

NIPPON BEARING

SLIDE GUIDE Miniature SEB Type

The NB slide guide SEB type is a linear motion bearing in which the ball elements roll along two raceway grooves. This is the smallest and lightest slide guide series offered by Nippon Bearing. The compact design allows for the size and weight of machinery and other equipment to be reduced.

STRUCTURE AND ADVANTAGES

The SEB type slide guide consists of a rail with precisely machined raceway grooves and a block assembly consisting of the main body, return caps and ball elements.

Retained Ball

Because of the ball retainers, the SEBS-B type is able to be removed from the guide rail, simplifying its installation and resulting in lower assembly costs.

All Stainless Steel Type

By using stainless steel for the return caps, the SEBS-BM type is made from all stainless steel components, making it the ideal choice for special environments such as high temperature, clean room, or vacuum applications.

Moment Resistant

A wide block (WB/WA) type, a long block (BY/AY) type, and a wide/long block (WBY/WAY) type are moment resistant slide guide types. The most

suitable type can be selected for any demanding operating condition.

Tapped Hole Rail Type

For the SEB rails, counterbore (standard) and optional tapped hole (N) types are available enabling various installation methods.

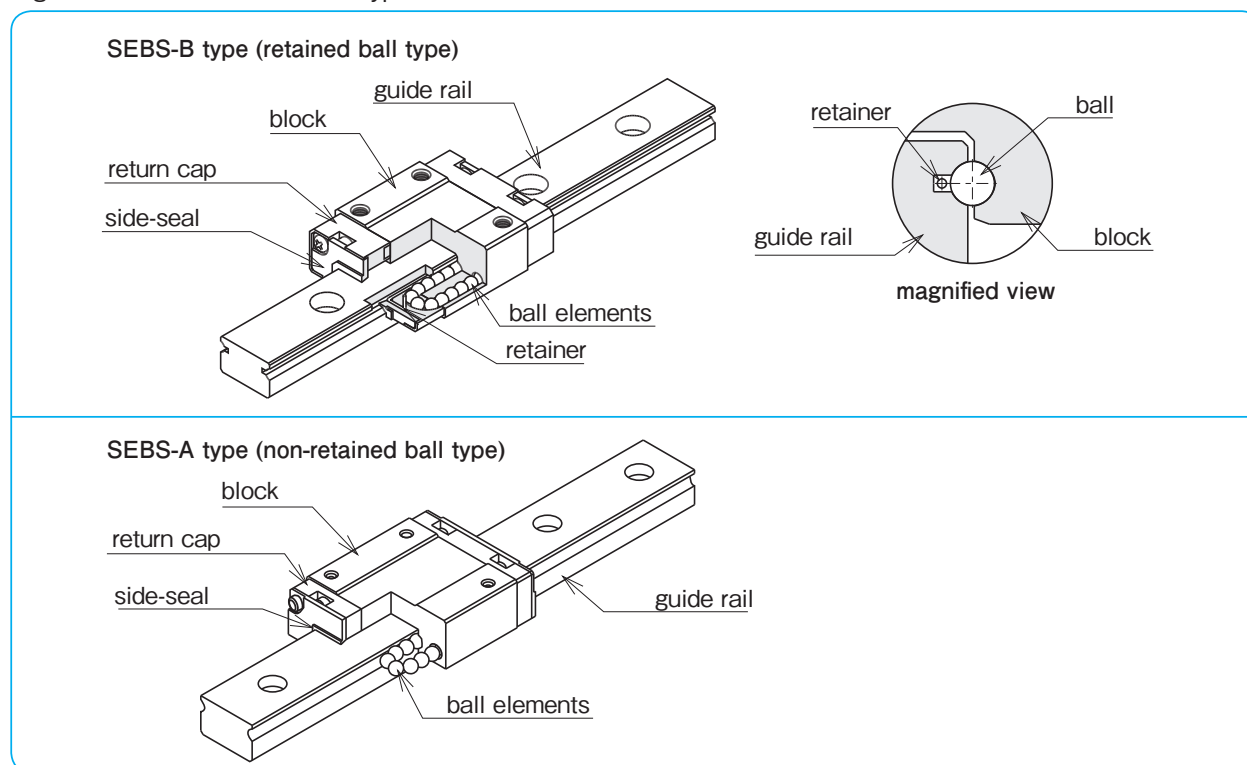
Compact Design

SEB type has a 2-row, 4-point contact structure. This structure minimizes the installation height, which contributes to light-weight and miniaturization of machinery and equipment.

AD Profile

AD profile dissipates guide block deformation caused by installation. (refer to page A-21)

Figure A-39 Structure of SEB type Slide Guide

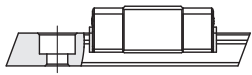
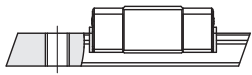
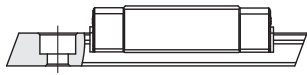
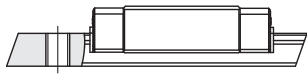
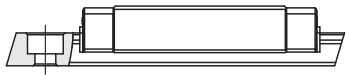
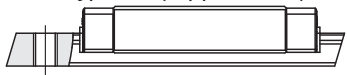
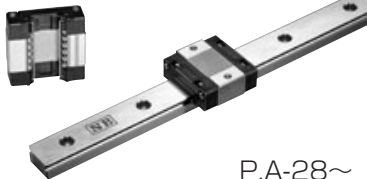

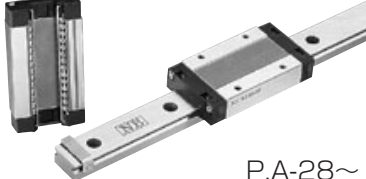
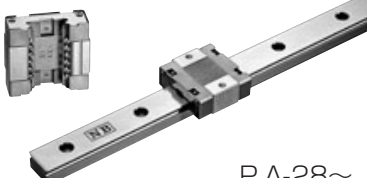
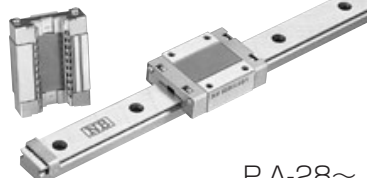
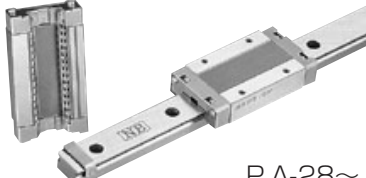



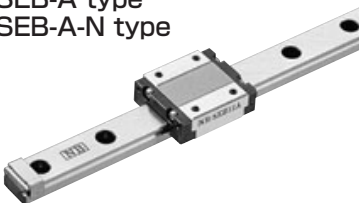
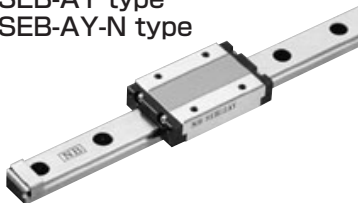
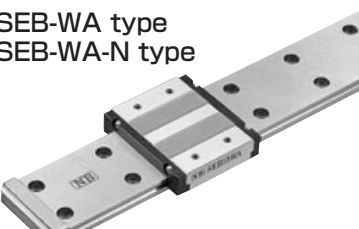



SLIDE GUIDE

TYPES

The SEB(S) type slide guides are categorized according to their block shape and the rail installation method.

※All the SEB blocks are made of stainless steel (SEBS marking).

		short block standard type rail(counterbore)  N type rail(tapped hole) 	standard block standard type rail(counterbore)  N type rail(tapped hole) 	long block standard type rail(counterbore)  N type rail(tapped hole) 
retained ball type	all stainless steel	SEBS-BS type SEBS-BS-N type  P.A-28~	SEBS-B type SEBS-B-N type  P.A-28~	SEBS-BY type SEBS-BY-N type  P.A-28~
		SEBS-BSM type SEBS-BSM-N type  P.A-28~	SEBS-BM type SEBS-BM-N type  P.A-28~	SEBS-BYM type SEBS-BYM-N type  P.A-28~
	wide type	SEBS-WBS type SEBS-WBS-N type  P.A-32~	SEBS-WB type SEBS-WB-N type  P.A-32~	SEBS-WBY type SEBS-WBY-N type  P.A-32~
non-retained ball type			SEB-A type SEB-A-N type  P.A-36~	SEB-AY type SEB-AY-N type  P.A-36~
	wide type		SEB-WA type SEB-WA-N type  P.A-40~	SEB-WAY type SEB-WAY-N type  P.A-40~

SLIDE GUIDE

NIPPON BEARING

ACCURACY

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

Table A-8 Accuracy unit : mm

accuracy grade	high	precision
accuracy symbol	blank	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 A-40,41	
running parallelism of surface D to surface B		

