

NB

NEW PRODUCT

SLIDE GUIDE

SEB type

**Standard Miniature Slide Guide series
has 2 New Types added.**

SEBS-B Type: Retained Ball Type (Block may be removed from Rail without losing balls)

SEBS-BM Type: All Stainless Steel Type (All components are metallic - no plastic)



Certificate No.958188



NIPPON BEARING CO., LTD.

Retained Ball and All Stainless Steel Types are now added

The retained ball and all stainless steel types are now included into NB's most compact slide guide series. Both types allow for the removal of guide block from the rail without the loss of ball elements and permits easy re-assembly of block to the rail. The SEBS-M type has stainless steel return caps which is ideal in application environments such as: high temperatures, clean room, or vacuum.

STRUCTURE AND ADVANTAGES

NB'S slide guide SEB type consists of a block and a guide rail, both of which have two precision ground raceway grooves. The block consists of a main body, balls, and return caps. With this retained ball type has a retainer which prevents ball bearings from escaping when block is remove from rail.

Retained Balls (Both SEBS-B & -BM Types)

With the retained balls, the guide block may be removed from the rail without the balls falling out. This makes dis-assembly and re-assembly work easier.

All Stainless Steel Type (SEBS-M Type)

All components are made of stainless steel. The return caps are now metallic and this increases usage versatility under special environments such as high temperature, clean room, or vacuum.

Compact Design

The two raceway and four-point contact structure of the SEB types minimize its height and give further advantage installation with limited space and reduces overall weight.

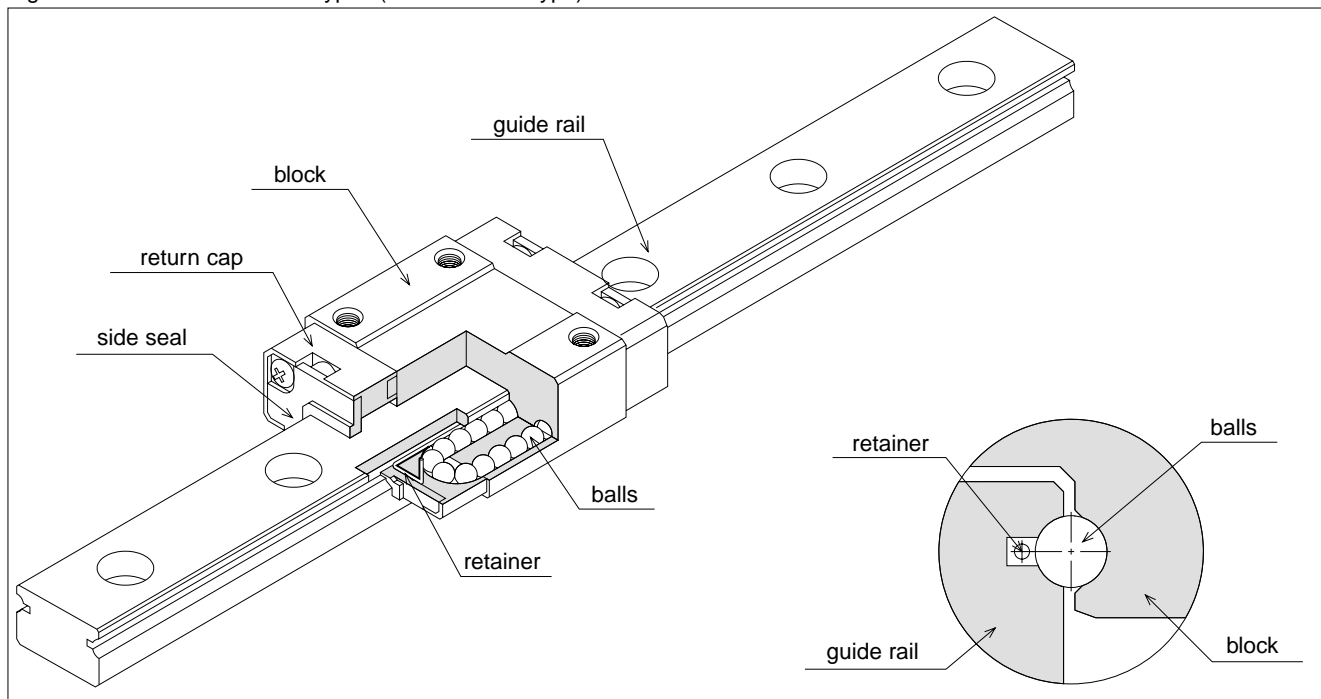
High Moment Loads- (SEBS-BY & -BYM Types)

With the wide and long types an increase of moment capacity is realized. This permits for the use of "single" block designs possible.

Tapped-Hole Rail Types ("-N")

Slide guides with clearance holes are standard and the tapped holes ("-N") are available upon request.

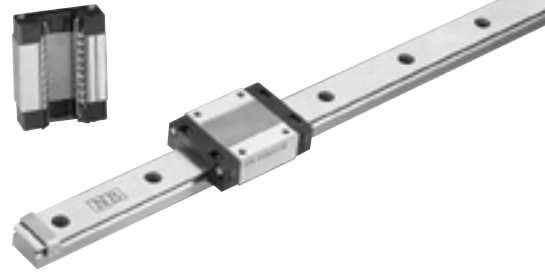

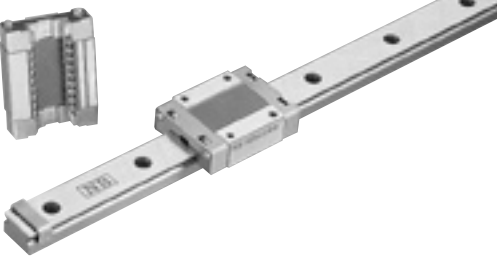
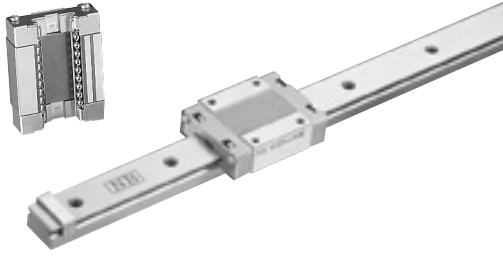
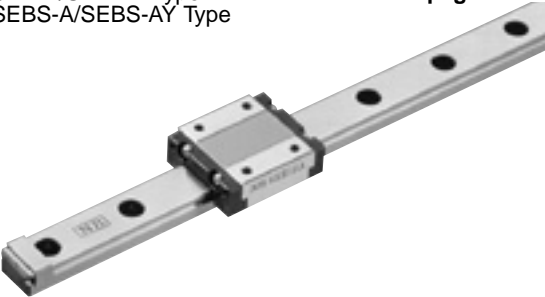
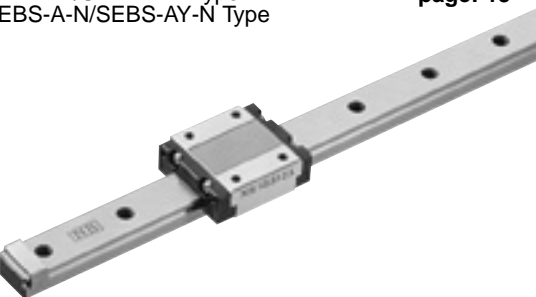
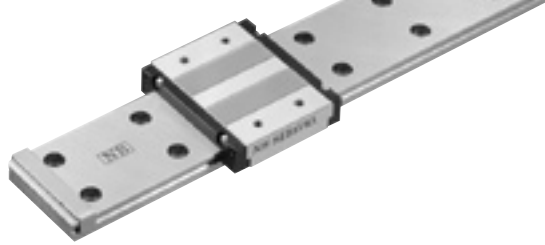
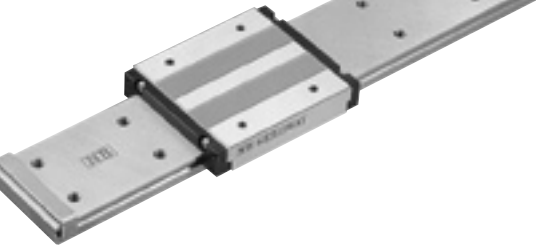
Figure 1 Structure of SEBS-B Types (Retained Ball Type)



TYPES

The miniature slide guide series (SEB Types) are categorized according to their block shape and the rail installation method. They are also available with or without Side Seals.

Table 1 Types

		counterbore rail type	tapped hole rail type
retained ball type	resin return cap	SEBS-B/SEBS-BY Type page: 7 	SEBS-B-N/SEBS-BY-N Type page: 9 
	stainless return cap	SEBS-BM/SEBS-BYM Type page: 7 	SEBS-BM-N/SEBS-BYM-N Type page: 9 
standard type	resin return cap	SEB-A/SEB-AY Type page: 11 SEBS-A/SEBS-AY Type 	SEB-A-N/SEB-AY-N Type page: 13 SEBS-A-N/SEBS-AY-N Type 
		SEB-WA/SEB-WAY Type page: 15 SEBS-WA/SEBS-WAY Type 	SEB-WA-N/SEB-WAY-N Type page: 17 SEBS-WA-N/SEBS-WAY-N Type 

ACCURACY

The SEB slide guides are available in two grades of accuracy: high-grade and precision-grade (P).

