

SLIDE GUIDE

SGL TYPE

The SGL slide guide is a linear motion bearing utilizing the rotational motion of ball elements along four rows of raceway grooves. It can be used in various applications due to its compactness and high load capacity.

STRUCTURE AND ADVANTAGES

SGL slide guides consist of a rail with four precision-machined raceway grooves and a block assembly. The block assembly consists of the main body, ball elements, retainers, and return caps.

High Load Capacity and Long Life:

The use of larger ball elements and a raceway with grooves machined to a radius close to that of the ball elements increases the area of the contact surface. The results are load capacity and provides longer life.

Low Wear:

Because a 4-row/2-point contact design is used, low wear and stable motion characteristics are achieved even under a pre-loaded conditions.

Omni-Directional Load Capacity:

The ball elements are positioned at 45° contact angle so that the load capacity is equal in four directions (above, underneath, right and left).

Absorption of Mounting Dimensional Error:

Because the ball elements are positioned to increase their self-aligning characteristics, the dimensional error caused during installation is absorbed.

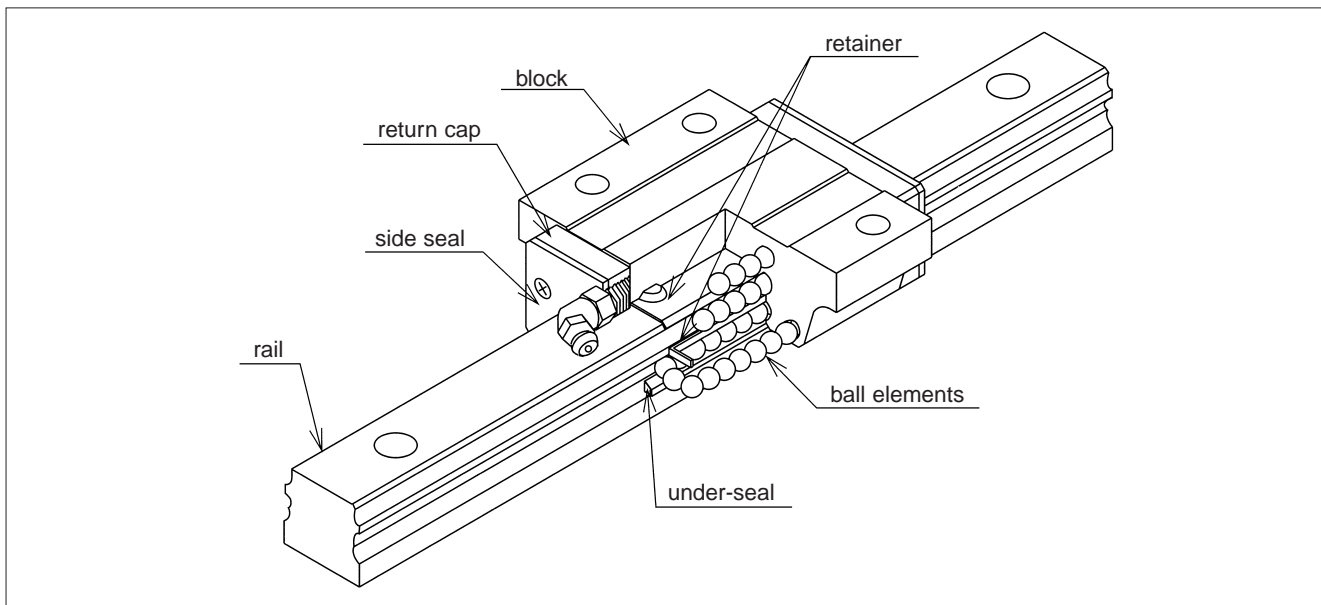
Anti-Corrosion Specification:

The rail and block assembly may be Raydent treated to increase the corrosion resistance. This treatment is standardized with the symbol "RD", and suitable for use in clean room applications.

Dust Prevention:

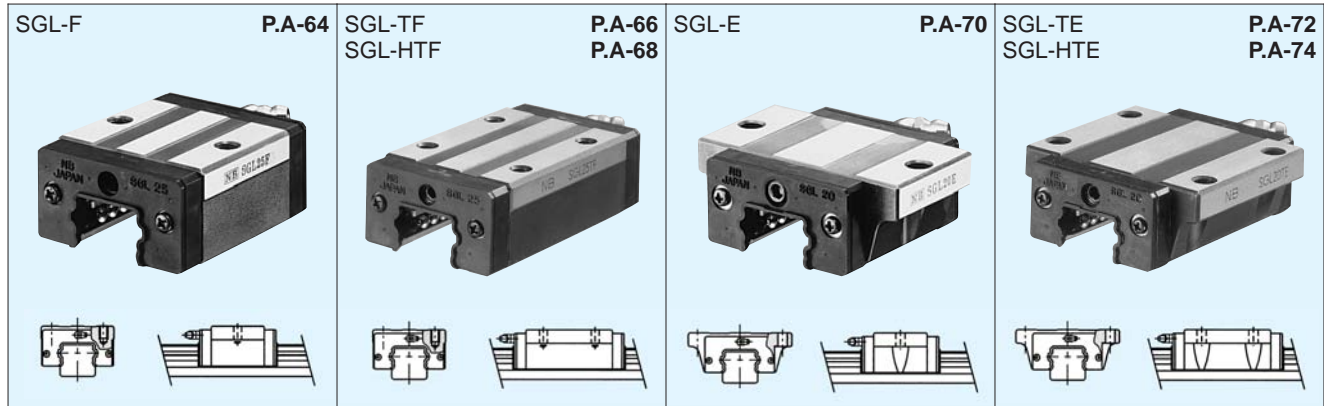
Side seals are provided as a standard. To improve the dust prevention characteristics, underseals and special rail mounting caps are also available.

Figure A-60 Structure of SGL type Slide Guide



BLOCK TYPES

Six different types of blocks are available depending on the mounting space requirements and desired mounting method.



ACCURACY

Three accuracy grades are available: normal-grade (no suffix), high-grade (H), and precision-grade (P).

Table A-28 Accuracy

unit/mm

part number	SGL15,20			SGL25,30,35			SGL45		
	normal	high	precision	normal	high	precision	normal	high	precision
accuracy grade									
accuracy symbol	none	H	P	none	H	P	none	H	P
allowable dimensional tolerance for height H	±0.1	±0.03	-0.03~0	±0.1	±0.04	-0.04~0	±0.1	±0.05	-0.05~0
paired difference for height H	0.02	0.01	0.006	0.02	0.015	0.007	0.03	0.015	0.007
allowable dimensional tolerance for width W	±0.1	±0.03	-0.03~0	±0.1	±0.04	-0.04~0	±0.1	±0.05	-0.05~0
paired difference for width W	0.02	0.01	0.006	0.03	0.015	0.007	0.03	0.02	0.001
Running parallelism of surface C to surface A	refer to Figure A-61								
Running parallelism of surface D to surface B									