Figure A-40 Accuracy

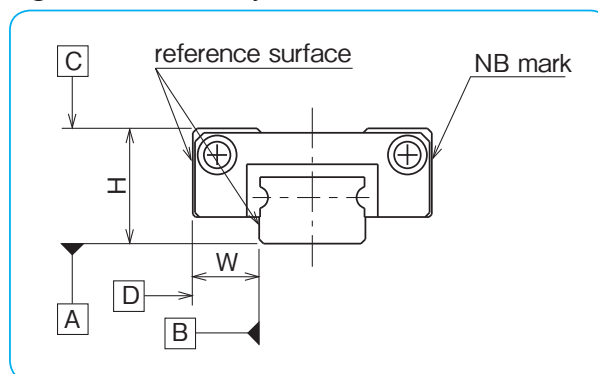
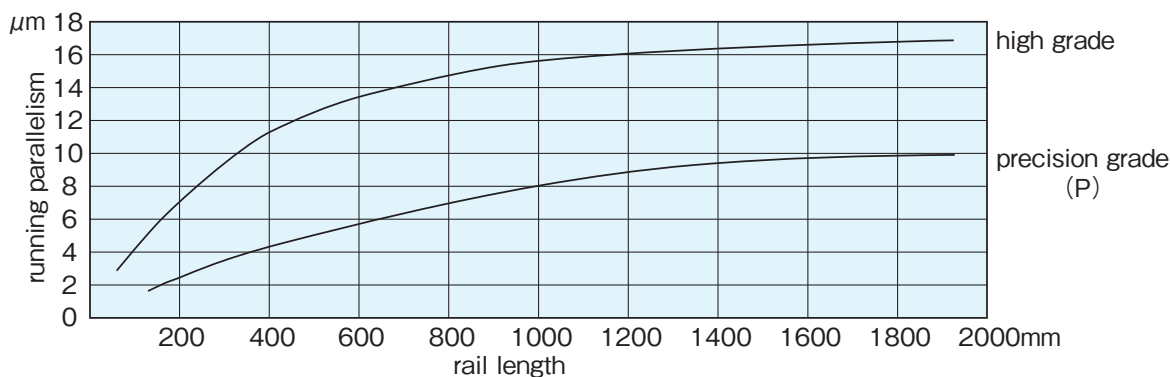


Figure A-41 Motion Accuracy



PRELOAD

SEB(S) slide guides are available with a standard preload (blank), light preload (T1), and a positive-clearance (T0).

Table A-9 Preload Symbol and Radial Clearance unit : µm

size	preload and symbol		
	clearance T0	standard blank	light** T1
2	+1~+3	-	-
3			
5		-1~0	
7	+3~+6	-3~0	-4~-2
9			
12			
15	+4~+8	-	-7~-3
20			
3W	+1~+3	-	-
5W		-1~0	-
7W	+3~+6	-3~0	-4~-2
9W			
12W			
15W	+4~+8	-	-7~-3

Table A-10 Operating Conditions and Preload

preload	symbol	operating conditions
clearance	T0	light motion is required. installation errors to be absorbed.
standard	blank	minute vibration is applied. accurate motion is required. moment is applied in a given direction.
light**	T1	light vibration is applied. light torsional load is applied. moment is applied.

** Frictional resistance may be affected by preload.

SLIDE GUIDE

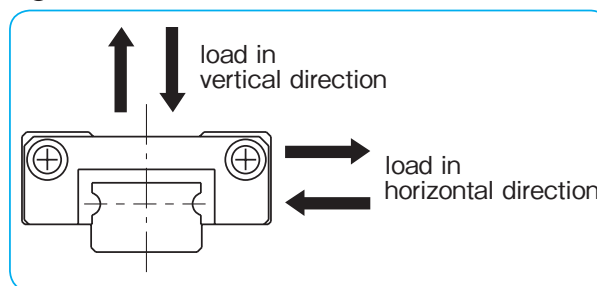
LOAD RATING

The load rating for SEB(S) slide guides depends on the direction of load.

Table A-11 Load Rating

		retained ball type	non-retained ball type
basic dynamic load rating	vertical	1.00 × C	1.00 × C
	horizontal	0.84 × C	1.19 × C
basic static load rating	vertical	1.00 × C ₀	1.00 × C ₀
	horizontal	0.84 × C ₀	1.19 × C ₀

Figure A-42 Direction of Load



SLIDE GUIDE

EQUIVALENT LOAD

For a guide to which vertical load and horizontal load are applied at the same time, calculate its static equivalent load using the following equation.

$$P = Pa + X \cdot Ps$$

P: equivalent load Pa: vertical load Ps: horizontal load
X: 0.84 for SEB-A type; 1.19 for SEBS-B type

RAIL LENGTH

Slide guides with most commonly used lengths are available as standard. For slide guides with a non-standard length, unless otherwise specified, the distance from one end of the rail to the first hole center (N) will be within the ranges listed in Tables A-12 and A-13, satisfying the following equation.

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

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

Figure A-43 Rail

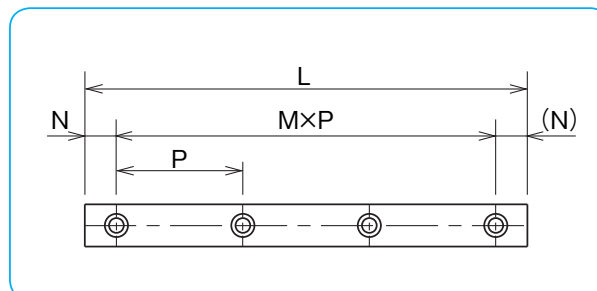


Table A-12 N Dimension (standard type) unit : mm

size	N	
	and over	less than
2	3	7
3		8
5		10.5
7		
9	4	14
12		16.5
15		24
20		36

Table A-13 N Dimension (wide type) unit : mm

size	N	
	and over	less than
3W	3	10.5
5W	4	14
7W		19
9W		
12W	5	25
15W		

NIPPON BEARING

MOUNTING

Mounting Surface Profile

Slide guides are mounted by pushing the reference surface of the rail and the block against the shoulder provided on the mounting surface. An undercut or a radius corner should be provided at the corner of the shoulder to prevent interference. The recommended shoulder height values on the mounting reference surface are shown in Table A-14. (Table A-15 for corner radius)

Figure A-44 Mounting Surface Profile-1

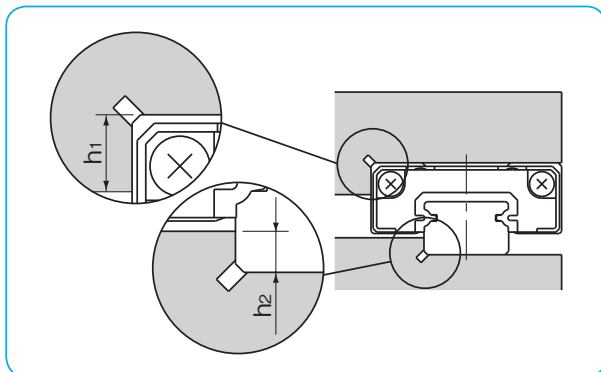


Figure A-45 Mounting Surface Profile-2

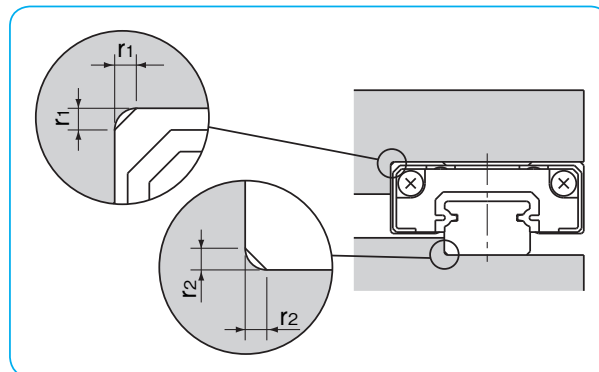


Table A-14 Shoulder Height on the Mounting Reference Surface unit : mm

size	shoulder height on the block side h ₁	shoulder height on the rail side h ₂
2	1	0.5
3	1.2	0.8
5	2	1
7	2.5	
9	3	1.5
12	4	2
15	5	3.5
20		5
3W	1.5	0.8
5W	2	1
7W	3	1.5
9W		2.5
12W	4	
15W	5	

Table A-15 Maximum Corner Radius Values unit : mm

size	block mounting part r ₁	rail mounting part r ₂
2	0.1	0.1
3	0.15	
5	0.3	0.3
7		
9		
12		
15	0.5	
20		
3W	0.15	0.1
5W	0.3	0.3
7W		
9W		
12W		
15W		

Recommended Torque Values (Rail)

The screws to fasten the rail should be tightened to an equal torque using a torque wrench in order to secure the motion accuracy. The recommended torque values are given in Table A-16. Please adjust the torque depending on the operating conditions.

Table A-16 Recommended Torque unit : N·m

size	M1	M1.4	M1.6	M2	M2.6	M3	M4	M5	M6
recommended torque	0.03	0.10	0.15	0.3	0.65	1.0	2.3	4.7	8.0

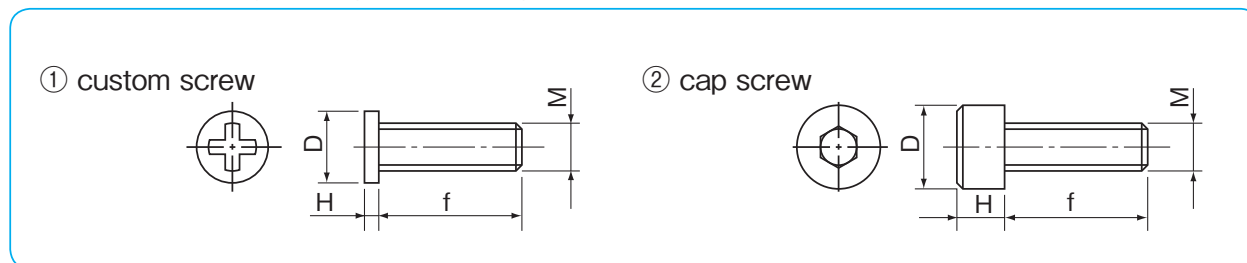
(when using stainless steel screw A2-70)

SLIDE GUIDE

MOUNTING SCREW

Extremely small custom screws are available from NB.