Table 2 Accuracy unit/mm

accuracy grade	high	precision
accuracy symbol	none	P
allowable dimensional difference in height H	± 0.020	± 0.010
paired difference for height H	0.015	0.007
allowable dimensional difference in width W	± 0.025	± 0.015
paired difference for width W	0.020	0.010
Running parallelism of surface C to surface A	Refer to Figure 3	
Running parallelism of surface D to surface B		

The difference of above pairs are applied to multiple number of blocks on the same rail. When the difference of height(H) of a pair on different rails is required, please indicate the rails in the part number.(Please refer to the "Part Number Structure" for further details.

Figure 2 Accuracy

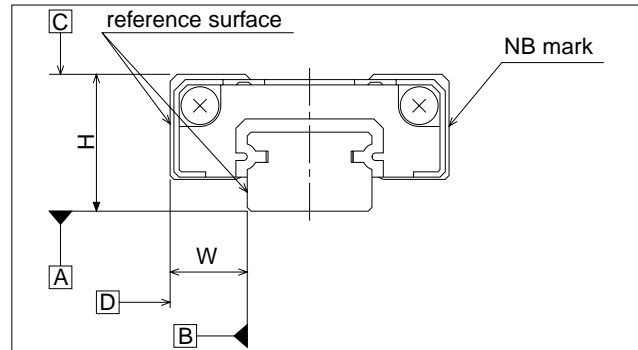
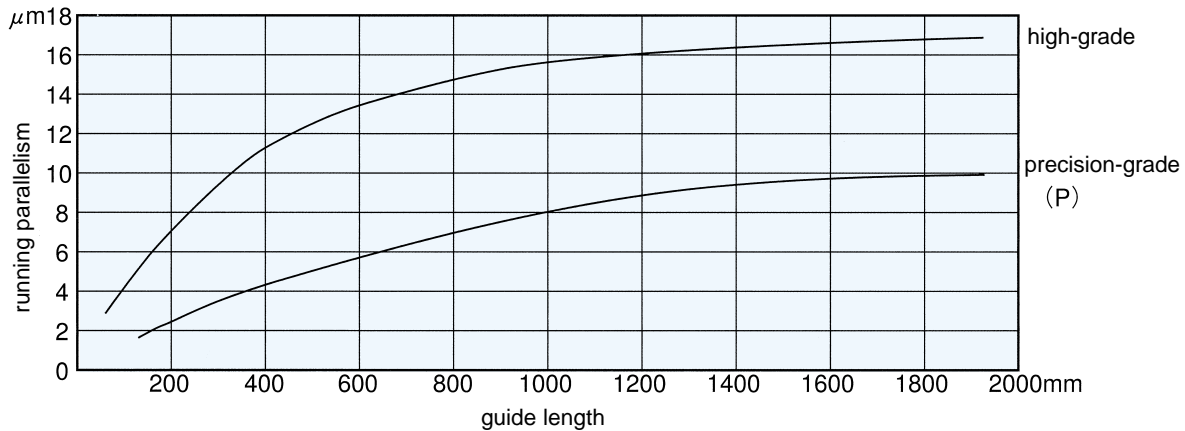


Figure 3 Motion Accuracy



PRE-LOAD

SEB slide guides are available with a standard pre-load (no suffix), light pre-load (T1), and a positive-clearance (T0).

Table 3 Pre-Load Symbol and Radial Clearance unit/ μm

size	type of pre-load and its symbol		
	clearance T0	standard none	light T1
5	+3~+6	-3~0	-4~-2
7			
9			
12			
15	+4~+8	-3~0	-7~-3
20			
7W	+3~+6	-3~0	-4~-2
9W			
12W			
15W			
	+4~+8		-7~-3

Table 4 Operating Conditions and Pre-Load

pre-load	symbol	operating conditions
clearance	T0	Smooth movement is crucial. The installation tolerance is to be absorbed.
standard	none	Minute vibration is applied. High-precision movement is required. A moment in a given direction is applied.
light	T1	Light vibration is applied. A slight torque is applied. When moment is applied.

RATED LOAD

The load rating for SEB Type slide guides depends upon the direction of load.

Table 5 Load Rating

		retained ball types	standard types
basic dynamic load rating	vertical	$1.00 \times C$	$1.00 \times C$
	horizontal	$0.89 \times C$	$1.13 \times C$
basic static load rating	vertical	$1.00 \times C_0$	$1.00 \times C_0$
	horizontal	$0.84 \times C_0$	$1.19 \times C_0$

RAIL LENGTH

Slide guides with most commonly used lengths are available as standard. Unless otherwise specified, the distance to the first mounting hole (N) from one end of the rail will be located within the ranges listed in Table 6 for slide guides with non-standard lengths satisfying the following equation.

$$L = M \cdot P + 2N$$

L : length (mm) N : distance to the first hole from the end of the rail (mm)
M : number of pitches P : hole pitch (mm)

Table 6 Range of N dimension

unit/mm

size	N	
	more	less
5	3	10.5
7		
9	4	14
12		16.5
15		24
20	6	36
7W	4	19
9W		
12W	5	25
15W		

Figure 4 Direction of Load

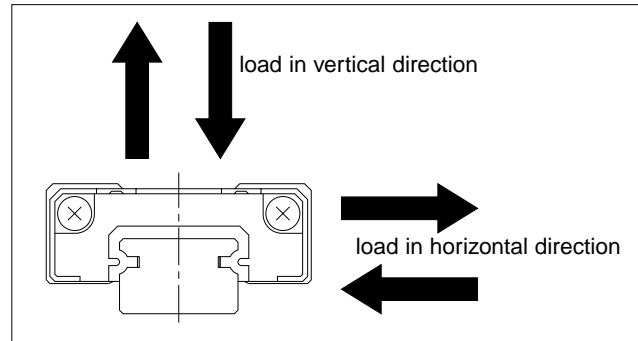
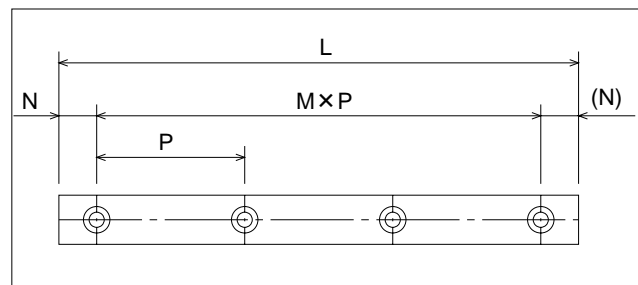


Figure 5 Rail



INSTALLATION

Shapes of mounting planes

Slide guides are generally mounted by pushing the reference surface of the rail and block against the shoulder of the mounting surface. An escape groove should be provided at the corner of the shoulder in order to avoid interference with the corner of the rail or block.

Table 7. Mounting Surface Dimensions unit/mm

size	shoulder demensions	
	h ₁	h ₂
5	2	1
7	2.5	
9	3	1.5
12	4	2
15	5	3.5
20		5
7W	3	1.5
9W		2.5
12W	4	
15W	5	

Recommended tightening torque.

The bolts used to secure the rail should be tightened using a torque wrench. The recommended torque is listed below.

Table 8. Recommended Tightning Torque unit/N · m

size	standard rail		N type rail	
	bolt size	recommended torque	bolt size	recommended torque
5	M2	0.4	M2.6	0.6
7			M3	1.0
9	M3	1.0	M4	2.5
12			M5	4.9
15	M5	4.9	M6	10.0
20			M4	2.5
7W	M3	1.0	M4	2.5
9W			M4	2.5
12W	M5	4.9		
15W				

Figure 6 Mounting Reference Surface Shapes

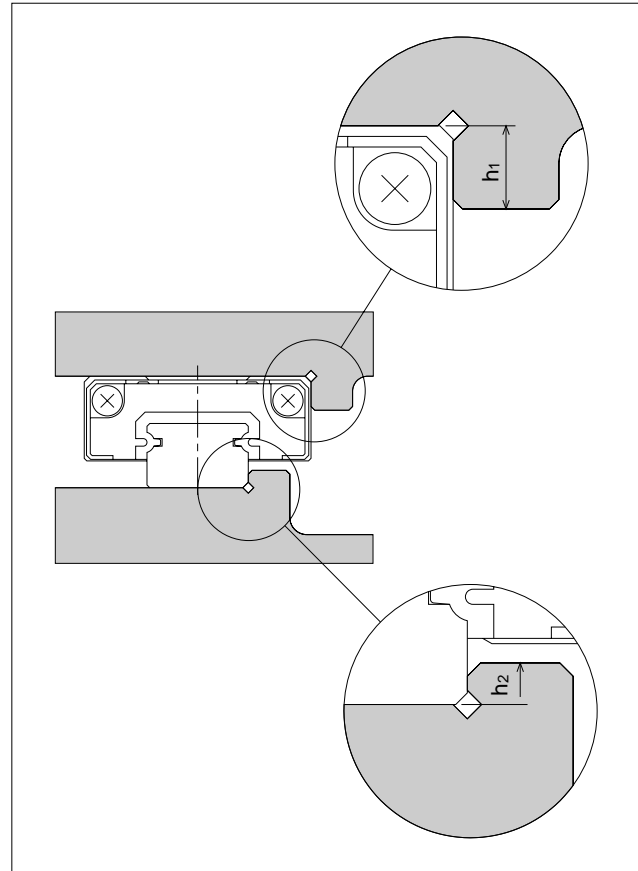
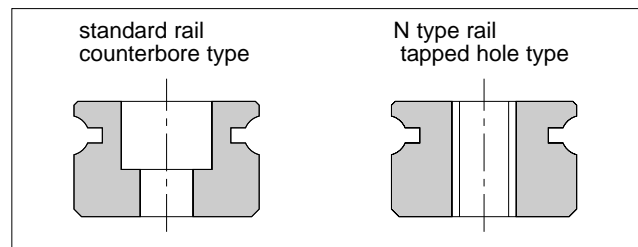


Figure 7 Shapes of Rail



MOUNTING BOLTS

Small bolts for the SEB type are available from NB.