Figure A-61 Motion Accuracy

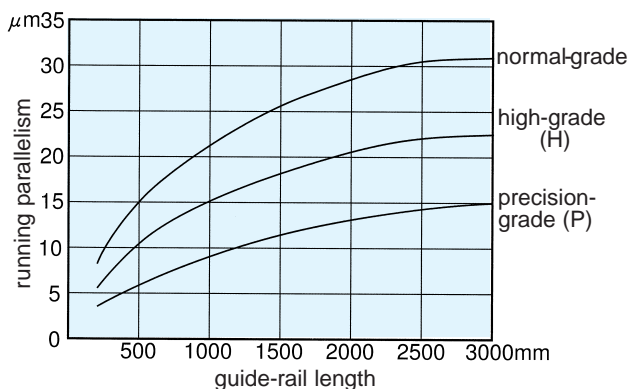
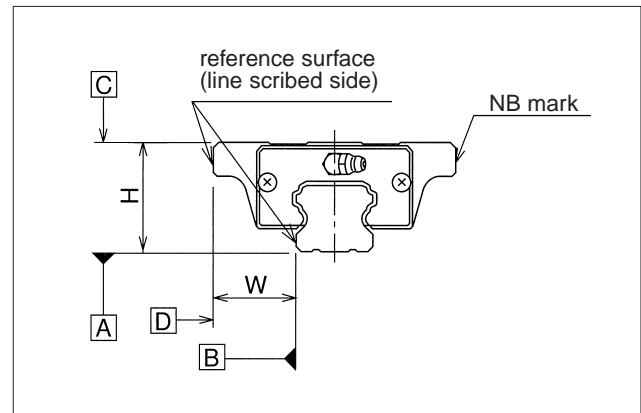


Figure A-62 Accuracy



PRE-LOAD

SGL slide guides are available with a standard pre-load(no suffix), light pre-load(T1), and medium pre-load(T2).

Table A-29 Pre-Load Symbol and Radial Clearance unit/ μm

pre-load category	standard	light	medium
pre-load symbol	none	T1	T2
SGL15	-4~+2	-12~-4	-
SGL20	-5~+2	-14~-5	-23~-14
SGL25	-6~+3	-16~-6	-26~-16
SGL30	-7~+4	-19~-7	-31~-19
SGL35	-8~+4	-22~-8	-35~-22
SGL45	-10~+5	-25~-10	-40~-25

Table A-30 Operating Condition and Pre-Load

category	symbol	operating condition
standard	none	Minute vibration is applied. Precision motion is required. Moment in a given direction is applied.
light	T1	Light vibration is applied. Light moment is applied. Moment is applied.
medium	T2	Shock/vibration is applied. Over-hang load is applied. Torsional load is applied.

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 range listed in Table A-31 for slide guides that have a non-standard length satisfying the following equation.

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

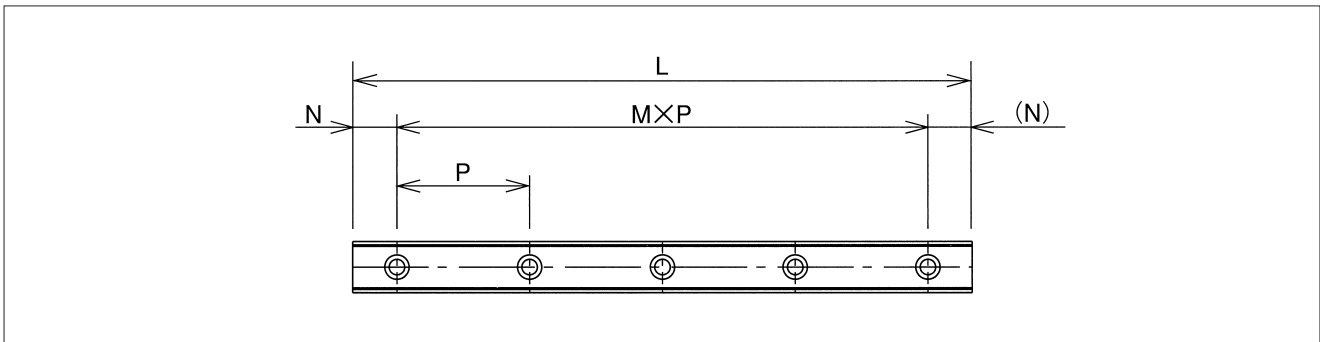
L : length (mm) N : distance to the first hole from the end of the rail (mm)
M : number of pitches P : hole pitch (mm)

Table A-31 Fabrication Range

unit/mm

part number	N		Lmax
	and over	less than	
SGL15	6	36	2,000
SGL20	10	40	
SGL25	11	41	
SGL30	12	52	
SGL35	16	56	
SGL45	20	60	

Figure A-63 Rail



MOUNTING

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.

The bolts used to secure the rail should be tightened using a torque wrench. The recommended torque values are listed in Table A-32.

Table A-32 Recommended Torque unit/N·m

bolt size	M3	M4	M5	M6	M8	M12
recommended torque	1.4	3.2	6.6	11.2	27.6	96.4

(When using stainless steel bolts)

Figure A-64 Mounting Reference Surface Shapes

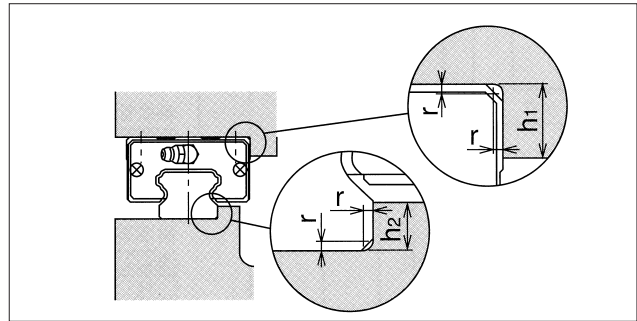


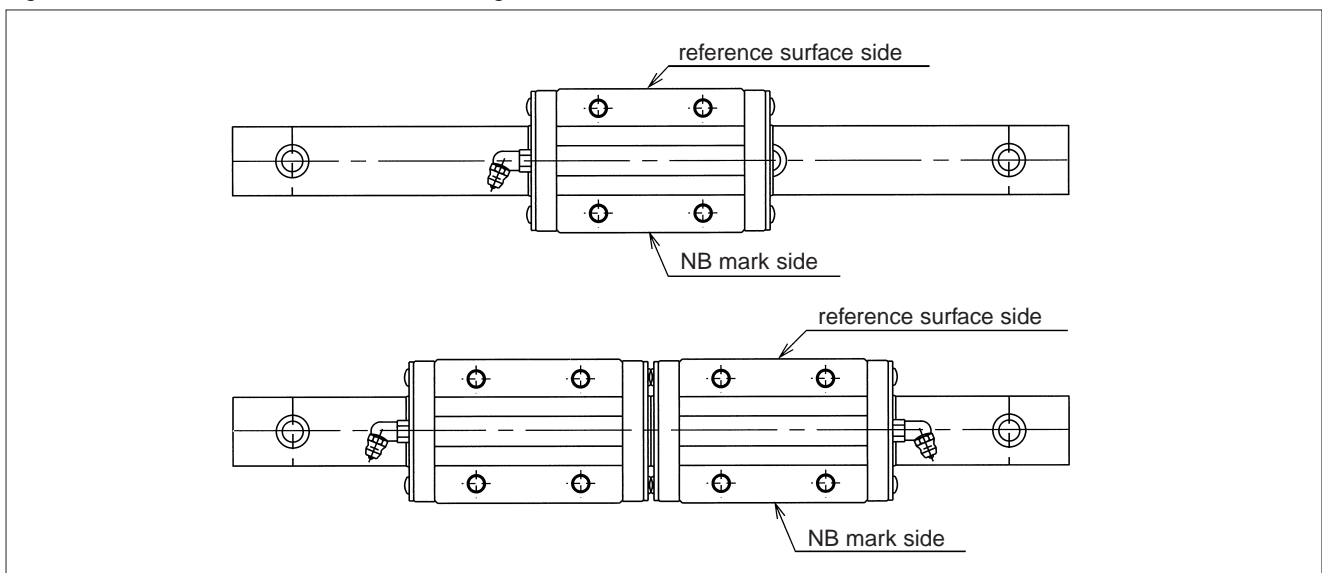
Table A-33 Mounting Surface Dimensions unit/mm

part number	h ₁	h ₂	r _{max}
SGL15	4	3.5	0.5
SGL20	5	5	0.5
SGL25	5	5.5	1
SGL30	6	7.5	1
SGL35	6	8	1
SGL45	8	8	1