Figure A-46 Mounting Screw (stainless steel)



SLIDE GUIDE

Table A-17 Mounting Screw (stainless steel)

type	shape	size	D mm	H mm	pitch mm	f mm
custom screw	Figure A-46①	M1	1.8	0.45	0.25	3, 4, 5
		M1.4	2.5	0.8	0.3	2.5, 3, 4
		M1.6	2.3	0.5	0.35	4, 5, 6
		M2	3	0.6	0.4	6
cap screw	Figure A-46②	M2	3.8	2	0.4	4, 5, 6, 8, 10
		M2.6	4.5	2.6	0.45	4, 5, 6, 8, 10

LUBRICATION

A high grade lithium soap based grease is applied to the NB slide guides prior to shipment for immediate use.

Please relubricate with a similar type of grease periodically depending on the operating conditions. For use in clean rooms or vacuum environments, NB slide guides without grease are available upon request.

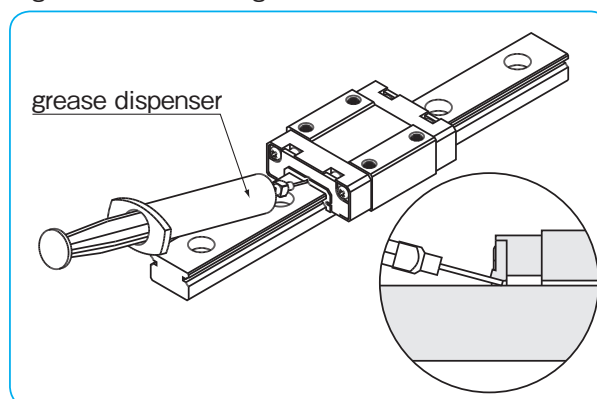
Please contact NB for customer specified grease types.

A special syringe lubricant dispenser (refer to Figure A-47) is available from NB as an option. In particular, the SEBS-B retained ball type has a special structure that allows the user to replenish lubricant easily (refer to page Eng-44), as the magnified view of Figure A-47 shows.

Please refer to page Eng-41 for details on the low dust generation grease.



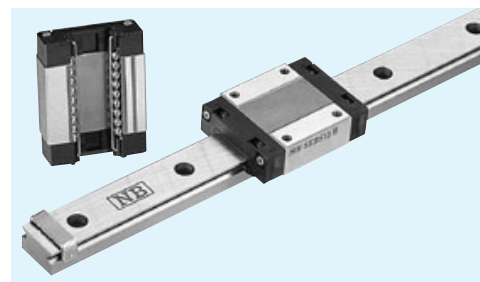
Figure A-47 Greasing Method



NIPPON BEARING

SEBS-B TYPE

– Retained Ball Type –
–5/7/9–



part number structure

example **SEBS 7B Y M UU 2 T1 -289 N P /W2**

SEBS: anti-corrosion
size
block
S: short
blank: standard
Y: long

return cap
blank: resin
M: stainless steel

seal (refer to page A-14)
blank: without side-seal
UU: with side-seals

number of blocks attached to one rail

preload symbol (refer to page A-24)
TO: clearance
blank: standard
T1: light

symbol for number of axes**
blank: single axis
W2: 2 parallel axes
W3: 3 parallel axes

accuracy grade (refer to page A-24)
blank: high
P: precision

rail mounting hole
blank: counterbore
N: tapped hole

total length of rail

※ The symbol for the number of axes does not mean the number of rails ordered.

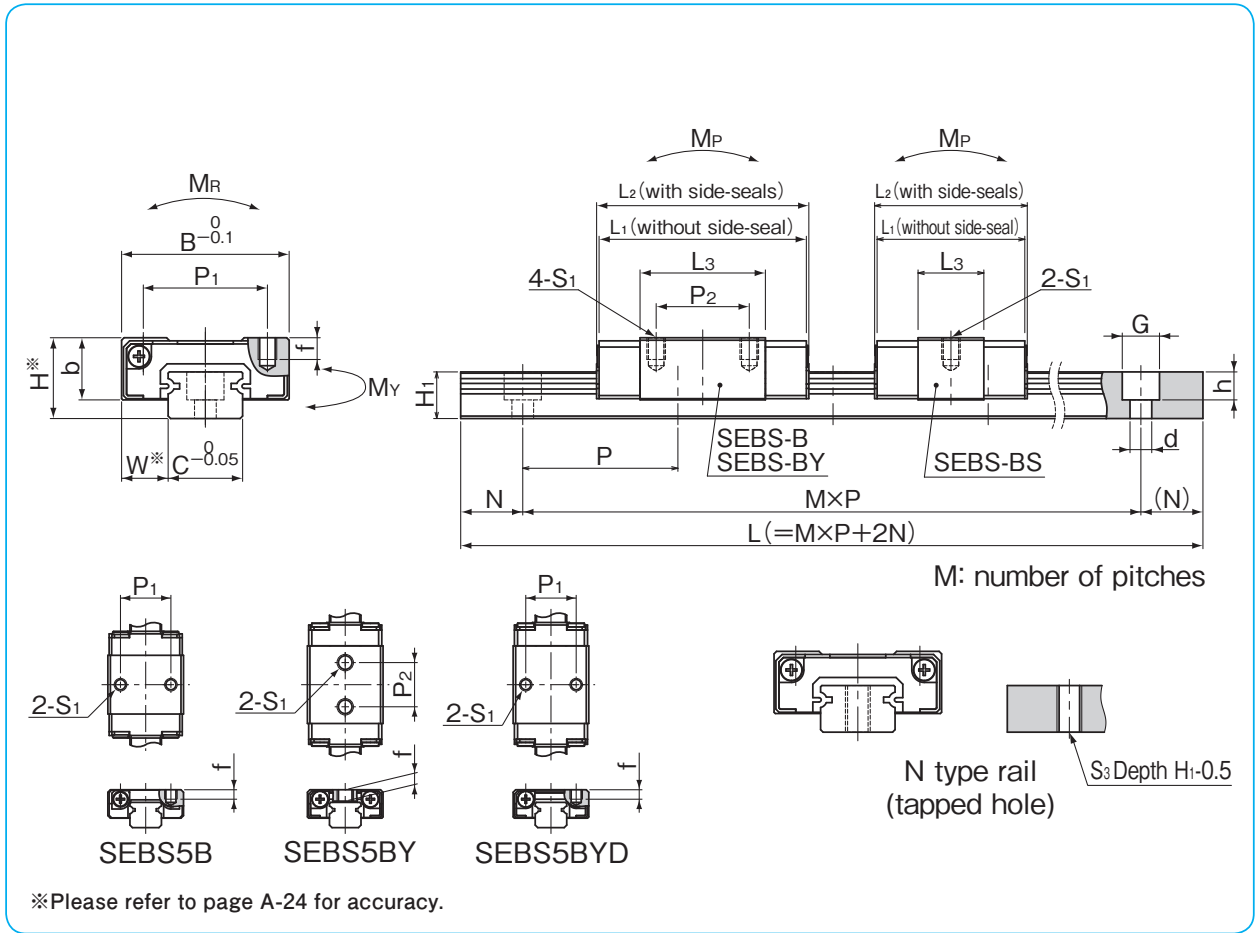
part number		assembly dimensions		block dimensions								
resin return cap	stainless return cap	H	W	B	L ₁	L ₂	P ₁	P ₂	S ₁	f	L ₃	b
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
SEBS 5B	SEBS 5BM				16.5	16.9	8	—	M2	1.5	9.3	4.5
SEBS 5BY	SEBS 5BYM	6	3.5	12	19.5	19.9	—	7	M2.6	1.8	12.3	
SEBS 5BYD	SEBS 5BYDM						8	—	M2	1.5		
SEBS 7BS	SEBS 7BSM				18.2	19		—			8.8	6.5
SEBS 7B	SEBS 7BM	8	5	17	22.2	23	12	8	M2	2.5	12.8	
SEBS 7BY	SEBS 7BYM				31.7	32.5		13			22.3	
SEBS 9BS	SEBS 9BSM				20.5	21.3		—			10.1	7.8
SEBS 9B	SEBS 9BM	10	5.5	20	30	30.8	15	10	M3	3	19.6	
SEBS 9BY	SEBS 9BYM				39.5	40.3		16			29.1	

part number	standard rail length L mm															
SEBS 5B	40	55	70	85	100	115	130	145	160							
SEBS 7B	40	55	70	85	100	115	130	145	160	175	190	205	220	235	250	265
SEBS 9B	55	75	95	115	135	155	175	195	215	235	255	275	295	315	335	355

Rails exceeding the maximum specified length may be fabricated if joints are used. Please contact NB for assistance.