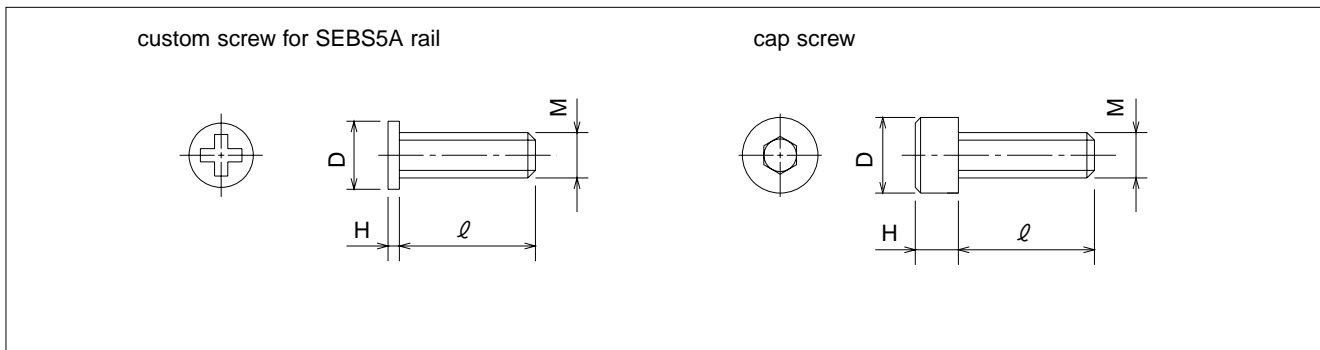
Table 9 Mounting Bolt Dimension(stainless steel)

unit/mm

type	bolt size	D mm	H mm	pitch mm	length ℓ mm
custom screw	M2(custom)	3	0.6	0.4	6
cap screw	M2	3.8	2	0.4	4,5,6,8,10
	M2.6	4.5	2.6	0.45	4,5,6,8,10

Custom screws for SEBS5A rails come with the rail.

Figure 8 Mounting Bolts



LUBRICATION

- * To minimize friction between Ball Elements and Rail Raceway
- * To reduce heat build-up within the Block
- * To reduce wear of contact surfaces
- * To prevent corrosion

Lubrication is very important to the SEB Slide Guide's for performance and life. Quality grease is applied to NB Slide Guides before they are shipped so that they are ready for immediate use. The same type of grease should be added periodically depending upon the operating conditions.

A special syringe type lubricant applicator for (re Fig. 9) is available from NB as an option. Table 10 reflects types of grease available from NB.

K grease is a low dust generation lubricant for linear systems that provides long-term and stable dust control.

This particular type has very few impurities, yet its lubricating effect, contamination control, and rust prevention characteristics are equivalent to that of lithium soap grease.

Fig. 9. Greasing Method.

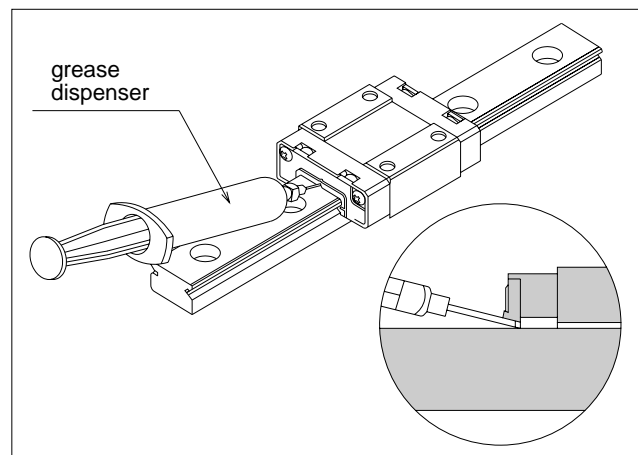
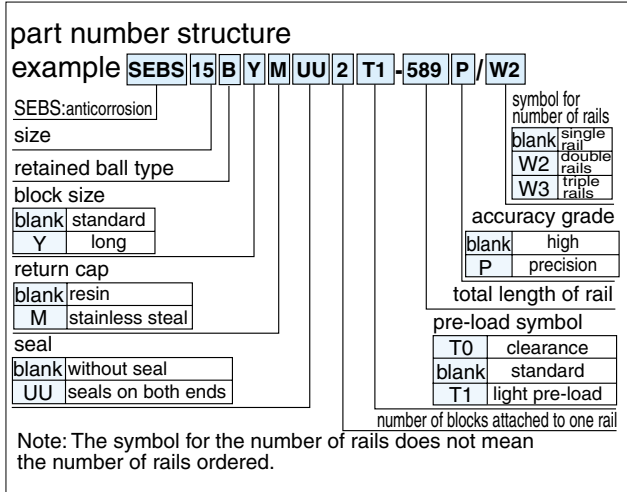


Table 10. Type of Grease

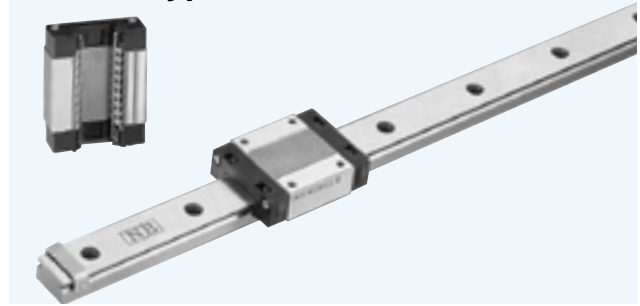
use	name of grease/pitch	contents
general	Multemp PS No.2 (Kyodo Yushi)	10g
low dust	K grease (NB)	10g

SEBS-B/SEBS-BY Type SEBS-BM/SEBS-BYM Type

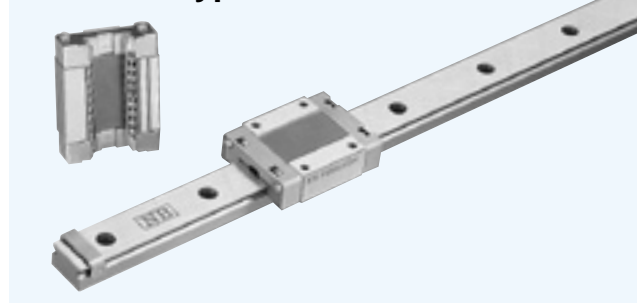
— Retained Ball Type —



SEBS-B Type



SEBS-BM Type



part number		assembly dimensions		block dimensions								
		H	W	B	L ₁	L ₂	P ₁	P ₂	S ₁	ℓ	L ₃	b
resin return cap	stainless return cap	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
SEBS 5B	SEBS 5BM	6	3.5	12	16.3	16.7	8	—	M2	1.5	9.3	4.5
SEBS 5BY	SEBS 5BYM				19.3	19.7		—			7	
SEBS 7B	SEBS 7BM	8	5	17	23	23	12	8	M2	2.5	12.8	6.5
SEBS 7BY	SEBS 7BYM				32.5	32.5		13			22.3	
SEBS 9B	SEBS 9BM	10	5.5	20	30.8	30.8	15	10	M3	3	19.6	7.8
SEBS 9BY	SEBS 9BYM				40.3	40.3		16			29.1	
SEBS 12B	SEBS 12BM	13	7.5	27	33.8	34.2	20	15	M3	3.5	20.2	10
SEBS 12BY	SEBS 12BYM				45.7	46.1		20			32.1	
SEBS 15B	SEBS 15BM	16	8.5	32	41.6	42	25	20	M3	4	26.6	12
SEBS 15BY	SEBS 15BYM				57.5	57.9		25			42.5	
SEBS 20B	SEBS 20BM	25	13	46	65.9	65.9	38	38	M4	6	44.7	17.5
SEBS 20BY	SEBS 20BYM				85.7	85.7		38			64.5	