GREASE FITTING

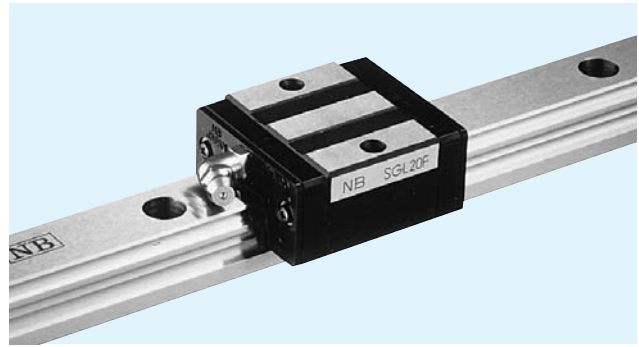
A grease fitting is attached to the SGL slide guide in the return cap for lubrication purposes. Unless otherwise specified, the orientation of the grease fitting is as shown in Figure A-65. When more than 2 blocks are used on one rail, the grease fitting orientation must be specified.

Figure A-65 Number of Blocks and Grease Fitting Orientation



SGL-F TYPE

— High Rigidity Non-Flange Type — (Short Configuration)



part number structure example **SGL 15 F B 2 T1 - 589 D P / W2 FS LB F J KGL**

SGL type
 size
 block style
 seal(refer to page A-14)

blank	With side-seals
B	With side seals + under-seals
BW	With double seals + under-seals
BS	B + scraper

number of blocks per rail
 symbol for pre-load

blank	standard
T1	light
T2	medium

total length of rail
 size of rail installation hole(D type rail is available only for SGL 15)
 accuracy grade

blank	standard
H	high
P	precision

symbol for grease

blank	standard grease w/fiber sheet
KGL	lithium-based grease w/o fiber sheet
KGU	urea-based grease w/o fiber sheet
KGF	anti-fretting grease w/o fiber sheet
GK	K-grease w/o fiber sheet

refer to page Eng-20 for details on special grease
 Fiber sheet is omitted when special grease is specified.

with bellows(refer to page A-16)
 with rail mounting hole caps
 with low temperature black chrome treatment
 with Fiber Sheet
 Fiber sheet comes only with standard grease.
 symbol for number of rails

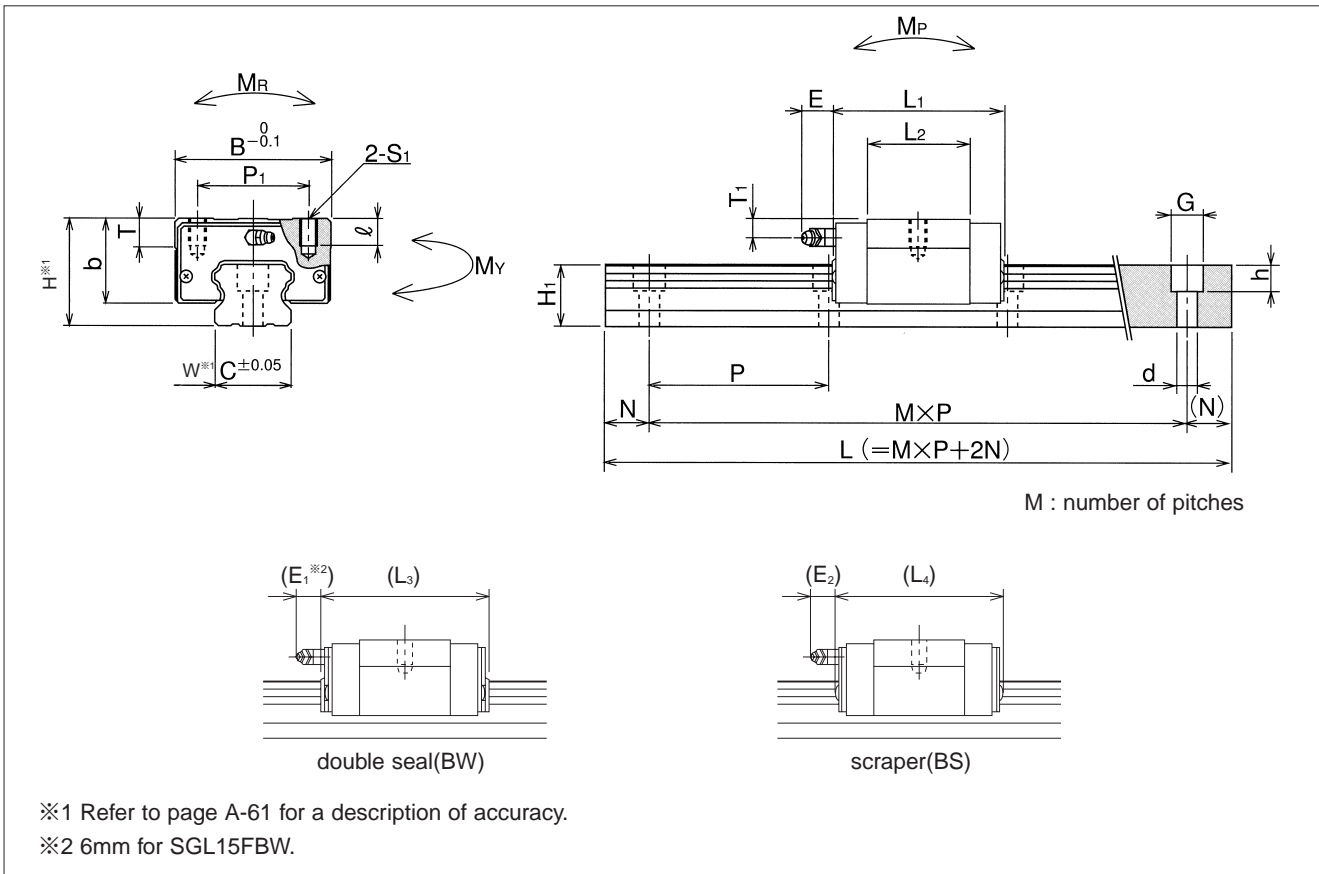
blank	single rail
W2	double rails
W3	triple rails