SLIDE GUIDE

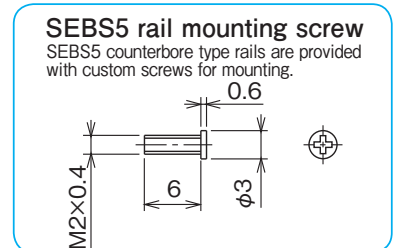
SLIDE GUIDE



H1 mm	C mm	guide rail dimensions			N mm	P mm	basic load rating		allowable static moment			mass		guide rail g/100mm	block size
		d×G×h mm	S3	S3			d	C	Co	MP	MY	MR	block resin		
4	5	2.4×3.5×0.8	M2.6	5	15	0.52	0.75	1.13	0.95	1.96	3	4	13	5B	
						0.64	1.00	1.94	1.63	2.62	4	5		5BY	
								12.0	10.0					5BYD	
4.7	7	2.4×4.2×2.3	M3	5	15	0.92	1.05	1.57	1.32	3.86	7	10	21	7BS	
						1.28	1.69	3.66	3.07	6.18	9	12		7B	
						1.90	2.95	10.4	8.74	10.8	15	18		7BY	
5.5	9	3.5×6×3.5	M4	7.5	20	1.05	1.26	2.17	1.82	5.90	11	15	31	9BS	
						1.70	2.53	7.78	6.53	11.8	18	22		9B	
						2.26	3.80	16.8	14.1	17.7	27	31		9BY	

MP2 and MY2 are allowable static moments when two blocks are used in close contact. 1kN ≙ 102kgf 1N · m ≙ 0.102kgf · m

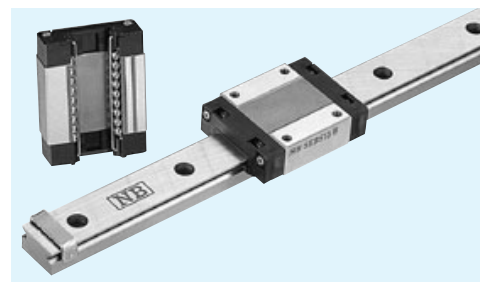
							maximum length mm	
							counterbore	tapped hole (N type)
							600	300
280	295	310					1,300	700
375	395	415	435	455	475	1,480	1,000	



NIPPON BEARING

SEBS-B TYPE

– Retained Ball Type –
–12/15/20–



part number structure

example **SEBS 15B Y M UU 2 T1 -589 N P /W2**

SEBS: anti-corrosion
size
block
S: short
blank: standard
Y: long

return cap
blank: resin
M: stainless steel

seal (refer to page A-14)
blank: without side-seal
UU: with side-seals

number of blocks attached to one rail

preload symbol (refer to page A-24)
TO: clearance
blank: standard
T1: light

symbol for number of axes**
blank: single axis
W2: 2 parallel axes
W3: 3 parallel axes

accuracy grade (refer to page A-24)
blank: high
P: precision

rail mounting hole
blank: counterbore
N: tapped hole

total length of rail

※ The symbol for the number of axes does not mean the number of rails ordered.

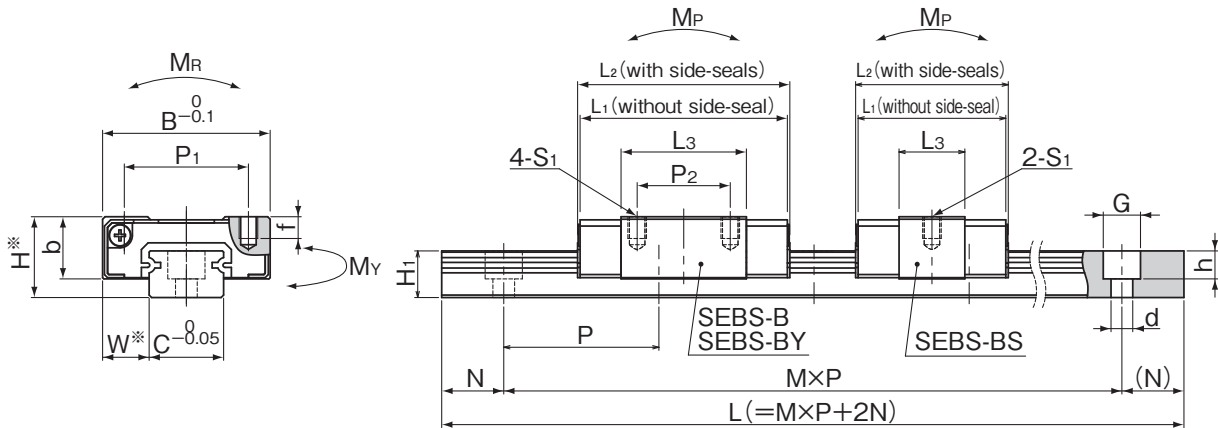
part number		assembly dimensions		block dimensions								
resin return cap	stainless return cap	H	W	B	L ₁	L ₂	P ₁	P ₂	S ₁	f	L ₃	b
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
SEBS12BS	SEBS12BSM	13	7.5	27	24.2	24.6	20	—	M3	3.5	10.6	10
SEBS12B	SEBS12BM				33.8	34.2		15			20.2	
SEBS12BY	SEBS12BYM				45.7	46.1		20			32.1	
SEBS15BS	SEBS15BSM	16	8.5	32	30	30.4	25	—	M3	4	15	12
SEBS15B	SEBS15BM				42.6	43		20			27.6	
SEBS15BY	SEBS15BYM				58.6	59		25			43.6	
SEBS20B	SEBS20BM	25	13	46	65.9	65.9	38	38	M4	6	44.7	17.5
SEBS20BY	SEBS20BYM				85.7	85.7					64.5	

part number	standard rail length L mm															
SEBS12B	70	95	120	145	170	195	220	245	270	295	320	345	370	395	420	445
SEBS15B	70	110	150	190	230	270	310	350	390	430	470	510	550	590	630	670
SEBS20B	220	280	340	400	460	520	580	640	700	760	820	880	940	1,000		

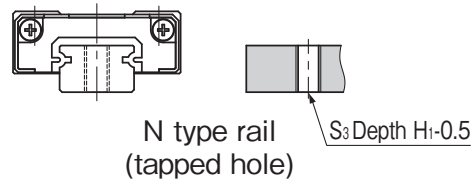
Rails exceeding the maximum specified length may be fabricated if joints are used. Please contact NB for assistance.

SLIDE GUIDE

SLIDE GUIDE



M: number of pitches



※Please refer to page A-24 for accuracy.

H ₁ mm	C mm	guide rail dimensions				basic load rating		allowable static moment			mass		guide rail g/100mm	block size
		d×G×h mm	S ₃	N mm	P mm	dynamic C kN	static C ₀ kN	M _P M _{P2} N · m	M _Y M _{Y2} N · m	M _R N · m	block g resin return cap	block g stainless return cap		
7.5	12	3.5×6×4.5	M4	10	25	1.90	1.91	3.63 32.4	3.04 27.2	11.9	21	30	59	12BS
						3.09	3.82	12.4 81.3	10.4 68.2	23.9	35	44		12B
						4.34	6.21	30.7 170	25.7 143	38.8	53	62		12BY
9.5	15	3.5×6×4.5	M5	15	40	3.49	3.38	8.56 67.5	7.18 56.6	26.2	40	53	97	15BS
						5.65	6.76	29.2 175	24.5 147	52.4	64	77		15B
						7.93	10.9	72.4 379	60.7 318	85.1	98	110		15BY
15	20	6×9.5×8.5	M6	20	60	11.4	14.5	103 591	87.0 496	149	228	266	205	20B
						14.8	21.2	210 1,080	176 914	217	323	360		20BY

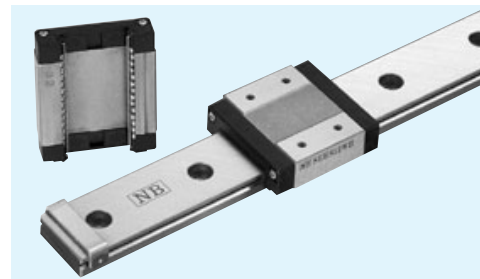
M_{P2} and M_{Y2} are allowable static moments when two blocks are used in close contact. 1kN ≅ 102kgf 1N · m ≅ 0.102kgf · m

		maximum length mm	
		counterbore	tapped hole (N type)
470	495	1,480	1,000

NIPPON BEARING

SEBS-WB TYPE

– Retained Ball • Wide Type –
–5/7/9–



part number structure

example **SEBS 7WB Y UU 2 T1 -289 N P /W2**

SEBS: anti-corrosion

size

block
S: short
blank: standard
Y: long

seal (refer to page A-14)
blank: without side-seal
UU: with side-seals

number of blocks attached to one rail

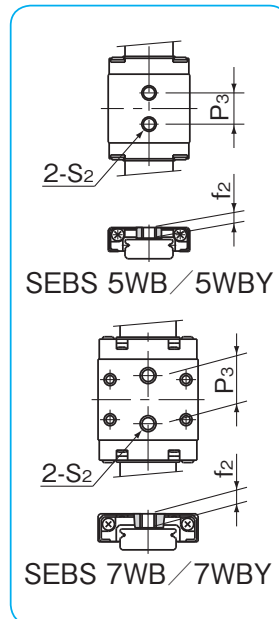
preload symbol (refer to page A-24)
TO: clearance
blank: standard
T1: light

symbol for number of axes*
blank: single axis
W2: 2 parallel axes
W3: 3 parallel axes

accuracy grade (refer to page A-24)
blank: high
P: precision

rail mounting hole
blank: counterbore
N: tapped hole

total length of rail



* The symbol for the number of axes does not mean the number of rails ordered.