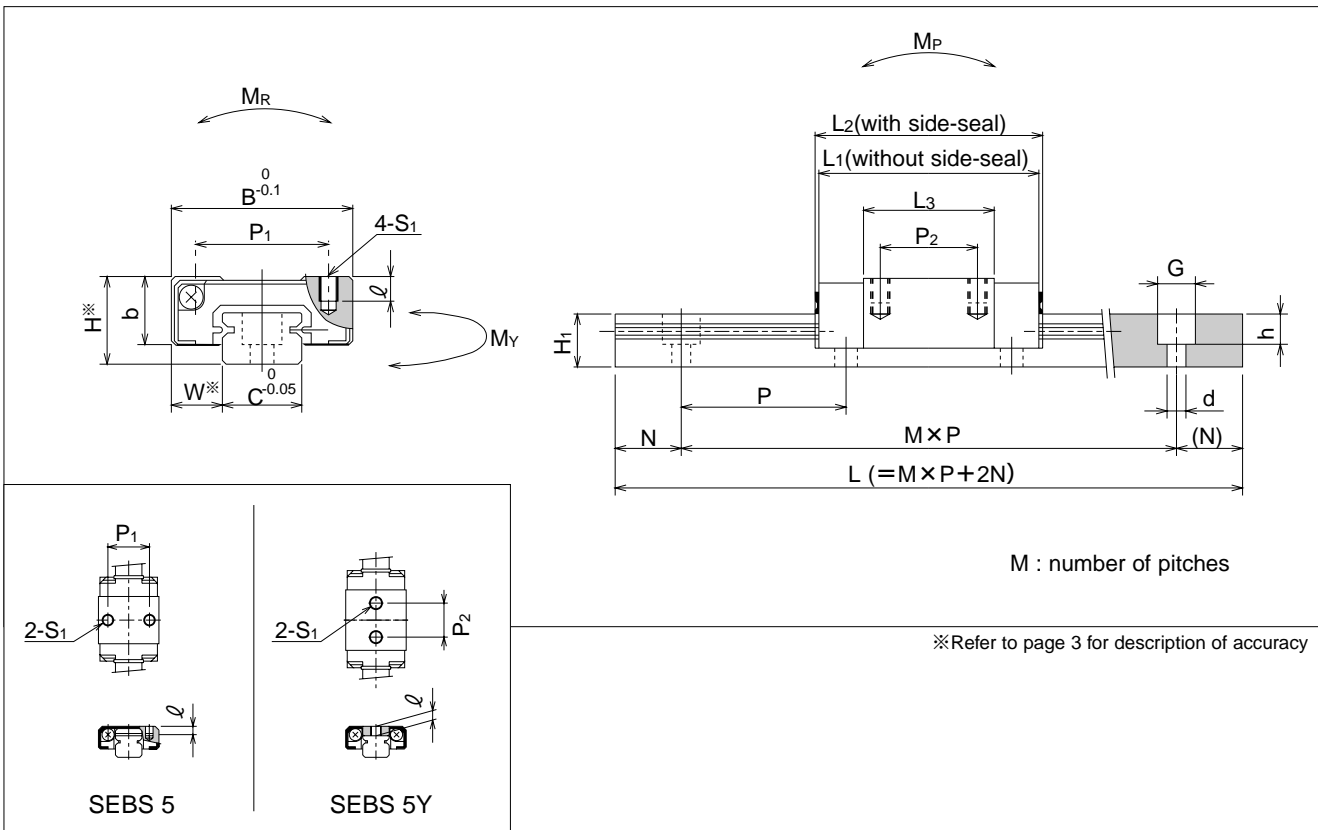
※1 Custom mounting bolts are provided for SEBS 5. (See Page6)

rail size	standard rail length											
	L mm											
5	40	55	70	85	100	130	160					
7	40	55	70	85	100	130	160	190	220	250	280	310
9	55	75	95	115	135	155	175	195	235	275	315	355
12	70	95	120	145	170	195	220	245	270	295	320	345
15	70	110	150	190	230	270	310	350	390	430	470	510
20	220	280	340	400	460	520	580	640	760	880	1,000	

With custom length rails, kindly advise distance (N) from one end of rail to first hole.

Unless we are advised (N) distance by customer, we assume distance (N) to be as state in Page4.

Joint rails are used when the required length exceeds the maximum standard length listed in the dimensional tables contact NB for details.



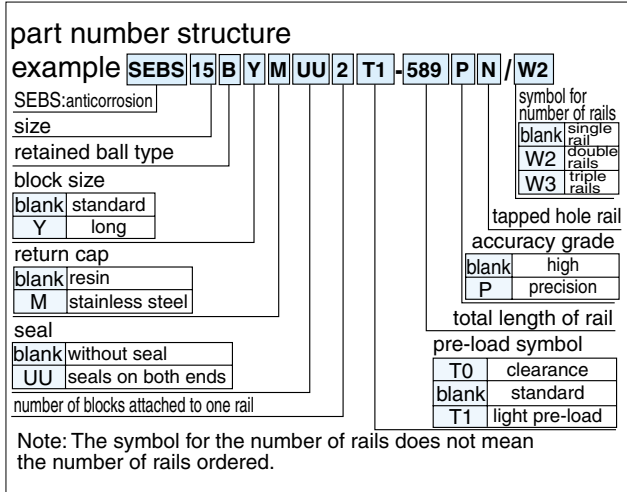
guide-rail dimensions					basic load rating		allowable static moment			mass		block size	
H ₁	C	d × G × h	N	P	dynamic	static	M _P	M _Y	M _R	resin return cap	stainless return cap		
mm	mm	mm	mm	mm	kN	kN	N · m	N · m	N · m	kg	kg/m		
4	5	2.4 × 3.5 × 0.8 ^{※1}	5	15	0.39	0.66	0.9	0.8	1.7	0.003	0.004	0.13	5B
					0.52	0.88	1.7	1.4	2.2	0.004	0.005		5BY
4.7	7	2.4 × 4.2 × 2.3	5	15	1.10	1.70	3.5	3.0	6.2	0.009	0.011	0.19	7B
					1.93	2.98	11.0	9.3	10.8	0.015	0.017		7BY
5.5	9	3.5 × 6 × 3.5	7.5	20	1.67	2.47	7.8	6.6	11.5	0.02	0.02	0.31	9B
					2.47	3.70	17.6	14.9	17.2	0.03	0.03		9BY
7.5	12	3.5 × 6 × 4.5	10	25	2.55	3.70	11.7	9.9	23.1	0.03	0.04	0.61	12B
					4.15	6.02	31.0	26.3	37.6	0.05	0.06		12BY
9.5	15	3.5 × 6 × 4.5	15	40	4.26	6.36	26.9	22.8	49.2	0.06	0.08	1.02	15B
					6.92	10.3	71.1	60.2	80.1	0.10	0.11		15BY
15	20	6 × 9.5 × 8.5	20	60	8.91	12.7	92.7	78.5	130	0.23	0.27	2.14	20B
					12.9	18.5	195	165	189	0.32	0.36		20BY

1kN ≒ 102kgf 1N · m ≒ 0.102kgf · m

395	435	475			
370	395	420	445	470	495
550	590	630	670		

SEBS-B-N/SEBS-BY-N Type SEBS-BM-N/SEBS-BYM-N Type

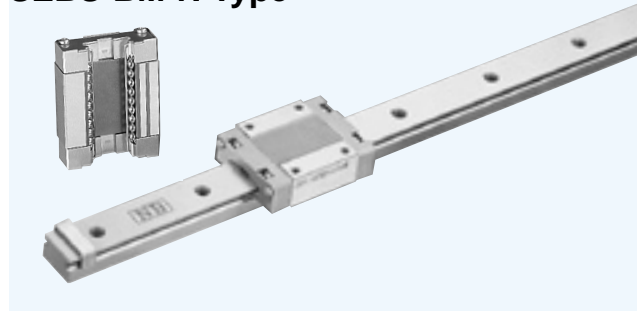
— Retained Ball Type / Tapped Hole rail —