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

part number	assembly dimensions		block dimensions													grease fitting
	H	W	B	L ₁	L ₂	L ₃	L ₄	P ₁	S ₁	ℓ	T	b	E ₁	E ₂	T ₁	
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
SGL15F SGL15F-D	24	9.5	34	40.7	22.7	46.9	47.3	26	M4	7	6	19.5	14	5.4	5	pressed fitting
SGL20F	28	11	42	47.9	29.5	54.1	54.5	32	M5	8	7.5	22		13.3	6	B-M6F
SGL25F	33	12.5	48	58.7	37.7	65.1	65.9	35	M6	9	8	26		13.1	6.5	
SGL30F	42	16	60	68	40	76.6	75.6	40	M8	12	9	32.5		14.0	9	
SGL35F	48	18	70	77	46	85.6	84.6	50			13	38		8.5		

part number	standard rail length														
	L mm														
SGL15	160	220	280	340	400	460	520	580	640	700	760	820	880	940	1,000
SGL20	220	280	340	400	460	520	580	640	700	760	820	880	940	1,000	1,120
SGL25	220	280	340	400	460	520	580	640	700	760	820	880	940	1,000	1,120
SGL30	280	360	440	520	600	680	760	840	920	1,000	1,080	1,160	1,240	1,320	1,400
SGL35	280	360	440	520	600	680	760	840	920	1,000	1,080	1,160	1,240	1,320	1,400

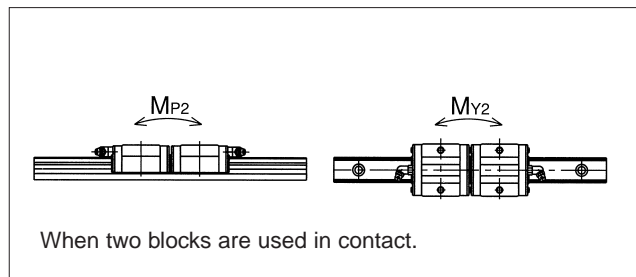
Rails exceeding the maximum specified length may be fabricated if joints are used. Contact NB for assistance.



guide-rail dimensions					basic load rating		allowable static moment			mass		size	
H ₁	C	d×G×h	N	P	dynamic C	static C ₀	M _P	M _Y	M _R	block	guide rail		
mm	mm	mm	mm	mm	kN	kN	N·m	N·m	N·m	kg	kg/m		
13.5	15	3.5×6×4.5	20	60	7.29	9.46	37	37	74	0.1	1.3	15	
		4.5×7.5×5.3											
16	20	6×9.5×8.5			20	11.91	14.81	72	72	159	0.2	2.1	20
20	23	7×11×9											
24	28			7×11×9	80	17.0	21.2	123	123	255	0.3	3.0	25
27.5	34	9×14×12											
			32.0	37.8	1,263	1,263	693	0.8	6.2	35			
1,873	1,873	693									0.8	6.2	35

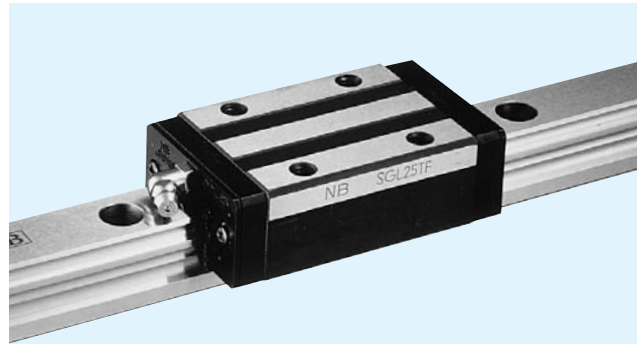
1kN ≒ 102kgf 1N·m ≒ 0.102kgf·m

							maximum length mm
1,120	1,240	1,360	1,480				2,000
1,240	1,360	1,480	1,600	1,720	1,840	1,960	3,000
1,240	1,360	1,480	1,600	1,720	1,840	1,960	3,000
1,480	1,640	1,720	1,800	1,960			3,000
1,480	1,640	1,720	1,800	1,960			3,000



SGL-TF TYPE

– High Rigidity Non-Flange Type –



part number structure example **SGL 15 TF B 2 T1 - 589 D P / W2 FS LB F J KGL**

SGL type

size

block style

seal(refer to page A-14)

blank	With side-seals
B	With side seals + under-seals
BW	With double seals + under-seals
BS	B + scraper

number of blocks per rail

symbol for pre-load

blank	standard
T1	light
T2	medium

total length of rail

size of rail installation hole(D type rail is available only for SGL 15)

accuracy grade

blank	standard
H	high
P	precision

symbol for grease

blank	standard grease w/fiber sheet
KGL	lithium-based grease w/o fiber sheet
KGU	urea-based grease w/o fiber sheet
KGF	anti-fretting grease w/o fiber sheet
GK	K-grease w/o fiber sheet

refer to page Eng-20 for details on special grease
Fiber sheet is omitted when special grease is specified.

with bellows(refer to page A-16)

with rail mounting hole caps

with low temperature black chrome treatment

with Fiber Sheet

Fiber sheet comes only with standard grease.

symbol for number of rails

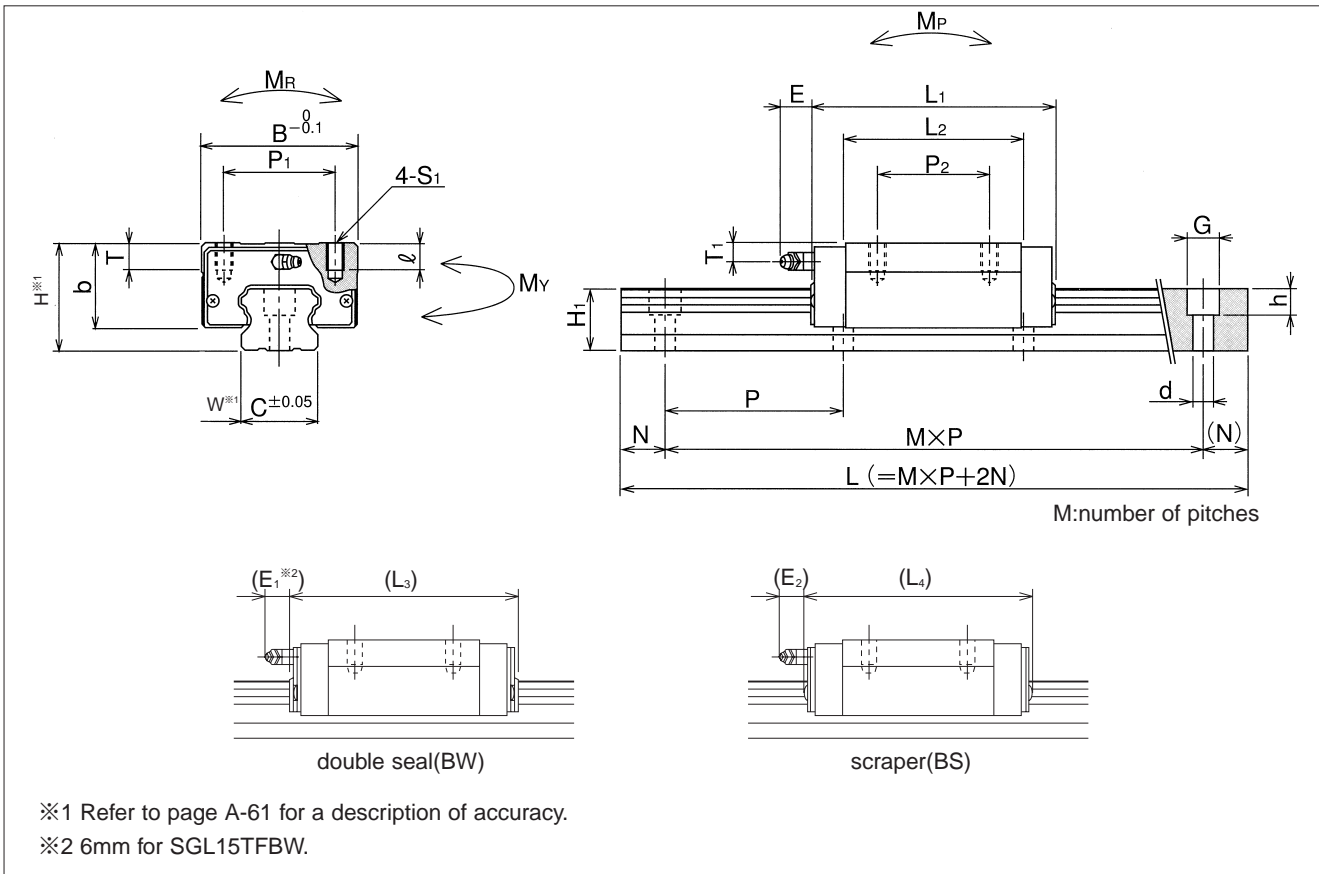
blank	single rail
W2	double rails
W3	triple rails