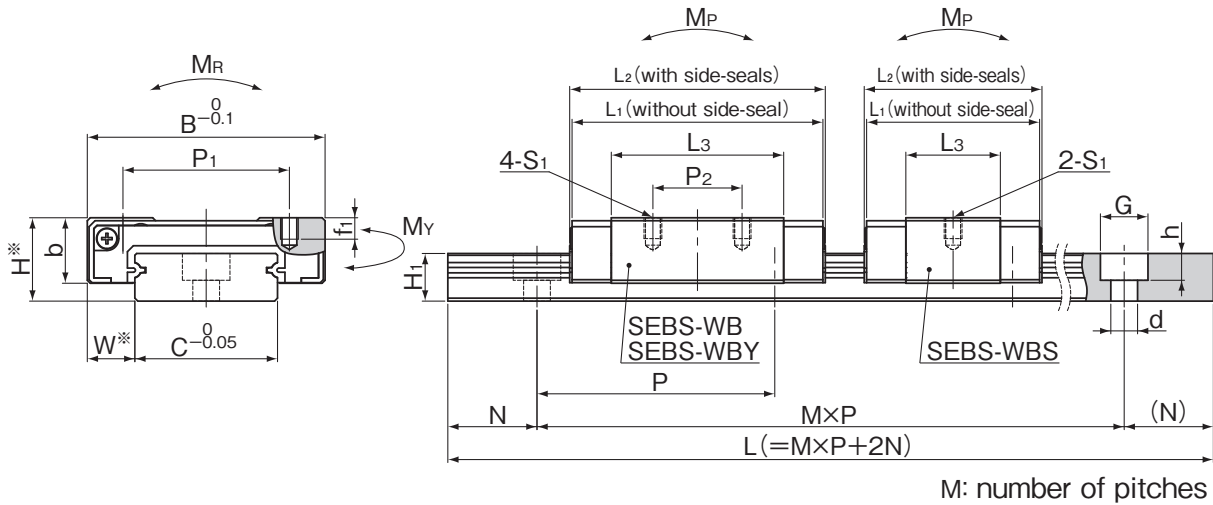
part number	assembly dimensions		block dimensions												
	H mm	W mm	B mm	L1 mm	L2 mm	P1 mm	P2 mm	S1	f1 mm	L3 mm	P3 mm	S2	f2 mm	b mm	
SEBS 5WB	6.5	3.5	17	21.5	21.9	—	—	—	—	14.3	6.5	M3	2.3	5	
SEBS 5WBY				27.5	27.9										20.3
SEBS 7WBS	9	5.5	25	21.1	21.9	19	10	M3	2.8	10.7	—	—	—	7	
SEBS 7WB				30.6	31.4					20.2					12
SEBS 7WBY				39.3	40.1					28.9					18
SEBS 9WBS	12	6	30	24.2	25	21	12	M3	3	13	—	—	—	9	
SEBS 9WB				37.5	38.3					26.3					—
SEBS 9WBY				49.5	50.3					23					24

part number	standard rail length L mm														
SEBS 5WB	50	70	90	110	130	150	170	190							
SEBS 7WB	50	80	110	140	170	200	230	260	290	320	350	380	410	440	470
SEBS 9WB	50	80	110	140	170	200	230	260	290	320	350	380	410	440	470

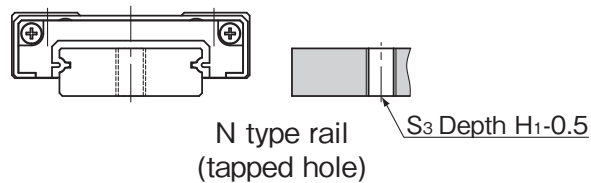
Rails exceeding the maximum specified length may be fabricated if joints are used. Please contact NB for assistance.
The minimum standard rail can not be used for SEBS 9 WBY.

SLIDE GUIDE

SLIDE GUIDE



M: number of pitches



※Please refer to page A-24 for accuracy.

guide rail dimensions							basic load rating		allowable static moment			mass		block size
H ₁	C	B ₁	d×G×h	S ₃	N	P	dynamic C	static C ₀	M _P M _{P2}	M _Y M _{Y2}	M _R	block g	guide rail g/100mm	
mm	mm	mm	mm		mm	mm	kN	kN	N · m	N · m	N · m			
4	10	—	3×5.5×3	M3	5	20	0.71	1.17	2.60 15.2	2.18 12.8	5.99	7	26	5WB
							0.91	1.68	5.16 27.3	4.33 22.9	8.56			5WBY
5.2	14	—	3.5×6×3.2	M4	10	30	1.05	1.26	2.17 18.2	1.82 15.2	9.07	12	51	7WBS
							1.71	2.53	7.78 48.2	6.53 40.4	18.1			7WB
							2.26	3.80	16.8 91.7	14.1 77.0	27.2			7WBY
7.5	18	—	3.5×6×4.5	M4	10	30	1.73	2.01	4.35 33.3	3.65 27.9	18.6	21	96	9WBS
							2.96	4.36	18.1 103	15.2 86.6	40.4			9WB
							3.87	6.38	37.4 192	31.4 161	59.0			9WBY

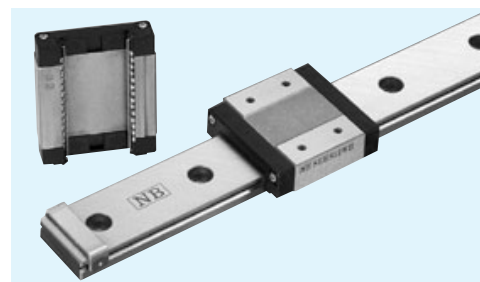
M_{P2} and M_{Y2} are allowable static moments when two blocks are used in close contact. 1kN ≙ 102kgf 1N · m ≙ 0.102kgf · m

	maximum length mm	
	counterbore	tapped hole (N type)
	600	500
	1,300	700
500 530	1,480	1,000

NIPPON BEARING

SEBS-WB TYPE

– Retained Ball • Wide Type –
–12/15–



part number structure

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

SEBS: anti-corrosion	size	block S: short blank: standard Y: long	seal (refer to page A-14) blank: without side-seal UU: with side-seals	number of blocks attached to one rail	preload symbol (refer to page A-24) TO: clearance blank: standard T1: light	symbol for number of axes* blank: single axis W2: 2 parallel axes W3: 3 parallel axes	accuracy grade (refer to page A-24) blank: high P: precision	rail mounting hole blank: counterbore N: tapped hole	total length of rail
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* The symbol for the number of axes does not mean the number of rails ordered.

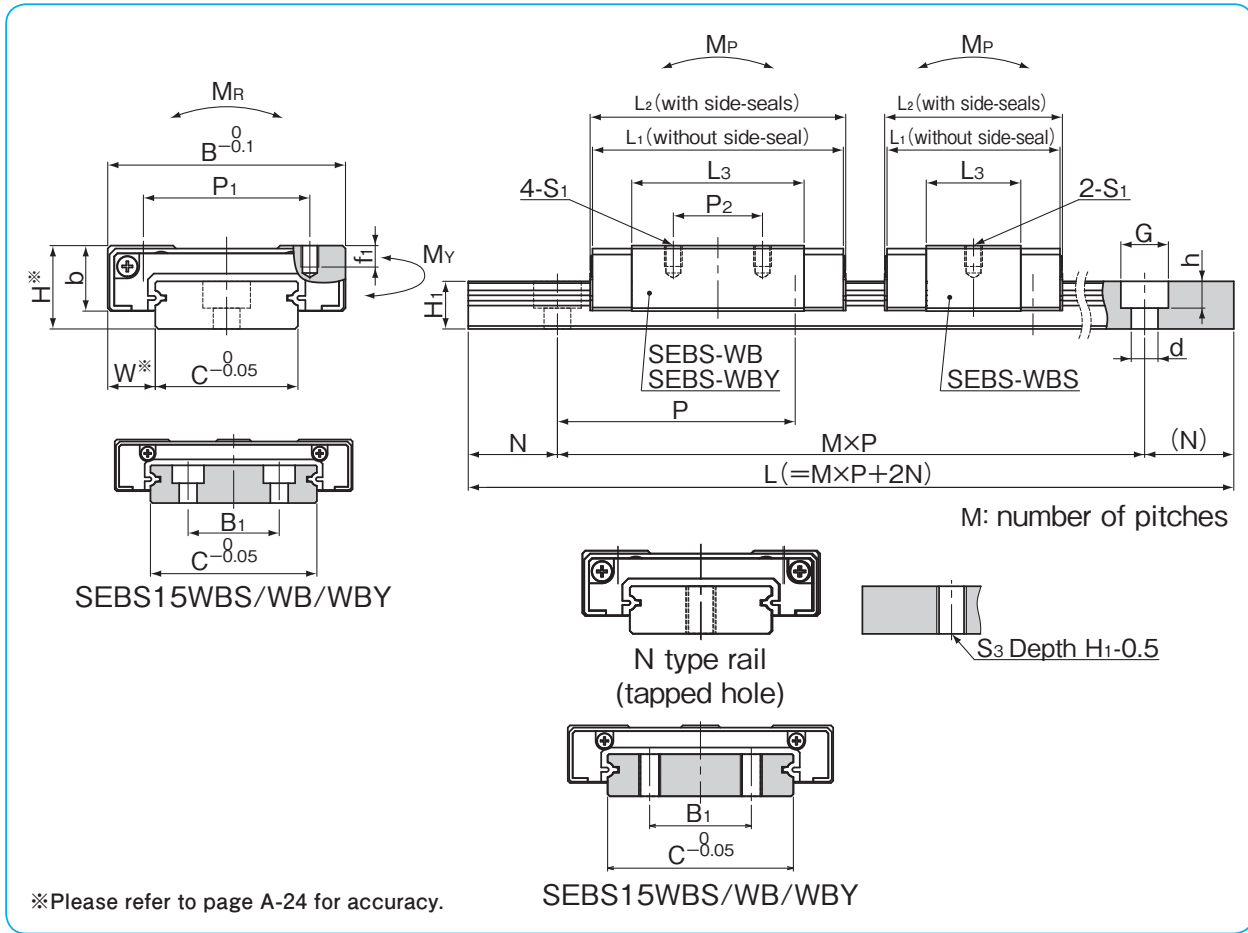
part number	assembly dimensions		block dimensions											
	H mm	W mm	B mm	L ₁ mm	L ₂ mm	P ₁ mm	P ₂ mm	S ₁	f ₁ mm	L ₃ mm	P ₃ mm	S ₂	f ₂ mm	b mm
SEBS12WBS	14	8	40	29.7	30.1	28	—	M3	3.5	15.9	—	—	—	11
SEBS12WB				42.8	43.2		15			29				
SEBS12WBY				58.3	58.7		28			44.5				
SEBS15WBS	16	9	60	39.4	39.8	45	—	M4	4.5	24	—	—	—	13
SEBS15WB				54.2	54.6		20			38.8				
SEBS15WBY				73.3	73.7		35			57.9				

part number	standard rail length L mm														
	70	110	150	190	230	270	310	350	390	430	470	510	550	590	630
SEBS12WB	70	110	150	190	230	270	310	350	390	430	470	510	550	590	630
SEBS15WB	70	110	150	190	230	270	310	350	390	430	470	510	550	590	630

Rails exceeding the maximum specified length may be fabricated if joints are used. Please contact NB for assistance.
The minimum standard rail can not be used for SEBS 15 WBY.