SEBS-B-N Type



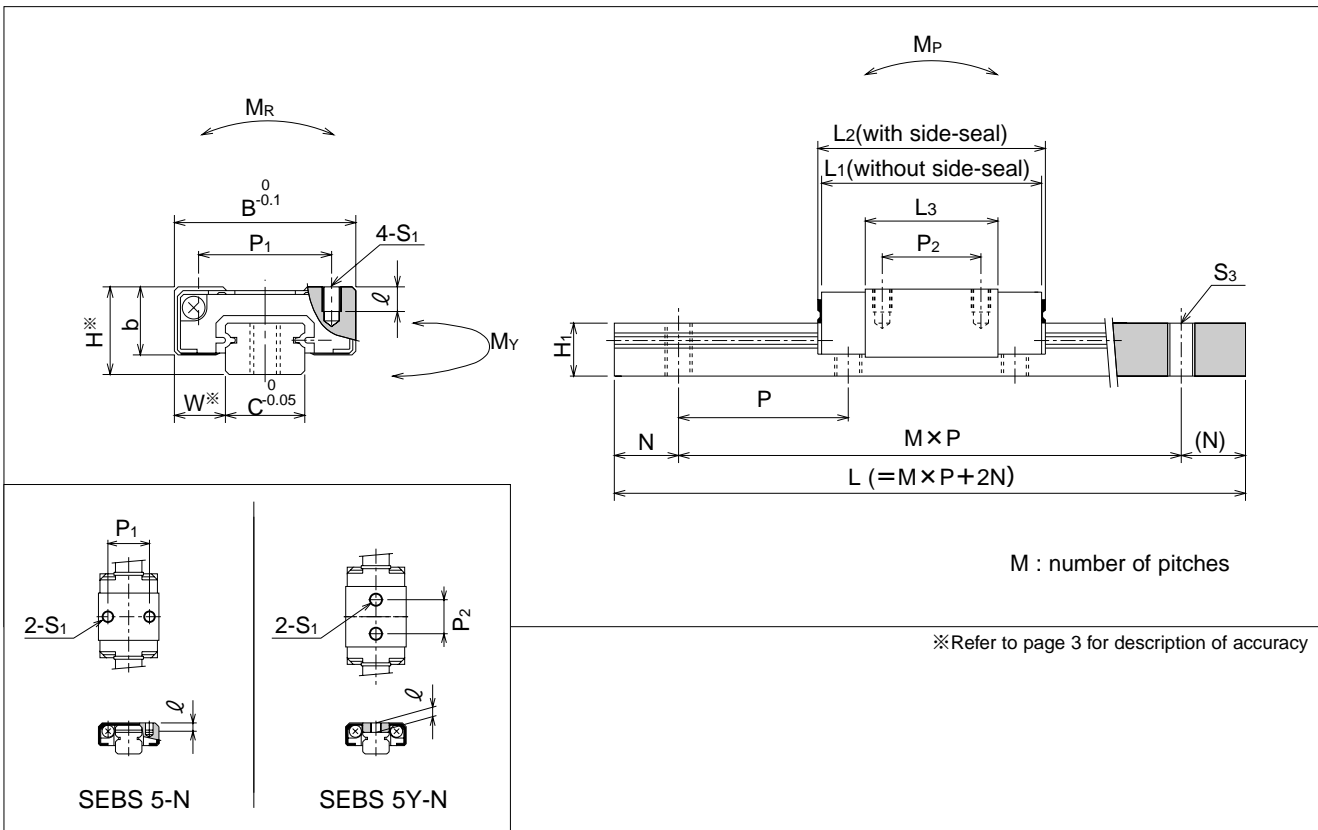
SEBS-BM-N Type



part number		assembly dimensions		block dimensions								
		H	W	B	L ₁	L ₂	P ₁	P ₂	S ₁	ℓ	L ₃	b
resin return cap	stainless return cap	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
SEBS 5B -N	SEBS 5BM -N	6	3.5	12	16.3	16.7	8	—	M2	1.5	9.3	4.5
SEBS 5BY-N	SEBS 5BYM-N				19.3	19.7	—	7	M2.6	1.8	12.3	
SEBS 7B -N	SEBS 7BM -N	8	5	17	23	23	12	8	M2	2.5	12.8	6.5
SEBS 7BY-N	SEBS 7BYM-N				32.5	32.5		13			22.3	
SEBS 9B -N	SEBS 9BM -N	10	5.5	20	30.8	30.8	15	10	M3	3	19.6	7.8
SEBS 9BY-N	SEBS 9BYM-N				40.3	40.3		16			29.1	
SEBS 12B -N	SEBS 12BM -N	13	7.5	27	33.8	34.2	20	15	M3	3.5	20.2	10
SEBS 12BY-N	SEBS 12BYM-N				45.7	46.1		20			32.1	
SEBS 15B -N	SEBS 15BM -N	16	8.5	32	41.6	42	25	20	M3	4	26.6	12
SEBS 15BY-N	SEBS 15BYM-N				57.5	57.9		25			42.5	
SEBS 20B -N	SEBS 20BM -N	25	13	46	65.9	65.9	38	38	M4	6	44.7	17.5
SEBS 20BY-N	SEBS 20BYM-N				85.7	85.7		38			64.5	

rail size	standard rail length											
	L mm											
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12	70	95	120	145	170	195	220	245	270	295	320	345
15	70	110	150	190	230	270	310	350	390	430	470	510
20	220	280	340	400	460	520	580	640	760	880	1,000	

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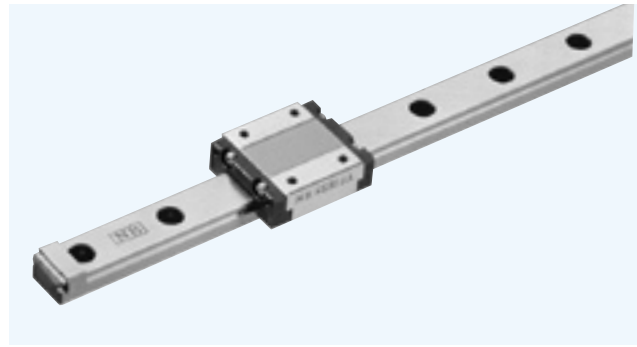
guide-rail dimensions					basic load rating		allowable static moment			mass		block size	
H ₁	C	S ₃	N	P	dynamic	static	M _P	M _Y	M _R	resin return cap	stainless return cap		guide rail
mm	mm		mm	mm	C	Co	N · m	N · m	N · m	kg	kg	kg/m	
4	5	M2.6	5	15	0.39	0.66	0.9	0.8	1.7	0.003	0.004	0.13	5B
					0.52	0.88	1.7	1.4	2.2	0.004	0.005		5BY
4.7	7	M3	5	15	1.10	1.70	3.5	3.0	6.2	0.009	0.011	0.19	7B
					1.93	2.98	11.0	9.3	10.8	0.015	0.017		7BY
5.5	9	M4	7.5	20	1.67	2.47	7.8	6.6	11.5	0.02	0.02	0.31	9B
					2.47	3.70	17.6	14.9	17.2	0.03	0.03		9BY
7.5	12	M4	10	25	2.55	3.70	11.7	9.9	23.1	0.03	0.04	0.61	12B
					4.15	6.02	31.0	26.3	37.6	0.05	0.06		12BY
9.5	15	M5	15	40	4.26	6.36	26.9	22.8	49.2	0.06	0.08	1.02	15B
					6.92	10.3	71.1	60.2	80.1	0.10	0.11		15BY
15	20	M6	20	60	8.91	12.7	92.7	78.5	130	0.23	0.27	2.14	20B
					12.9	18.5	195	165	189	0.32	0.36		20BY

1kN ≒ 102kgf 1N · m ≒ 0.102kgf · m

395	435	475			
370	395	420	445	470	495
550	590	630	670		

SEB-A/AY TYPE

— Standard Type —



part number structure

example **SEBS 15A Y UU 2 T1 - 589 P / W2**

specification	symbol for number of rails
SEB standard	blank single rail
SEBS anticorrosion	W2 double rails
	W3 triple rails

size	accuracy grade
blank	blank high
Y long	P precision

block	total length of rail
blank standard	pre-load symbol
Y long	T0 clearance
	blank standard
	T1 light pre-load

seal	number of blocks attached to one rail
blank without side-seal	
UU seals on both ends	

Note: The symbol for the number of rails does not mean the number of rails ordered.

part number		assembly dimensions		block dimensions								
		H	W	B	L ₁	L ₂	P ₁	P ₂	S ₁	ℓ	L ₃	b
standard	anticorrosion	mm	mm	mm	mm	mm	mm	mm		mm	mm	mm
—	SEBS 5A	6	3.5	12	15.6	17	8	—	M2	1.5	9.8	4.5
	SEBS 5AY				19.2	20.6		7			M2.6	
—	SEBS 7A	8	5	17	21.9	24	12	8	M2	2.5	15.1	6.5
	SEBS 7AY				31	33		13			24.6	
SEB 9A	SEBS 9A	10	5.5	20	28.1	30	15	10	M3	3	20.4	7.8
SEB 9AY	SEBS 9AY				38.1	40		16			30.4	
SEB12A	SEBS12A	13	7.5	27	30	33.5	20	15	M3	3.5	23	10
SEB12AY	SEBS12AY				42	45.5		20			34.7	
SEB15A	SEBS15A	16	8.5	32	38.5	42	25	20	M3	4	29.5	12
SEB15AY	SEBS15AY				54.5	58		25			45.4	
SEB20A	SEBS20A	25	13	46	55.7	61	38	38	M4	6	45.7	17.5
SEB20AY	SEBS20AY				79.5	85		38			69.5	

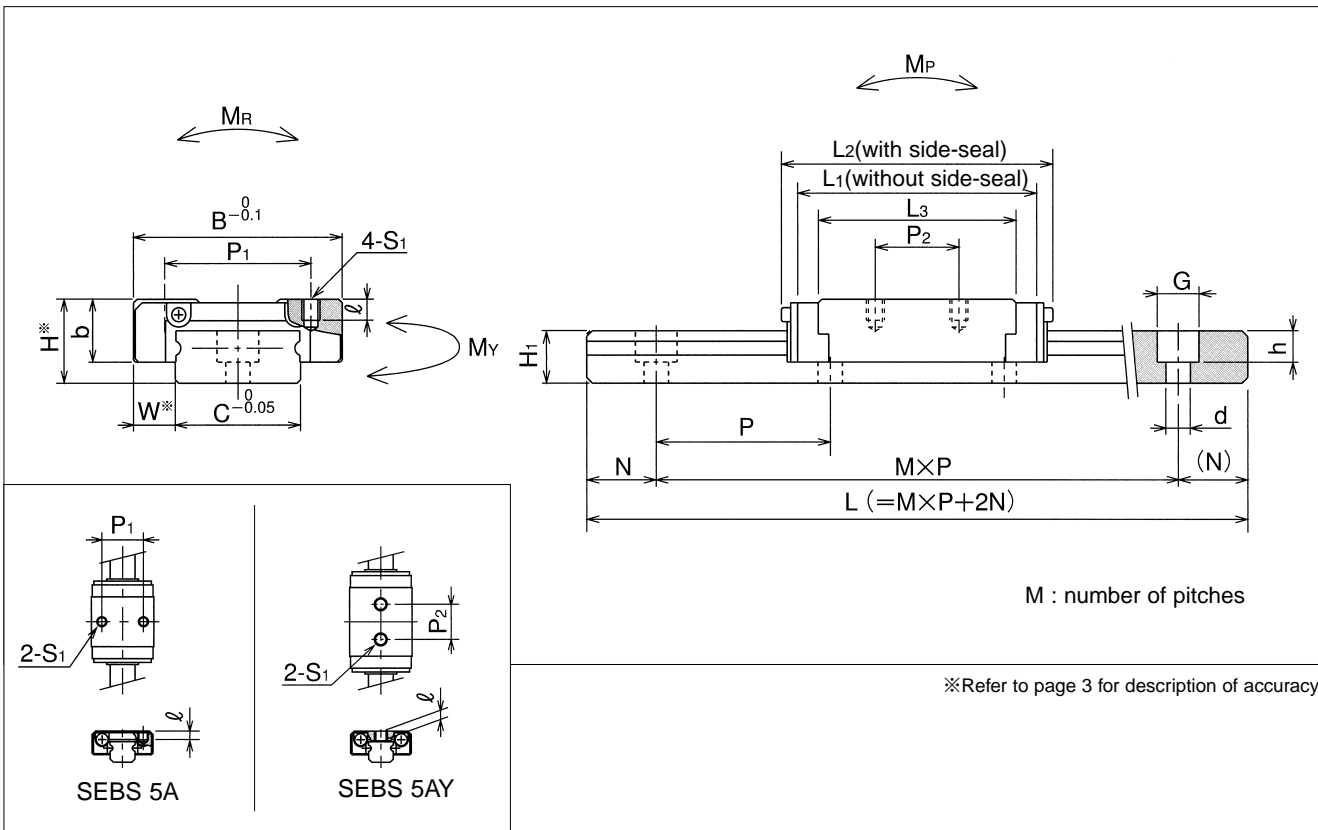
※1 Custom mounting bolts are provided for SEBS 5. (See Page6)

rail size	standard rail length											
	L											
	mm											
5	40	55	70	85	100	130	160					
7	40	55	70	85	100	130	160	190	220	250	280	310
9	55	75	95	115	135	155	175	195	235	275	315	355
12	70	95	120	145	170	195	220	245	270	295	320	345
15	70	110	150	190	230	270	310	350	390	430	470	510
20	220	280	340	400	460	520	580	640	760	880	1,000	

With custom length rails, kindly advise distance (N) from one end of rail to first hole.