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

part number	assembly dimensions		block dimensions														grease fitting
	H	W	B	L ₁	L ₂	L ₃	L ₄	P ₁	P ₂	S ₁	ℓ	T	b	E ₁	E ₂	T ₁	
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
SGL15TF SGL15TF-D	24	9.5	34	56.5	38.5	62.7	63.1	26	26	M4	7	6	19.5	5	5.4	5	pressed fitting
SGL20TF	28	11	42	65.8	47.4	72	72.4	32	32	M5	8	7.5	22	14	13.3	6	B-M6F
SGL25TF	33	12.5	48	80.2	59	86.4	87.2	35	35	M6	9	8	26		13.1	6.5	
SGL30TF	42	16	60	95.7	67.7	104.3	103.3	40	40	M8	12	9	32.5		9		
SGL35TF	48	18	70	109	78	117.6	116.6	50	50			13	38	8.5			

part number	standard rail length															
	L mm															
SGL15	160	220	280	340	400	460	520	580	640	700	760	820	880	940	1,000	
SGL20	220	280	340	400	460	520	580	640	700	760	820	880	940	1,000	1,120	
SGL25	220	280	340	400	460	520	580	640	700	760	820	880	940	1,000	1,120	
SGL30	280	360	440	520	600	680	760	840	920	1,000	1,080	1,160	1,240	1,320	1,400	
SGL35	280	360	440	520	600	680	760	840	920	1,000	1,080	1,160	1,240	1,320	1,400	

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

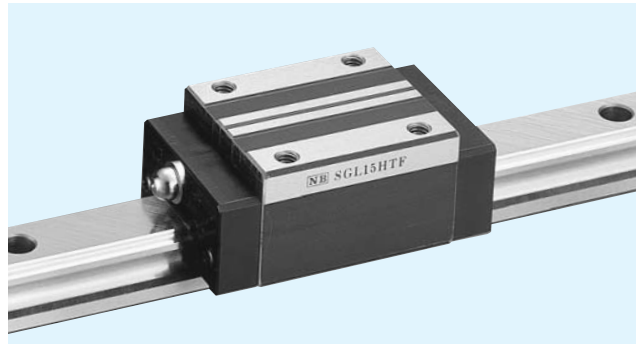


guide-rail dimensions					basic load rating		allowable static moment			mass		size
H_1	C	$d \times G \times h$	N	P	dynamic C	static C ₀	M_P	M_Y	M_R	block	guide rail	
mm	mm	mm	mm	mm	kN	kN	$N \cdot m$	$N \cdot m$	$N \cdot m$	kg	kg/m	
13.5	15	3.5×6×4.5	20	60	10.6	16.2	100	100	127	0.2	1.3	15
		4.5×7.5×5.3										
16	20	6×9.5×8.5			24.8	36.3	335	335	437	0.4	3.0	25
20	23	7×11×9										
24	28	9×14×12			33.6	49.2	529	529	716	0.8	4.6	30
27.5	34											

1kN ≒ 102kgf 1N·m ≒ 0.102kgf·m

							maximum length mm
1,120	1,240	1,360	1,480				2,000
1,240	1,360	1,480	1,600	1,720	1,840	1,960	3,000
1,240	1,360	1,480	1,600	1,720	1,840	1,960	3,000
1,480	1,640	1,720	1,800	1,960			3,000
1,480	1,640	1,720	1,800	1,960			3,000

SGL-HTF TYPE



part number structure example **SGL 15 HTF B 2 T1 - 589 P / W2 FS LB F J KGL**

SGL type
size
block style
seal (refer to page A-14)

blank	With side-seals
B	With side seals + under-seals
BW	With double seals + under-seals
BS	B + scraper

number of blocks per rail
symbol for pre-load

blank	standard
T1	light
T2	medium

total length of rail
accuracy grade

blank	standard
H	high
P	precision

symbol for grease

blank	standard grease w/fiber sheet
KGL	lithium-based grease w/o fiber sheet
KGU	urea-based grease w/o fiber sheet
KGF	anti-retting grease w/o fiber sheet
GK	K-grease w/o fiber sheet

refer to page Eng-20 for details on special grease
Fiber sheet is omitted when special grease is specified.

with bellows (refer to page A-16)
with rail mounting hole caps
with low temperature black chrome treatment
with Fiber Sheet
Fiber sheet comes only with standard grease.
symbol for number of rails

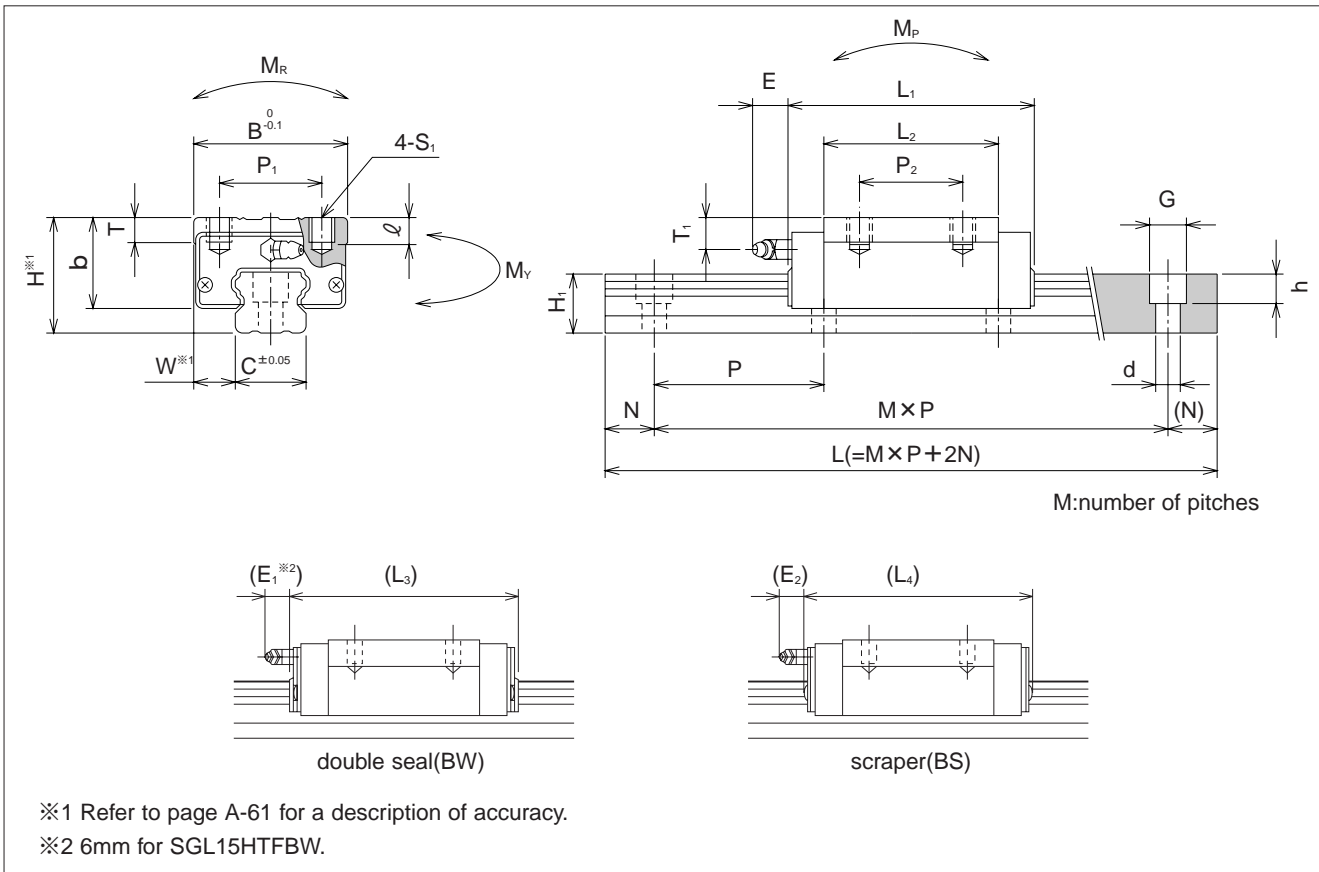
blank	single rail
W2	double rails
W3	triple rails