SLIDE GUIDE

SLIDE GUIDE



guide rail dimensions							basic load rating		allowable static moment			mass		block size
H ₁	C	B ₁	d×G×h	S ₃	N	P	dynamic C	static C ₀	M _P M _{P2}	M _Y M _{Y2}	M _R	block g	guide rail g/100mm	
mm	mm	mm	mm		mm	mm	kN	kN	N · m	N · m	N · m			
8	24	—	4.5×8×4.5	M5	15	40	2.53	2.86	7.38 54.3	6.19 45.6	35.1	43	137	12WBS
							4.10	5.73	26.4 150	22.1 126	70.2			12WB
							5.45	8.60	57.1 292	47.9 245	105			12WBY
9.5	42	23	4.5×8×4.5	M5	15	40	5.15	5.91	22.9 146	19.2 122	125	98	286	15WBS
							7.49	10.1	62.2 335	52.2 281	215			15WB
							9.95	15.2	134 663	113 556	323			15WBY

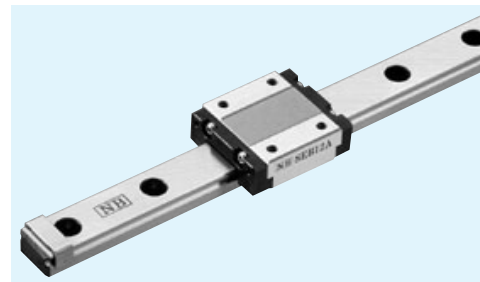
M_{P2} and M_{Y2} are allowable static moments when two blocks are used in close contact. 1kN≐102kgf 1N · m≐0.102kgf · m

						maximum length mm	
						counterbore	tapped hole (N type)
670	710					1,480	1,000
670	710	750	790	830	870		

NIPPON BEARING

SEB-A TYPE

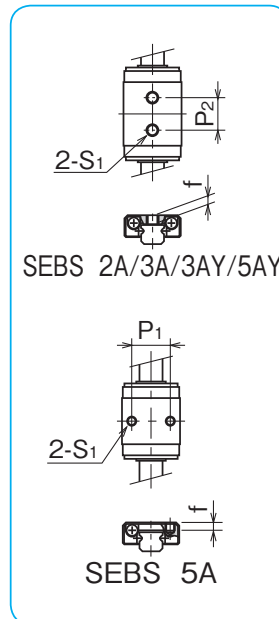
-2/3/5/7-



part number structure

example **SEBS 7A Y UU 2 T1 -289 N P /W2**

specification (rail) SEB : standard SEBS : anti-corrosion	size	block blank : standard Y : long	seal (refer to page A-14) blank : without side-seal UU : with side-seals	number of blocks attached to one rail	preload symbol (refer to page A-24) TO : clearance blank : standard T1 : light	symbol for number of axes* blank : single axis W2 : 2 parallel axes W3 : 3 parallel axes	accuracy grade (refer to page A-24) blank : high P : precision	rail mounting hole blank : counterbore N : tapped hole	total length of rail
---	------	---	--	---------------------------------------	--	--	--	--	----------------------



* The symbol for the number of axes does not mean the number of rails ordered.

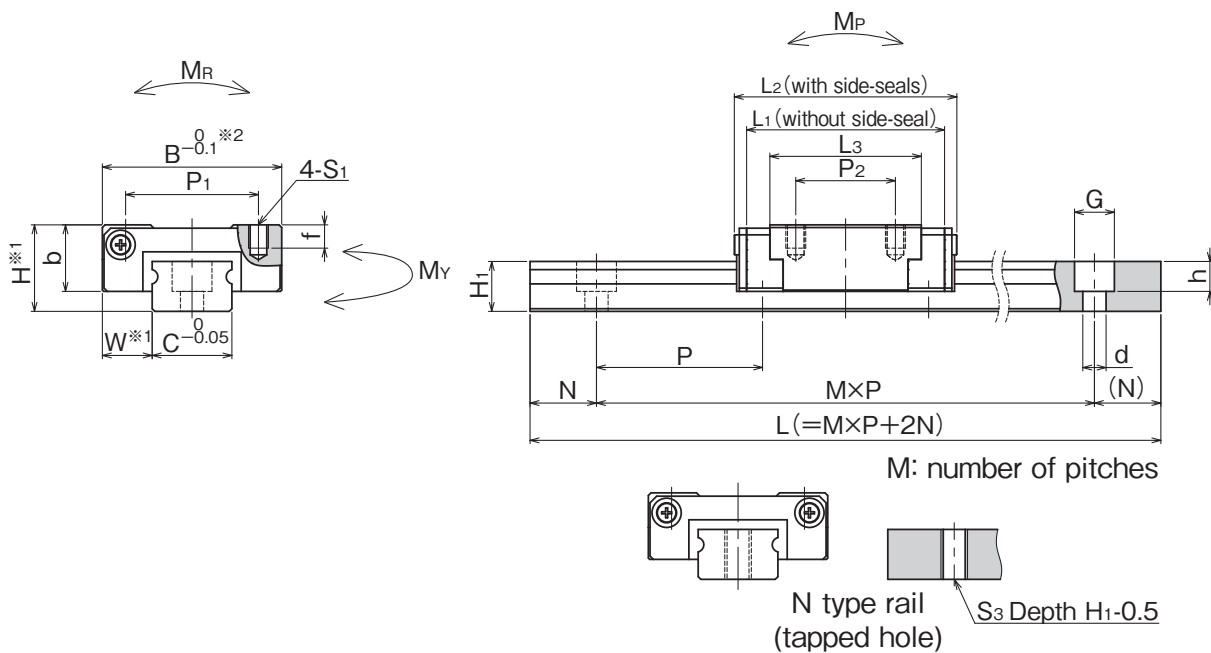
part number		assembly dimensions		block dimensions								
standard	anti-corrosion	H	W	B	L ₁	L ₂	P ₁	P ₂	S ₁	f	L ₃	b
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
—	SEBS 2A	3.2	2	6	12.9	14.3	—	4	M1.4	1.05	9.3	2.5
—	SEBS 3A	4	2.5	8	10.5	11.8	—	3.5	M1.6	1.3	6.5	3
	SEBS 3AY				14.5	15.8	—	5.5	M2		10.5	
—	SEBS 5A	6	3.5	12	15.6	17	8	—	M2	1.5	9.8	4.5
	SEBS 5AY				19.2	20.6	—	7	M2.6	1.8	13.4	
—	SEBS 7A	8	5	17	21.9	24	12	8	M2	2.5	15.1	6.5
	SEBS 7AY				31	33					13	

part number		standard rail length														
standard	anti-corrosion	L														
		mm														
—	SEBS 2A	32	40	56	80	104										
—	SEBS 3A	30	40	60	80	100										
—	SEBS 5A	40	55	70	85	100	115	130	145	160						
—	SEBS 7A	40	55	70	85	100	115	130	145	160	175	190	205	220	235	250

Joint rails are used when the required length exceeds the maximum standard length listed in the dimension tables. Please contact NB for details. Only N type rail is available for SEBS 2A and SEBS 3A.

SLIDE GUIDE

SLIDE GUIDE



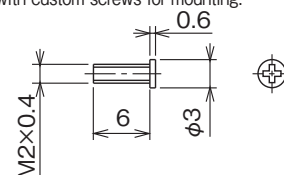
※1 Please refer to page A-24 for accuracy.
 ※2 B^{-0.05} only for SEBS 2A, 3A and 3AY.

guide rail dimensions						basic load rating		allowable static moment			mass		block size
H ₁	C	d × G × h	S ₃	N	P	dynamic C	static C ₀	M _P	M _Y	M _R	block g	guide rail g/100mm	
mm	mm	mm		mm	mm	kN	kN	N · m	N · m	N · m			
2	2	—	M1	4	8	0.21	0.38	0.53 2.77	0.64 3.30	0.41	0.8	2.8	2A
2.6	3	—	M1.6	5	10	0.25	0.36	0.39 2.42	0.46 2.88	0.57	1	5	3A
						0.35	0.58	0.97 5.18	1.16 6.18	0.93			2
4	5	2.4 × 3.5 × 1	M2.6	5	15	0.59	0.81	1.32 8.05	1.58 9.60	2.11	4	13	5A
						0.74	1.11	2.39 13.2	2.86 15.7	2.90			5
4.7	7	2.4 × 4.2 × 2.3	M3	5	15	1.08	1.41	3.07 18.9	3.66 22.6	5.18	11	21	7A
						1.59	2.48	8.74 45.1	10.4 53.8	9.07			16

M_{P2} and M_{Y2} are allowable static moments when two blocks are used in close contact. 1kN ≅ 102kgf 1N · m ≅ 0.102kgf · m

	maximum length mm			
	counterbore		tapped hole (N type)	
	standard	anti-corrosion	standard	anti-corrosion
	—	—	—	150
	—	—	—	150
	—	600	—	300
265 280 295 310	—	1,300	—	700

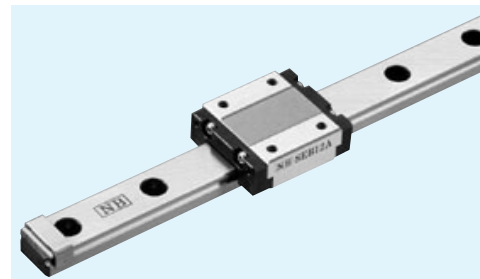
SEBS5 rail mounting screw
 SEBS5 counterbore type rails are provided with custom screws for mounting.