Unless we are advised (N) distance by customer, we assume distance (N) to be as state in Page4.

Joint rails are used when the required length exceeds the maximum standard length listed in the dimensional tables. Contact NB for details.



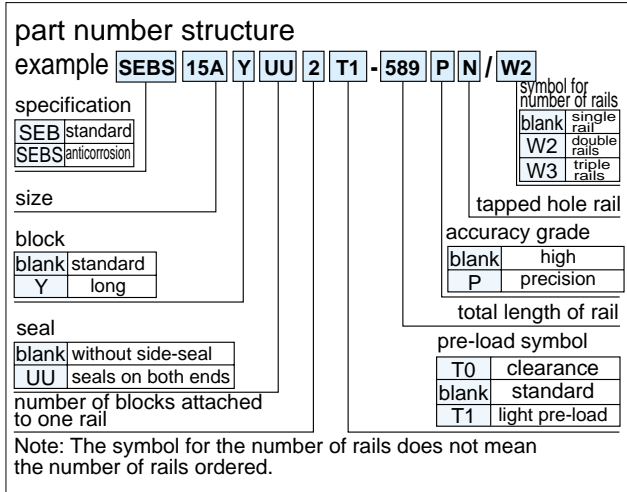
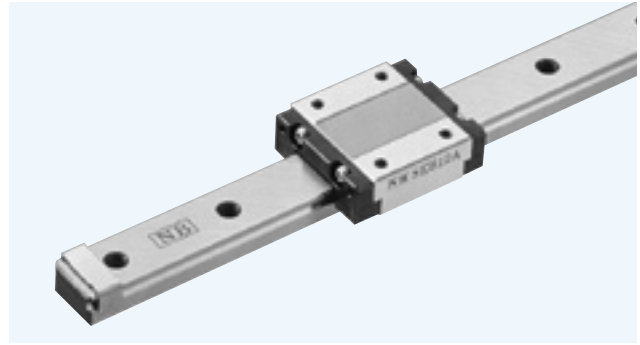
guide-rail dimensions					basic load rating		allowable static moment			mass		size
H ₁	C	d×G×h	N	P	dynamic	static	M _P N·m	M _Y N·m	M _R N·m	block kg	guide rail kg/m	
mm	mm	mm	mm	mm	C kN	Co kN						
4	5	2.4×3.5×1※1	5	15	0.43	0.72	1.2	1.5	1.9	0.003	0.13	5A
					0.59	0.99	2.2	2.8	2.6	0.004		5AY
4.7	7	2.4×4.2×2.3	5	15	1.08	1.67	4.1	4.9	5.2	0.01	0.19	7A
					1.89	2.92	12.0	14.3	9.1	0.015		7AY
5.5	9	3.5×6×3.5	7.5	20	1.67	2.45	6.9	7.8	11.8	0.02	0.31	9A
					2.55	3.82	16.7	19.6	17.6	0.03		9AY
7.5	12	3.5×6×4.5	10	25	2.16	3.14	8.8	10.8	18.6	0.04	0.61	12A
					3.53	5.10	24.5	29.4	32.3	0.06		12AY
9.5	15	3.5×6×4.5	15	40	3.63	5.39	21.6	25.5	40.2	0.06	1.02	15A
					5.88	8.72	57.8	68.6	67.6	0.10		15AY
15	20	6×9.5×8.5	20	60	6.86	9.80	51.0	60.8	98.0	0.23	2.14	20A
					11.0	15.7	157	186	157	0.34		20AY

1kN≒102kgf 1N·m≒0.102kgf·m

						maximum length	
						standard	anticorrosion
						—	300
						—	700
395	435	475				500	1,000
370	395	420	445	470	495		
550	590	630	670				

SEB-A-N/AY-N TYPE

— Standard Type w/Tapped Hole Rail —



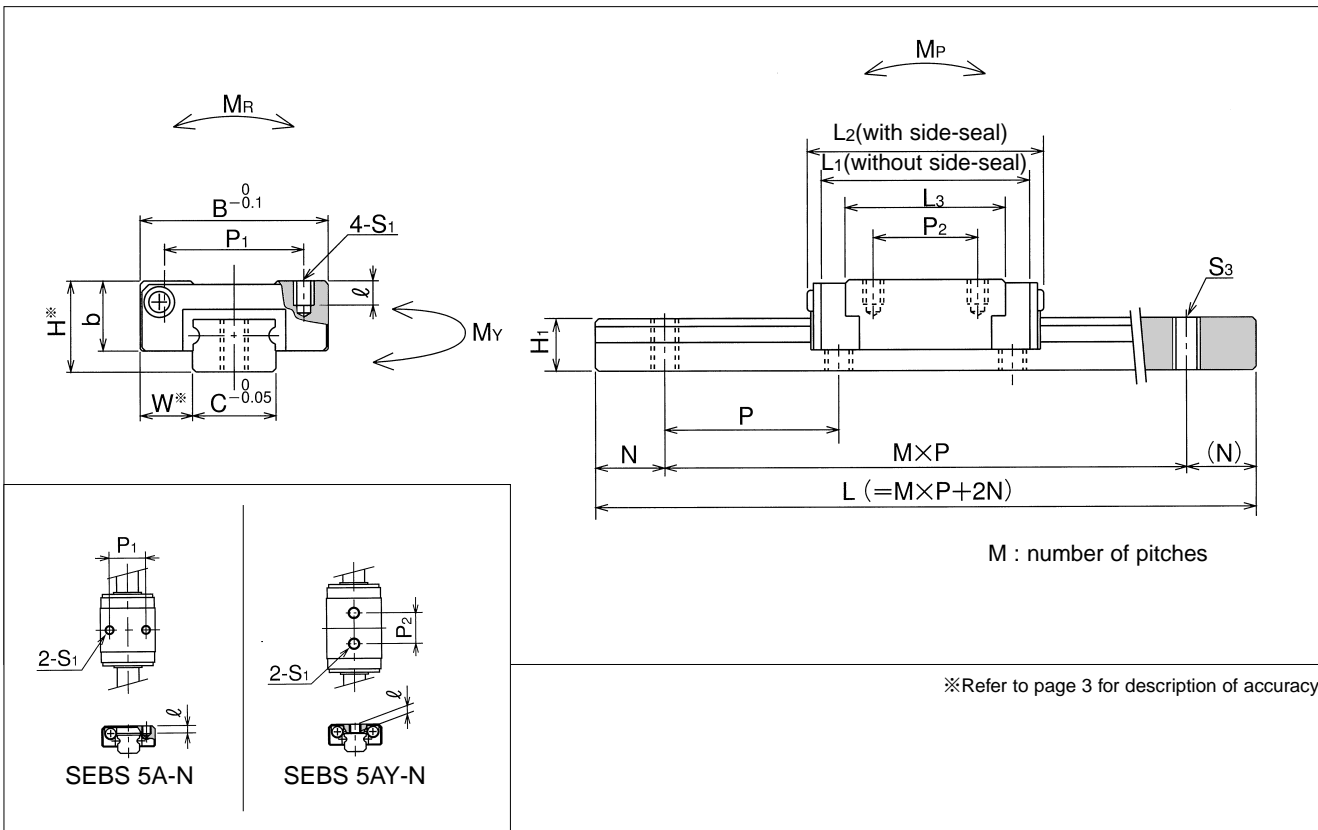
part number		assembly dimensions		block dimensions								
		H	W	B	L ₁	L ₂	P ₁	P ₂	S ₁	ℓ	L ₃	b
standard	anticorrosion	mm	mm	mm	mm	mm	mm	mm		mm	mm	mm
—	SEBS 5A-N	6	3.5	12	15.6	17	8	—	M2	1.5	9.8	4.5
	SEBS 5AY-N				19.2	20.6		7			M2.6	
—	SEBS 7A-N	8	5	17	21.9	24	12	8	M2	2.5	15.1	6.5
	SEBS 7AY-N				31	33		13			24.6	
SEB 9A-N	SEBS 9A-N	10	5.5	20	28.1	30	15	10	M3	3	20.4	7.8
SEB 9AY-N	SEBS 9AY-N				38.1	40		16			30.4	
SEB12A-N	SEBS12A-N	13	7.5	27	30	33.5	20	15	M3	3.5	23	10
SEB12AY-N	SEBS12AY-N				42	45.5		20			34.7	
SEB15A-N	SEBS15A-N	16	8.5	32	38.5	42	25	20	M3	4	29.5	12
SEB15AY-N	SEBS15AY-N				54.5	58		25			45.4	
SEB20A-N	SEBS20A-N	25	13	46	55.7	61	38	38	M4	6	45.7	17.5
SEB20AY-N	SEBS20AY-N				79.5	85		38			69.5	

rail size	standard rail length											
	L											
	mm											
5	40	55	70	85	100	130	160					
7	40	55	70	85	100	130	160	190	220	250	280	310
9	55	75	95	115	135	155	175	195	235	275	315	355
12	70	95	120	145	170	195	220	245	270	295	320	345
15	70	110	150	190	230	270	310	350	390	430	470	510
20	220	280	340	400	460	520	580	640	760	880	1,000	

With custom length rails, kindly advise distance (N) from one end of rail to first hole.

