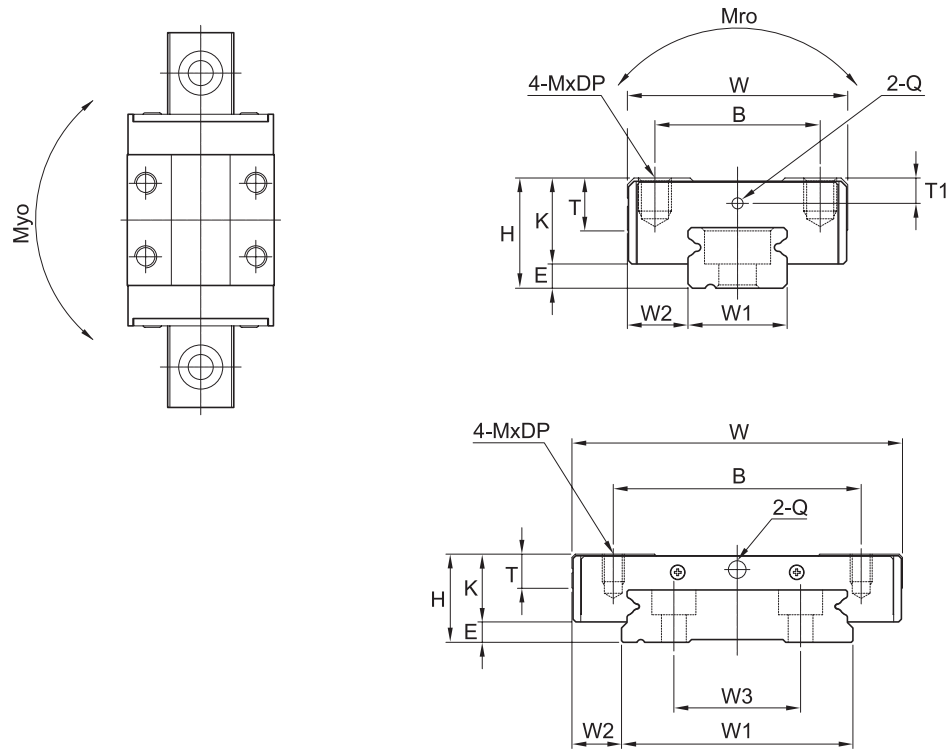
Rail dimension								Basic load rating [kN]		Permissible static moment [N · m]			Mass		
W1	W2	H1	F	Bolt hole			G	Max length of rail L0	C	Co	Mro	Mpo	Myo	Block [kg]	Rail [kg/m]
				d	D	h									
9	5.5	5.5	20	4	6	3.3	7.5	1195	1.4	2.7	12.15	6.01	6.01	0.013	0.32
9	5.5	5.5	20	4	6	3.3	7.5	1195	2.1	4.6	20.7	16.22	16.22	0.023	0.32
12	7.5	7.5	25	4	6	4.5	10	1195	3.3	4.9	29.4	12.13	12.13	0.029	0.59
12	7.5	7.5	25	4	6	4.5	10	1195	5	9.1	54.6	36.86	36.86	0.043	0.59
15	8.5	9.5	40	4	6	4.5	15	1190	4.9	7.5	56.25	23.81	23.81	0.052	0.99
15	8.5	9.5	40	4	6	4.5	15	1190	7.1	12.9	96.75	66.44	66.44	0.079	0.99

① C (Basic dynamic load rating), Co (Basic static load rating)

Miniature Linear Rail System

Miniature Linear Rail System

SBMW



Model	Mounting dimension				Block dimensions								
	H	W	L	E	Mounting tap hole				L1	T	K	Greasing hole	
					B	J	M	DP				T1	Q
SBMW 09	12	30	41	3.7	21	12	M3	3	27	4.5	8.3	2	Ø1.4
SBMW 12	14	40	47.5	4	28	15	M3	3.5	30.9	5	10	2.4	Ø1.6
SBMW 15	16	60	57.5	3.7	45	20	M3	4.5	38.9	6.2	12.3	2.8	Ø3.2

(Unit : mm)