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

part number	assembly dimensions		block dimensions														grease fitting
	H	W	B	L ₁	L ₂	L ₃	L ₄	P ₁	P ₂	S ₁	∅	T	b	E ₁	E ₂	T ₁	
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
SGL15HTF	28	9.5	34	56.5	38.5	62.7	63.1	26	26	M4	5	6	23.7	5	5.4	9	pressed fitting
SGL20HTF	30	12	44	71.6	53.2	77.8	78.2	32	36	M5	6	9.5	24	14	13.3	8	B-M6F
SGL25HTF	40	12.5	48	80	59	86.4	87.2	35	35	M6	8	9	33		13.1	13.5	
SGL30HTF	45	16	60	95.7	67.7	104.3	103.3	40	40	M8	10		35.5		14.0	12	
SGL35HTF	55	18	70	109	78	117.6	116.6	50	50		12	13	45			15.5	
SGL45HTF	70	20.5	86	139	102	147	147.5	60	60	M10	17	15	60	16	16	20	B-PT1/8

part number	standard rail length														
	L mm														
SGL15	160	220	280	340	400	460	520	580	640	700	760	820	880	940	1,000
SGL20	220	280	340	400	460	520	580	640	700	760	820	880	940	1,000	1,120
SGL25	220	280	340	400	460	520	580	640	700	760	820	880	940	1,000	1,120
SGL30	280	360	440	520	600	680	760	840	920	1,000	1,080	1,160	1,240	1,320	1,400
SGL35	280	360	440	520	600	680	760	840	920	1,000	1,080	1,160	1,240	1,320	1,400
SGL45	570	675	780	885	990	1,095	1,200	1,305	1,410	1,515	1,620	1,725	1,830	1,935	2,040

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



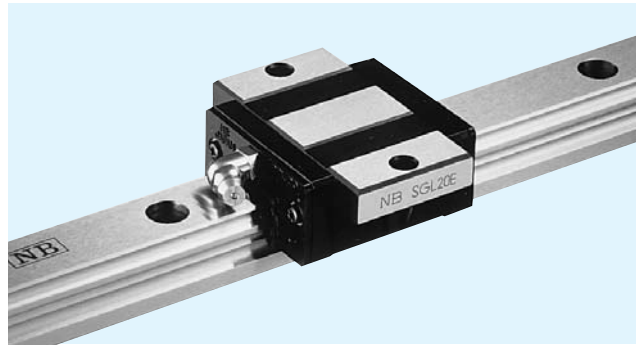
guide-rail dimensions					basic load rating		allowable static moment			mass		size
H_1	C	$d \times G \times h$	N	P	dynamic C	static Co	M_P	M_Y	M_R	block	guide rail	
mm	mm	mm	mm	mm	kN	kN	$N \cdot m$	$N \cdot m$	$N \cdot m$	kg	kg/m	
13.5	15	4.5 × 7.5 × 5.3	20	60	10.6	16.2	100	100	127	0.2	1.3	15
16	20	6 × 9.5 × 8.5			18.4	27.5	227	227	296	0.4	2.1	20
20	23	7 × 11 × 9			24.8	36.3	335	335	437	0.6	3.0	25
24	28	9 × 14 × 12		80	33.6	49.2	529	529	716	0.9	4.6	30
27.5	34				46.7	64.8	796	796	1,188	1.5	6.2	35
36.5	45	14 × 20 × 17	22.5	105	74.8	101.2	1,553	1,553	2,312	3.1	10.5	45

1kN ≅ 102kgf 1N·m ≅ 0.102kgf·m

									maximum length mm
1,120	1,240	1,360	1,480						2,000
1,240	1,360	1,480	1,600	1,660	1,720	1,840	1,960	3,000	
1,240	1,360	1,480	1,600	1,660	1,720	1,840	1,960	3,000	
1,480	1,640	1,720	1,800	1,880	1,960				3,000
1,480	1,640	1,720	1,800	1,880	1,960				3,000
2,145	2,250	2,355	2,460	2,565	2,670	2,775	2,880	2,985	3,000

SGL-E TYPE

– High Rigidity Flange Type – (Short Configuration)



part number structure example **SGL 15 E B 2 T1 - 589 D P / W2 FS LB F J KGL**

SGL type
size
block style
seal(refer to page A-14)

blank	With side-seals
B	With side seals + under-seals
BW	With double seals + under-seals
BS	B + scraper

number of blocks per rail
symbol for pre-load

blank	standard
T1	light
T2	medium

total length of rail
size of rail installation hole(D type rail is available only for SGL 15)
accuracy grade

blank	standard
H	high
P	precision

symbol for grease

blank	standard grease w/fiber sheet
KGL	lithium-based grease w/o fiber sheet
KGU	urea-based grease w/o fiber sheet
KGF	anti-fretting grease w/o fiber sheet
GK	K-grease w/o fiber sheet

refer to page Eng-20 for details on special grease
Fiber sheet is omitted when special grease is specified.

with bellows(refer to page A-16)
with rail mounting hole caps
with low temperature black chrome treatment
with Fiber Sheet
Fiber sheet comes only with standard grease.
symbol for number of rails