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Joint rails are used when the required length exceeds the maximum standard length listed in the dimensional tables. Contact NB for details.



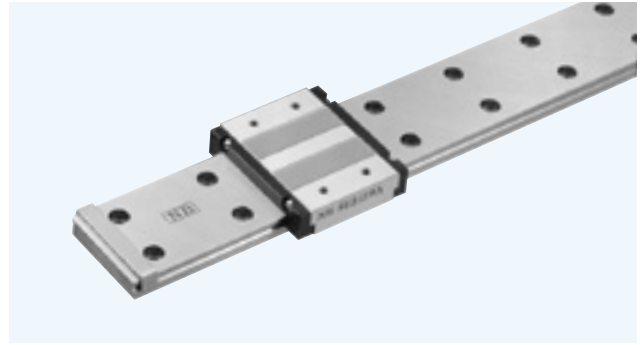
guide-rail dimensions					basic load rating		allowable static moment			mass		size
H_1	C	S_3	N	P	dynamic	static	M_P	M_Y	M_R	block	guide rail	
mm	mm		mm	mm	C	C_0						
4	5	M2.6	5	15	0.43	0.72	1.2	1.5	1.9	0.003	0.13	5A
					0.59	0.99	2.2	2.8	2.6	0.004		5AY
4.7	7	M3	5	15	1.08	1.67	4.1	4.9	5.2	0.01	0.19	7A
					1.89	2.92	12.0	14.3	9.1	0.015		7AY
5.5	9	M4	7.5	20	1.67	2.45	6.9	7.8	11.8	0.02	0.31	9A
					2.55	3.82	16.7	19.6	17.6	0.03		9AY
7.5	12	M4	10	25	2.16	3.14	8.8	10.8	18.6	0.04	0.61	12A
					3.53	5.10	24.5	29.4	32.3	0.06		12AY
9.5	15	M5	15	40	3.63	5.39	21.6	25.5	40.2	0.06	1.02	15A
					5.88	8.72	57.8	68.6	67.6	0.10		15AY
15	20	M6	20	60	6.86	9.80	51.0	60.8	98.0	0.23	2.14	20A
					11.0	15.7	157	186	157	0.34		20AY

						maximum length	
						standard	anticorrosion
						—	300
						—	700
395	435	475				500	1,000
370	395	420	445	470	495		
550	590	630	670				

1kN ≒ 102kgf 1N · m ≒ 0.102kgf · m

SEB-WA/WAY TYPE

– Standard Wide Type –



part number structure

example **SEBS 15WA Y UU 2 T1 - 589 P / W2**

specification	size	block	seal	number of blocks attached to one rail	symbol for number of rails	accuracy grade	total length of rail	pre-load symbol
SEB standard		blank standard	blank without side-seal		blank single rail	blank high		T0 clearance
SEBS anticorrosion		Y long	UU seals on both ends		W2 double rails	P precision		blank standard
					W3 triple rails			T1 light pre-load

Note: The symbol for the number of rails does not mean the number of rails ordered.

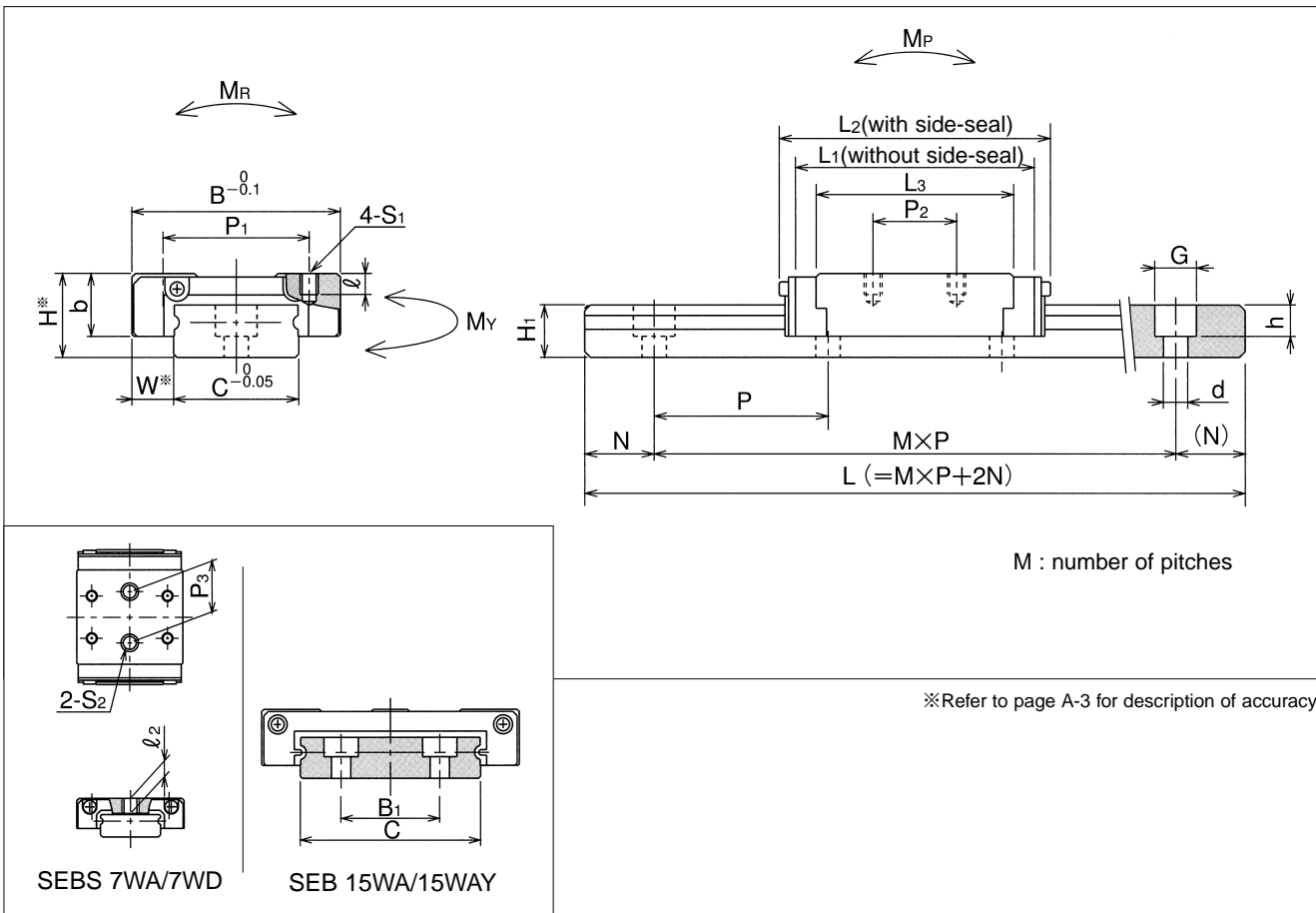
part number		assembly dimensions					block dimensions									
		H	W	B	L ₁	L ₂	P ₁	P ₂	S ₁	ℓ	L ₃	P ₃	S ₂	ℓ ₂	b	
standard	anticorrosion	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	
–	SEBS 7WA	9	5.5	25	30.1	32	18	12	M2.6	2.5	22.1	12	M4	3.5	7	
	SEBS 7WD				39.6	41	19	10	M3	2.8						
	SEBS 7WAY															31.6
SEB 9WA	SEBS 9WA	12	6	30	35.9	38	21	12	M2.6	3	28.4	–	–	–	9	
SEB 9WD	SEBS 9WD				48	50	23	24	M3	2.8						
SEB 9WAY	SEBS 9WAY											3	40.4			
SEB12WA	SEBS12WA	14	8	40	40.7	44	28	15	M3	3.5	33.5	–	–	–	11	
SEB12WAY	SEBS12WAY				55	58.5					28					47.8
SEB15WA	SEBS15WA	16	9	60	51.2	55	45	20		M4	4.5	42	–	–		–
SEB15WAY	SEBS15WAY				70.5	74			35			61.1				

rail size	standard rail length											
	L											
	mm											
7WA	50	80	110	140	170	200	230	260	290	350	410	
9WA	50	80	110	140	170	200	230	260	290	350	410	
12WA	70	110	150	190	230	270	310	350	390	430	470	
15WA	70	110	150	190	230	270	310	350	390	430	470	

With custom length rails, kindly advise distance (N) from one end of rail to first hole.