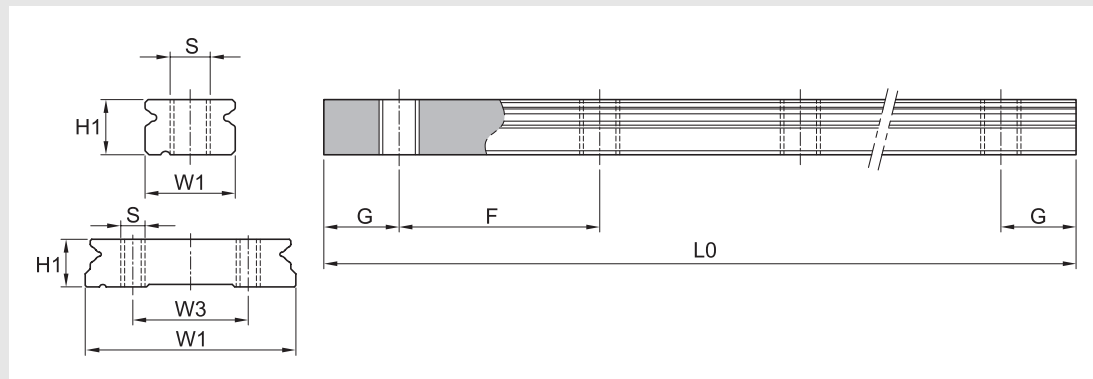
Rail dimension										Basic load rating [kN]		Permissible static moment [N · m]			Mass	
W1	W2	H1	W3	F	Bolt hole			G	Max length of rail L0	C	Co	Mro	Mpo	Myo	Block [kg]	Rail [kg/m]
					d	D	h									
18	6	7.5	-	30	3.5	6	3.5	10	1190	2.45	3.92	36	16.3	16.3	0.03	0.99
24	8	8.5	-	40	4.5	8	4.5	15	1190	4.02	6.08	47.6	17.2	18.6	0.03	1.42
42	9	9.5	23	40	4.5	8	4.5	15	1190	6.66	9.80	137	35.2	38.2	0.12	2.93

① C (Basic dynamic load rating), Co (Basic static load rating)

Miniature Linear Rail System

Miniature Linear Rail System

Miniature through tap hole rail

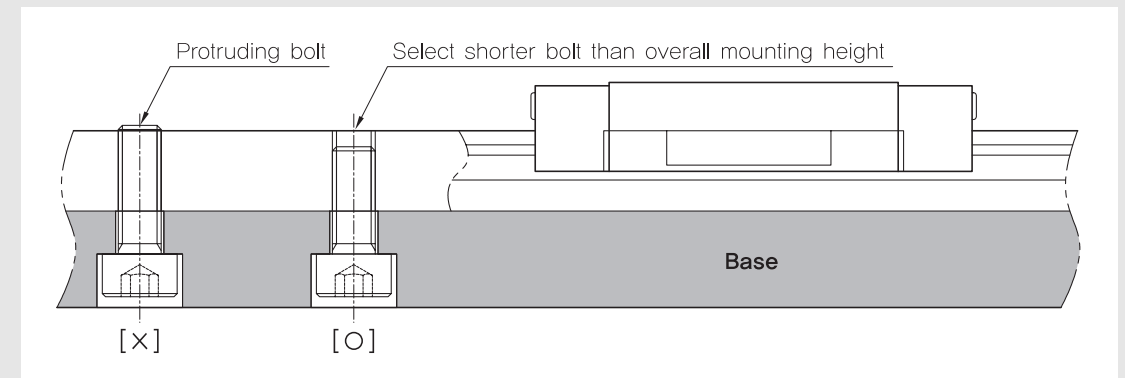


(Unit : mm)

Model	W1	W3	H1	S	G	F	L0 (Max length)	Mass (kg/m)
SBM 09-B	9	-	5.5	M4x0.7	7.5	20	1195	0.32
SBM 12-B	12	-	7.5	M4x0.7	10	25	1195	0.32
SBM 15-B	15	-	9.5	M4x0.7	15	40	1190	0.59
SBMW 09-B	18	-	7.5	M4x0.7	10	30	1190	0.99
SBMW 12-B	24	-	8.5	M5x0.8	15	40	1190	1.42
SBMW 15-B	42	23	9.5	M5x0.8	15	40	1190	2.93

Caution for mounting miniature through tap hole rail

If the mounting bolt is longer than overall mounting height, the bolt can protrude which can cause interference with the seal or bearing itself. Therefore, make sure the appropriate bolt selection.