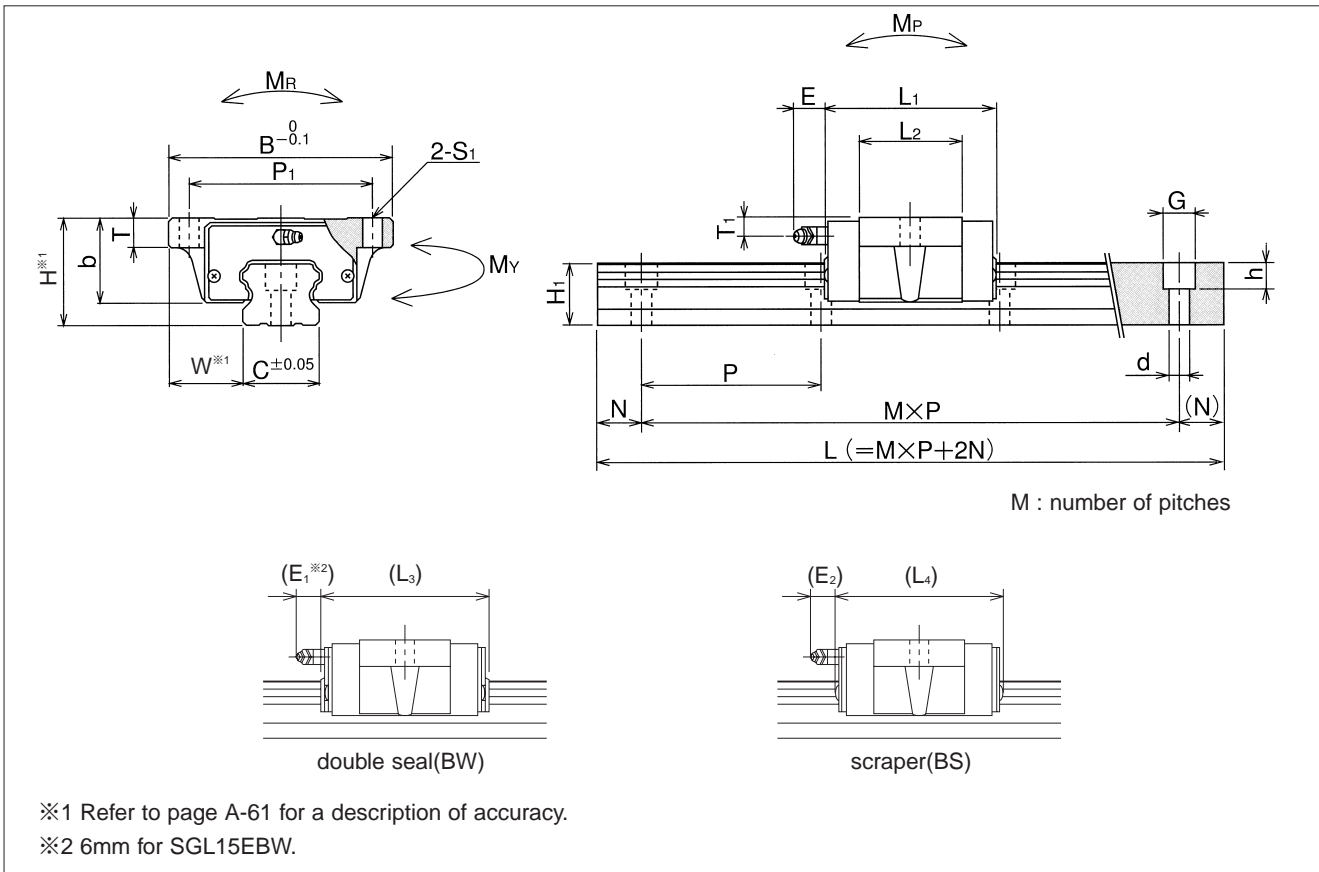
blank	single rail
W2	double rails
W3	triple rails

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

part number	assembly dimensions		block dimensions												grease fitting
	H	W	B	L ₁	L ₂	L ₃	L ₄	P ₁	S ₁	T	b	E ₁	E ₂	T ₁	
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
SGL15E SGL15E-D	24	18.5	52	40.7	22.7	46.9	47.3	41	4.5	7	19.5	5	5.4	5	pressed fitting
SGL20E	28	19.5	59	47.9	29.5	54.1	54.5	49	5.5	9	22	14	13.3	6	B-M6F
SGL25E	33	25	73	58.7	37.7	65.1	65.9	60	7	10	26		13.1	6.5	
SGL30E	42	31	90	68	40	76.6	75.6	72	9	13	38		14.0	9	
SGL35E	48	33	100	77	46	85.6	84.6	82				8.5			

part number	standard rail length														
	L mm														
SGL15	160	220	280	340	400	460	520	580	640	700	760	820	880	940	1,000
SGL20	220	280	340	400	460	520	580	640	700	760	820	880	940	1,000	1,120
SGL25	220	280	340	400	460	520	580	640	700	760	820	880	940	1,000	1,120
SGL30	280	360	440	520	600	680	760	840	920	1,000	1,080	1,160	1,240	1,320	1,400
SGL35	280	360	440	520	600	680	760	840	920	1,000	1,080	1,160	1,240	1,320	1,400

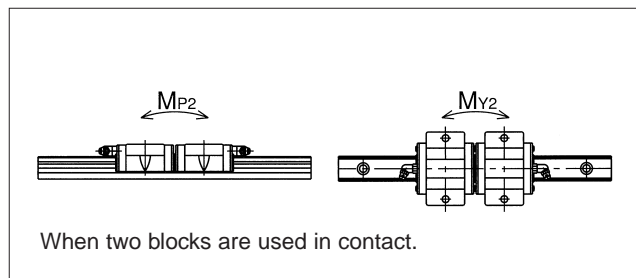
Rails exceeding the maximum specified length may be fabricated if joints are used. Contact NB for assistance.



guide-rail dimensions					basic load rating		allowable static moment			mass		size
H ₁	C	d×G×h	N	P	dynamic C	static C ₀	M _P M _{P2}	M _Y M _{Y2}	M _R	block kg	guide rail kg/m	
mm	mm	mm	mm	mm	kN	kN	N·m	N·m	N·m			
13.5	15	3.5×6×4.5	20	60	7.29	9.46	37	37	74	0.1	1.3	15
		4.5×7.5×5.3					252	252				
16	20	6×9.5×8.5			11.91	14.81	72	72	159	0.2	2.1	20
20	23	7×11×9			17.0	21.2	123	123	255	0.4	3.0	25
24	28			751	751	418	0.6	4.6	30			
27.5	34	9×14×12		80	23.0	28.7	195	195	693	0.9	6.2	35
			32.0		37.8	1,263	1,263	1,873				

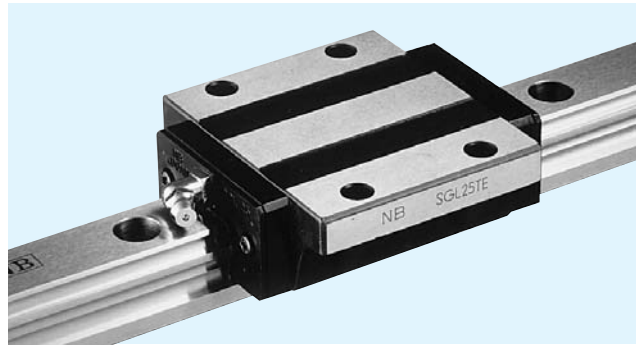
1kN ≒ 102kgf 1N·m ≒ 0.102kgf·m

							maximum length mm
1,120	1,240	1,360	1,480				2,000
1,240	1,360	1,480	1,600	1,720	1,840	1,960	3,000
1,240	1,360	1,480	1,600	1,720	1,840	1,960	3,000
1,480	1,640	1,720	1,800	1,960			3,000
1,480	1,640	1,720	1,800	1,960			3,000