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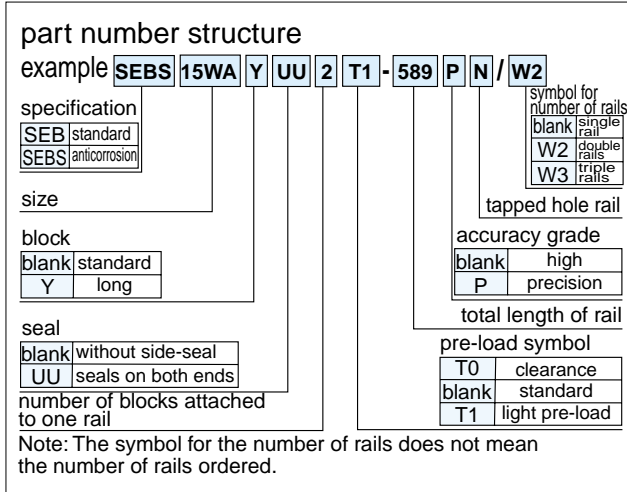
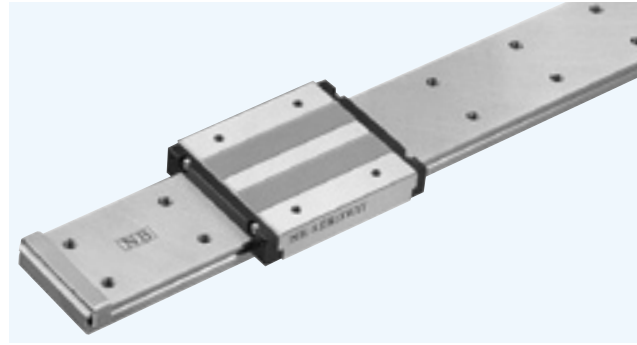
guide-rail dimensions						basic load rating		allowable static moment			mass		size
H ₁	C	B ₁	d × G × h	N	P	C	Co	M _P	M _Y	M _R	block	guide rail	
mm	mm	mm	mm	mm	mm	kN	kN	N · m	N · m	N · m	kg	kg/m	
5.2	14	—	3.5 × 6 × 3.2	10	30	15.7	2.45	7.8	9.8	15.7	0.02	0.5	7WA
						2.36	3.68	17.2	21.6	23.6	0.03		7WD
7.5	18	—	3.5 × 6 × 4.5			2.25	3.33	13.7	16.7	30.4	0.04	0.96	7WAY
						3.33	4.9	29.4	35.3	45.1	0.06		9WA
8	24	—	4.5 × 8 × 4.5	15	40	2.94	4.31	20.6	24.5	51.9	0.08	1.40	9WD
						4.31	6.27	44.1	52.9	76.4	0.11		9WAY
9.5	42	23	4.5 × 8 × 4.5	15	40	4.9	7.06	40.2	48.0	148	0.15	2.95	12WA
						7.35	10.6	94.1	108	225	0.22		12WAY

1kN ≒ 102kgf 1N · m ≒ 0.102kgf · m

	maximum length	
	standard	anticorrosion
470	—	700
470 530	1,000	1,000
550 630 710	1,900	
550 630 710 790 870		

SEB-WA-N/WAY-N TYPE

— Standard Wide Type w/Tapped Hole Rail —



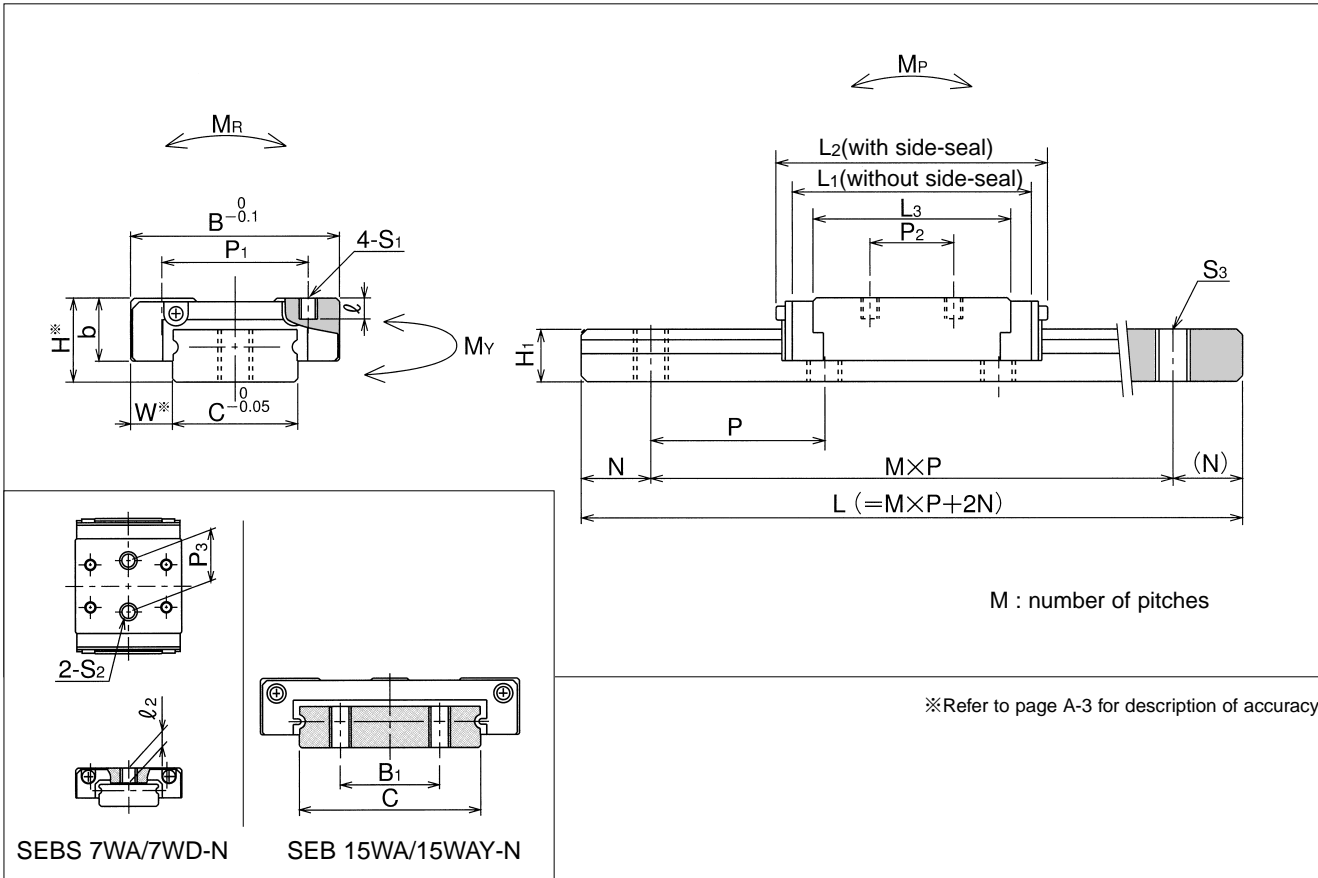
part number		assembly dimensions		block dimensions											
		H	W	B	L ₁	L ₂	P ₁	P ₂	S ₁	ℓ	L ₃	P ₃	S ₂	ℓ ₂	b
standard	anticorrosion	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
—	SEBS 7WA-N	9	5.5	25	30.1	32	18	12	M2.6	2.5	22.1	12	M4	3.5	7
	SEBS 7WD-N				39.6	41	19	10	M3	2.8					
	SEBS 7WAY-N				19	19	M3	2.8	31.6	18					
SEB 9WA-N	SEBS 9WA-N	12	6	30	35.9	38	21	12	M2.6	3	28.4	—	—	—	9
SEB 9WD-N	SEBS 9WD-N				48	50	23	24	M3	2.8					
SEB 9WAY-N	SEBS 9WAY-N				23	24	M3	3	40.4	—	—	—			
SEB12WA-N	SEBS12WA-N	14	8	40	40.7	44	28	15	M3	3.5	33.5	—	—	—	11
SEB12WD-N	SEBS12WD-N				55	58.5		28			28				
SEB15WA-N	SEBS15WA-N	16	9	60	51.2	55	45	20	M4	4.5	42	—	—	—	13
SEB15WD-N	SEBS15WD-N				70.5	74		20			35				

rail size	standard rail length											
	L mm											
7W	50	80	110	140	170	200	230	260	290	350	410	
9W	50	80	110	140	170	200	230	260	290	350	410	
12W	70	110	150	190	230	270	310	350	390	430	470	
15W	70	110	150	190	230	270	310	350	390	430	470	

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guide-rail dimensions						basic load rating		allowable static moment			mass		size
H ₁	C	B ₁	S ₃	N	P	dynamic C	static C ₀	M _P	M _Y	M _R	block kg	guide rail kg/m	
mm	mm	mm		mm	mm	kN	kN	N · m	N · m	N · m			
5.2	14	—	M4	10	30	1.57	2.45	7.8	9.8	15.7	0.02	0.5	7WA
						2.36	3.68	17.2	21.6	23.6			7WD
7.5	18	—	M4	10	30	2.25	3.33	13.7	16.7	30.4	0.04	0.96	7WAY
						3.33	4.9	29.4	35.5	45.1			0.06
8	24	—	M5	15	40	2.94	4.31	20.6	24.5	51.9	0.08	1.40	9WD
						4.31	6.27	44.1	52.9	76.4			0.11
9.5	42	23	M5	15	40	4.9	7.06	40.2	48.0	148	0.15	2.95	12WA
						7.35	10.6	94.1	108	225			0.22

1kN ≒ 102kgf 1N · m ≒ 0.102kgf · m

	maximum length	
	standard	anticorrosion
470	—	700
470	530	1,000
550	630 710	
550	630 710 790 870	