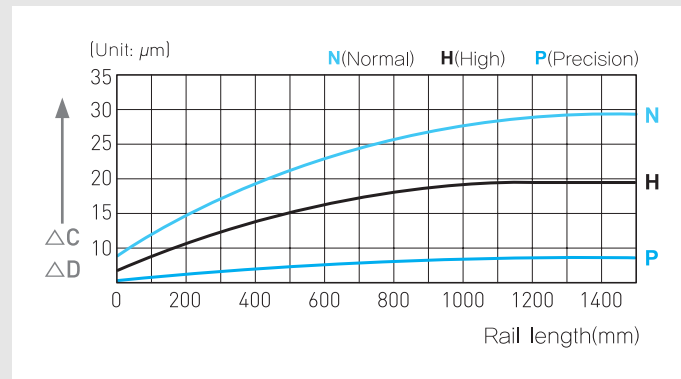
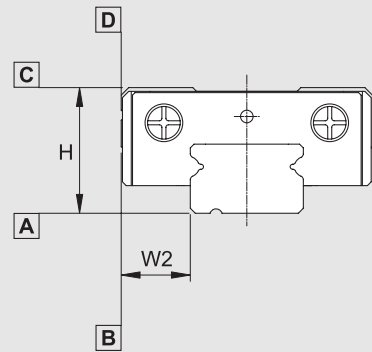




**Miniature Linear Rail System**

**Miniature Linear Rail System**

**Accuracy**



(Unit : mm)

Item	N	H	P
Tolerance for the height <b>H</b>	±0.04	±0.02	±0.01
Tolerance for the rail-to-block lateral distance <b>W2</b>	±0.04	±0.025	±0.015
Tolerance for the height <b>H</b> difference among blocks	0.03	0.015	0.007
Tolerance for rail-to-block lateral distance <b>W2</b> distance among blocks	0.03	0.015	0.007
Running parallelism of surface <b>C</b> with surface <b>A</b>		ΔC	
Running parallelism of surface <b>D</b> with surface <b>B</b>		ΔD	

● **N** : Normal    ● **H** : High    ● **P** : Precision

**[Preload]**

Reference	Volume of preload
K1	0.00 ~ 0.02C
K2	0.04 ~ 0.06C

**[Seal resistance]**

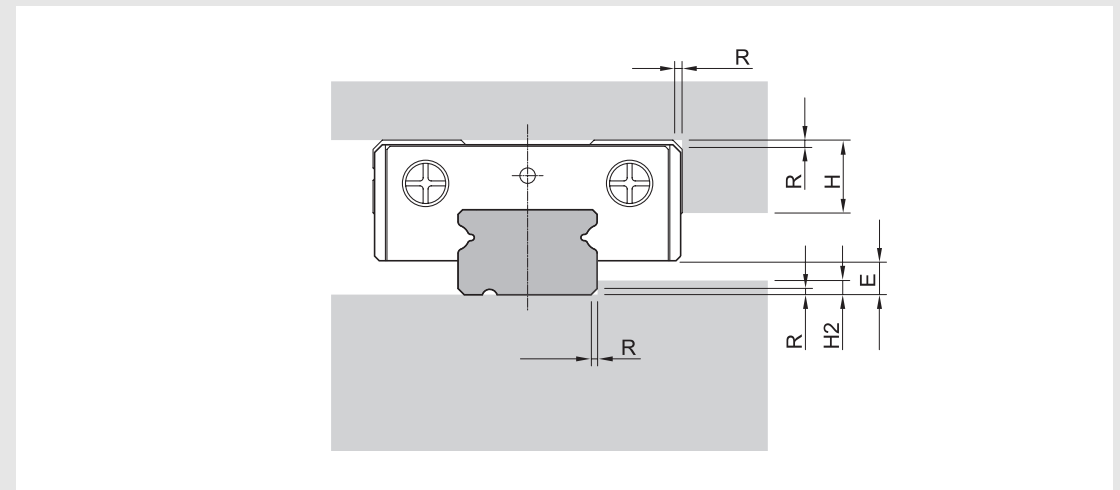
(Unit : N)

Reference	SBM/SBML	SBMW
09	0.2	0.8
12	0.59	1.1
15	1.18	1.3

**[Grease]**

SBM(L), SBMW Uses two types of grease according to working conditions. For details, please see the technical data for grease.

**Shoulder height and fillet radius R**



(Unit : mm)

Model number	Fillet radius R	Shoulders height H1	Shoulders height H2	E
SBM(L)09	0.3	3	1.9	2.2
SBM(L)12	0.3	4	2	3
SBM(L)15	0.3	5	2.5	4
SBMW09	0.3	3	3.4	3.7
SBMW12	0.3	4	3.7	4
SBMW15	0.3	5	3.4	3.7