NIPPON BEARING

SEB-A TYPE

-9/12/15/20-



part number structure

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

specification (rail) SEB: standard SEBS: anti-corrosion	size	block blank: standard Y: long	seal (refer to page A-14) blank: without side-seal UU: with side-seals	number of blocks attached to one rail	preload symbol (refer to page A-24) TO: clearance blank: standard T1: light	symbol for number of axes* blank: single axis W2: 2 parallel axes W3: 3 parallel axes	accuracy grade (refer to page A-24) blank: high P: precision	rail mounting hole blank: counterbore N: tapped hole	total length of rail
---	------	-------------------------------------	--	---------------------------------------	--	--	--	--	----------------------

* The symbol for the number of axes does not mean the number of rails ordered.

part number		assembly dimensions		block dimensions									
standard	anti-corrosion	H	W	B	L ₁	L ₂	P ₁	P ₂	S ₁	f	L ₃	b	
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	
—	SEBS 9A	10	5.5	20	28.1	29.5	15	10	M3	3	20.4	7.8	
	SEBS 9AY				38.1	40		16			30.4		
SEB12A	SEBS12A	13	7.5	27	30	33.5	20	15		3.5	4	22.8	10
SEB12AY	SEBS12AY				42	45.5		20				34.7	
SEB15A	SEBS15A	16	8.5	32	38.5	42	25	20		6	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	17.8	
SEB20AY	SEBS20AY				79.5	85		38			69.5		

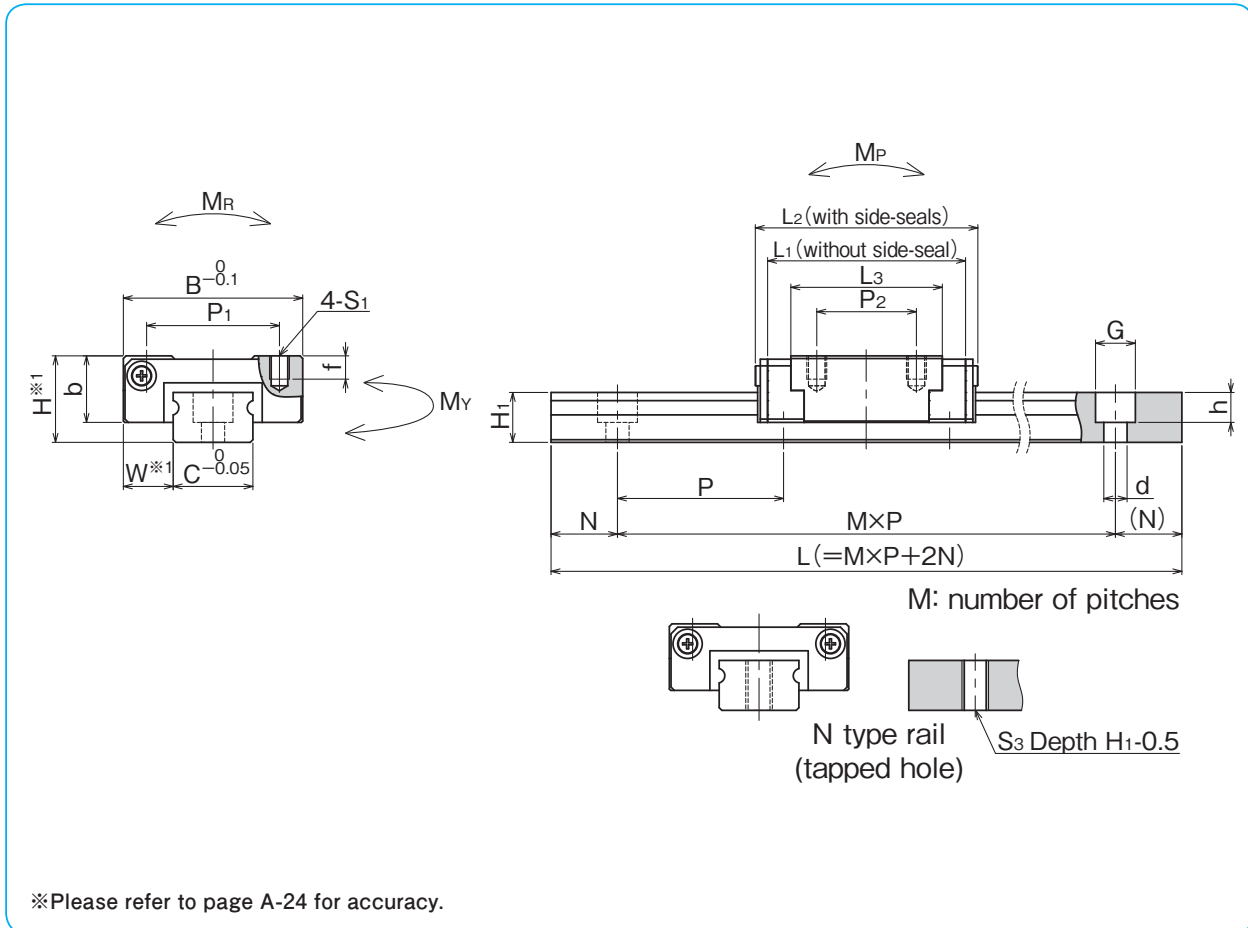
All the SEB blocks are made of stainless steel (SEBS marking).

part number		standard rail length														
standard	anti-corrosion	L														
		mm														
—	SEBS 9A	55	75	95	115	135	155	175	195	215	235	255	275	295	315	335
SEB12A	SEBS12A	70	95	120	145	170	195	220	245	270	295	320	345	370	395	420
SEB15A	SEBS15A	70	110	150	190	230	270	310	350	390	430	470	510	550	590	630
SEB20A	SEBS20A	220	280	340	400	460	520	580	640	700	760	820	880	940	1,000	

Joint rails are used when the required length exceeds the maximum standard length listed in the dimension tables.

SLIDE GUIDE

SLIDE GUIDE



※Please refer to page A-24 for accuracy.

H1 mm	C mm	guide rail dimensions				basic load rating		allowable static moment			mass		block size	
		d×G×h mm	S3	N mm	P mm	C kN	Co kN	MP MP2 N · m	MY MY2 N · m	MR N · m	block g	guide rail g/100mm		
5.5	9	3.5×6×3.5	M4	7.5	20	1.92	2.53	7.64	9.11	11.5	19	30	9A	
						2.62	3.94	43.1	51.3	17.9				28
7.5	12	3.5×6×4.5		10	25	2.60	3.20	10.4	12.4	20.0	37	60	12A	
						3.65	5.21	57.0	68.0	32.6				55
9.5	15		6×9.5×8.5	M5	15	40	4.74	5.67	24.5	29.2	43.9	68	100	15A
							6.65	9.22	131	157	71.4			
15	20	M6		20	60	8.99	11.1	72.7	86.7	114	226	209	20A	
						12.4	17.8	367	437	182				338
							176	210						
							823	981						

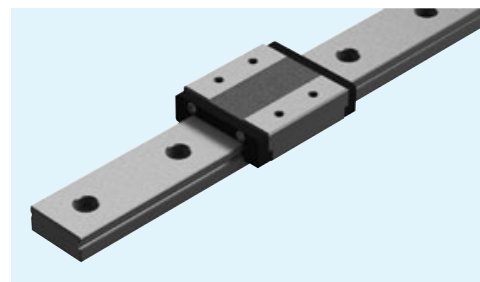
MP2 and MY2 are allowable static moments when two blocks are used in close contact. 1kN ≅ 102kgf 1N · m ≅ 0.102kgf · m

	maximum length mm			
	counterbore		tapped hole (N type)	
	standard	anti-corrosion	standard	anti-corrosion
355 375 395 415 435 455 475	—	—	—	—
445 470 495	—	—	—	—
670	1,900	1,480	1,900	1,000

NIPPON BEARING

SEB-WA TYPE

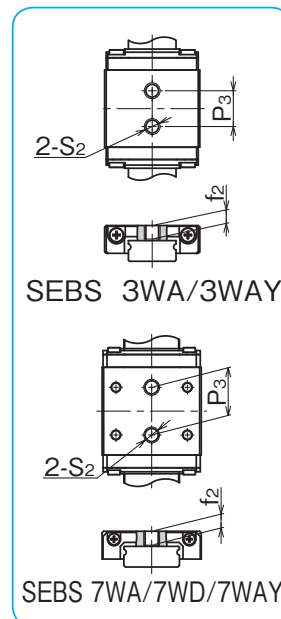
- Wide block -
-3/7/9-



part number structure

example **SEBS 9WA Y UU 2 T1 -289 N P/W2**

specification (rail) SEB: standard SEBS: anti-corrosion	size	block blank: standard Y: long	seal (refer to page A-14) blank: without side-seal UU: with side-seals	number of blocks attached to one rail	preload symbol (refer to page A-24) TO: clearance blank: standard T1: light	symbol for number of axes* blank: single axis W2: 2 parallel axes W3: 3 parallel axes	accuracy grade (refer to page A-24) blank: high P: precision	rail mounting hole blank: counterbore N: tapped hole	total length of rail
---	------	-------------------------------------	--	---------------------------------------	--	--	--	--	----------------------



* The symbol for the number of axes does not mean the number of rails ordered.

part number		assembly dimensions		block dimensions											
standard	anti-corrosion	H	W	B	L1	L2	P1	P2	S1	f1	L3	P3	S2	f2	b
		mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
—	SEBS 3WA	4.5	3	12	14.2	15	—	—	—	—	9.7	4.5	M2	1.7	3.5
	SEBS 3WAY				19	19.8					14.5	8			
—	SEBS 7WA	9	5.5	25	30.1	32	18	12	M2.6	2.5	22.1	12	M4	3.5	7
	SEBS 7WD				19	10	M3	2.8							
	SEBS 7WAY				39.6	41	19	19	31.6	18					
SEB 9WA	SEBS 9WA	12	6	30	35.9	38	21	12	M2.6	3	28.4	—	—	—	9
SEB 9WD	SEBS 9WD				2.8										
SEB 9WAY	SEBS 9WAY				48	50	23	24	M3	3	40.4				

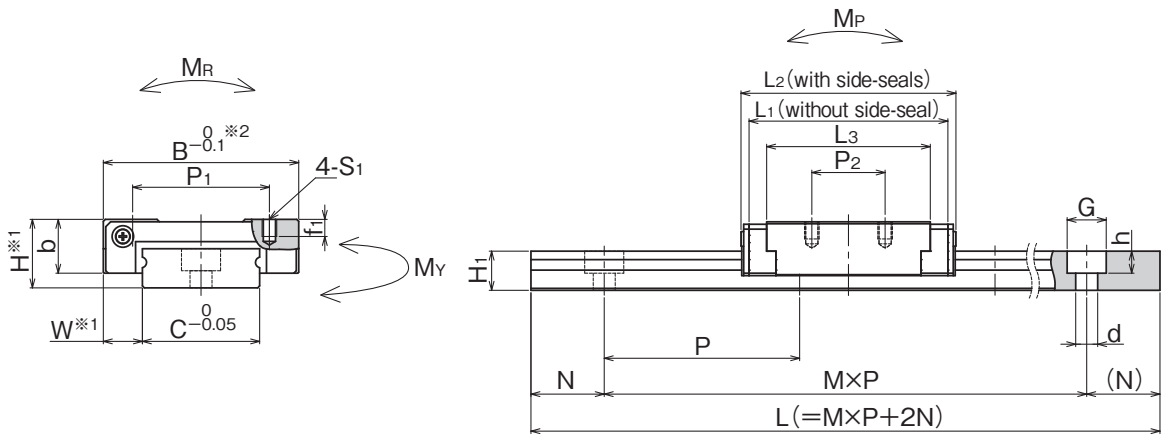
All the SEB blocks are made of stainless steel (SEBS marking).

part number		standard rail length L mm															
standard	anti-corrosion																
—	SEBS 3WA	40	55	70	85	100											
—	SEBS 7WA	50	80	110	140	170	200	230	260	290	320	350	380	410	440	470	
SEB 9WA	SEBS 9WA	50	80	110	140	170	200	230	260	290	320	350	380	410	440	470	

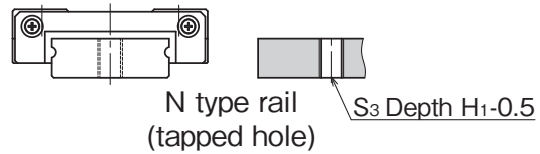
Joint rails are used when the required length exceeds the maximum standard length listed in the dimension tables. Please contact NB for details. SEB9WAY block lengths exceed the minimum standard rail length.

SLIDE GUIDE

SLIDE GUIDE



M: number of pitches

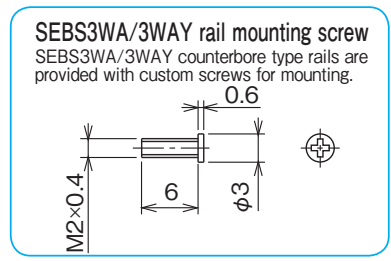


※1 Please refer to page A-24 for accuracy.
 ※2 B-0.05 only for SEBS 3WA and 3WAY

guide rail dimensions							basic load rating		allowable static moment			mass		block size	
H1	C	B1	d×G×h	S3	N	P	dynamic C	static Co	MP	MY	MR	block g	guide rail g/100mm		
mm	mm	mm	mm		mm	mm	kN	kN	MP2	MY2	N · m				
2.6	6	—	2.4×4×1.5	M3	5	15	0.33	0.54	0.83	0.99	1.67	3	10	3WA	
							0.44	0.81	4.74	5.65	2.51			3WAY	
5.2	14	—	3.5×6×3.2	M4	10	30	1.43	2.12	6.53	7.78	15.2	21	51	7WA	
							1.90	3.19	38.2	45.6	22.8			30	7WD
7.5	18	—	3.5×6×4.5	M4	10	30	2.49	3.66	14.1	16.8	33.9	38	96	9WA	
							3.25	5.35	73.8	87.9	49.5			55	9WD
							31.4	37.4	149	178					9WAY

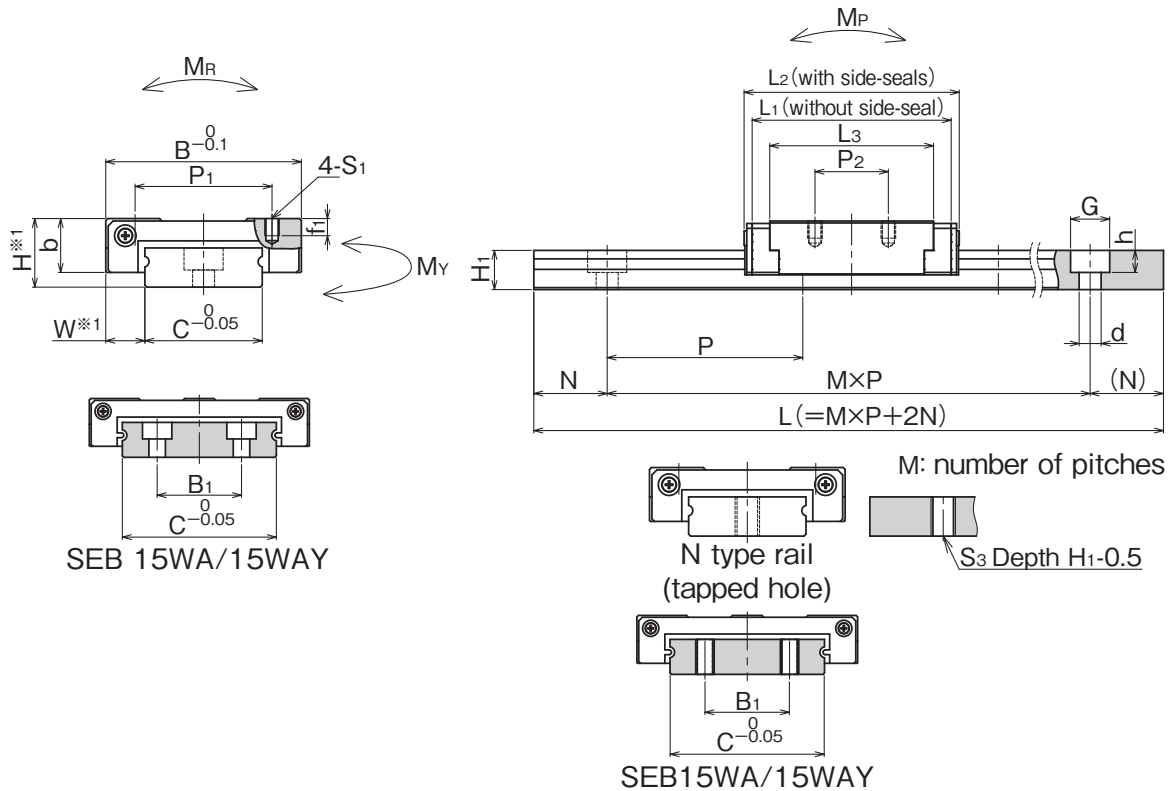
MP2 and MY2 are allowable static moments when two blocks are used in close contact. 1kN ≅ 102kgf 1N · m ≅ 0.102kgf · m

	maximum length mm			
	counterbore		tapped hole (N type)	
	standard	anti-corrosion	standard	anti-corrosion
	—	500	—	150
	—	1,300	—	700
500 530	1,900	1,480	1,900	1,000



SLIDE GUIDE

SLIDE GUIDE



※Please refer to page A-24 for accuracy.

guide rail dimensions							basic load rating		allowable static moment			mass		block size
H ₁	C	B ₁	d×G×h	S ₃	N	P	dynamic C	static C ₀	M _P M _{P2}	M _Y M _{Y2}	M _R	block g	guide rail g/100mm	
mm	mm	mm	mm		mm	mm	kN	kN	N · m	N · m	N · m			
8	24	—	4.5×8×4.5	M5	15	40	3.64	5.21	25.7 126	30.7 150	63.8	77	138	
							4.75	7.62	53.2 245	63.4 292	93.3			109
9.5	42	23	4.5×8×4.5	M5	15	40	6.29	8.51	52.2 258	62.2 307	180	154	294	
							8.35	12.7	113 525	134 625	271			222

M_{P2} and M_{Y2} are allowable static moments when two blocks are used in close contact. 1kN ≅ 102kgf 1N · m ≅ 0.102kgf · m

		maximum length mm			
		counterbore		tapped hole (N type)	
		standard	anti-corrosion	standard	anti-corrosion
670	710	1,900	1,480	1,900	1,000
670	710 750 790 830 870				