SGL-TE TYPE

– High Rigidity Flange Type –



part number structure example **SGL 15 TE B 2 T1 - 589 D P / W2 FS LB F J KGL**

SGL type

size

block style

seal(refer to page A-14)

blank	With side-seals
B	With side seals + under-seals
BW	With double seals + under-seals
BS	B + scraper

number of blocks per rail

symbol for pre-load

blank	standard
T1	light
T2	medium

total length of rail

size of rail installation hole(D type rail is available only for SGL 15)

accuracy grade

blank	standard
H	high
P	precision

symbol for grease

blank	standard grease w/fiber sheet
KGL	lithium-based grease w/o fiber sheet
KGU	urea-based grease w/o fiber sheet
KGF	anti-fretting grease w/o fiber sheet
GK	K-grease w/o fiber sheet

refer to page Eng-20 for details on special grease
Fiber sheet is omitted when special grease is specified.

with bellows(refer to page A-16)

with rail mounting hole caps

with low temperature black chrome treatment

with Fiber Sheet

Fiber sheet comes only with standard grease.

symbol for number of rails

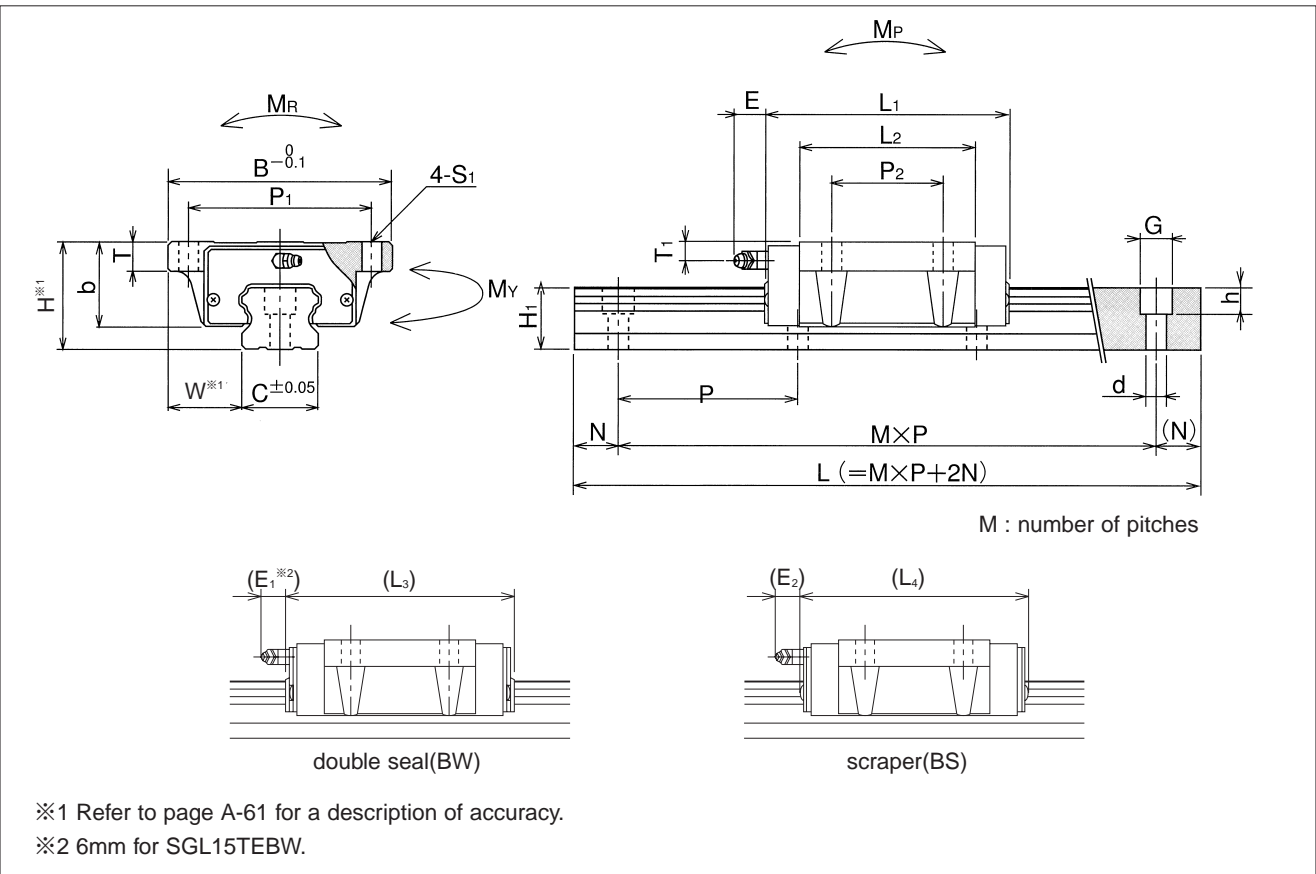
blank	single rail
W2	double rails
W3	triple rails

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

part number	assembly dimensions		block dimensions													grease fitting
	H	W	B	L ₁	L ₂	L ₃	L ₄	P ₁	P ₂	S ₁	T	b	E ₁	E ₂	T ₁	
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
SGL15TE SGL15TE-D	24	18.5	52	56.5	38.5	62.7	63.1	41	26	4.5	7	19.5	5	5.4	5	pressed fitting
SGL20TE	28	19.5	59	65.8	47.4	72	72.4	49	32	5.5	9	22	14	13.3	6	B-M6F
SGL25TE	33	25	73	80.2	59	86.4	87.2	60	35	7	10	26		13.1	6.5	
SGL30TE	42	31	90	95.7	67.7	104.3	103.3	72	40	9	13	38		14.0	9	
SGL35TE	48	33	100	109	78	117.6	116.6	82	50						8.5	

part number	standard rail length														
	L mm														
SGL15	160	220	280	340	400	460	520	580	640	700	760	820	880	940	1,000
SGL20	220	280	340	400	460	520	580	640	700	760	820	880	940	1,000	1,120
SGL25	220	280	340	400	460	520	580	640	700	760	820	880	940	1,000	1,120
SGL30	280	360	440	520	600	680	760	840	920	1,000	1,080	1,160	1,240	1,320	1,400
SGL35	280	360	440	520	600	680	760	840	920	1,000	1,080	1,160	1,240	1,320	1,400

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

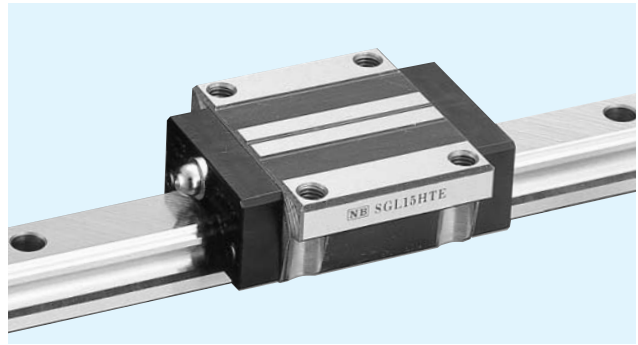


guide-rail dimensions					basic load rating		allowable static moment			mass		size
H_1	C	$d \times G \times h$	N	P	dynamic C	static C_0	M_p	M_y	M_R	block	guide rail	
mm	mm	mm	mm	mm	kN	kg	N · m	N · m	N · m	kg	kg/m	
13.5	15	3.5 × 6 × 4.5	20	60	10.6	16.2	100	100	127	0.2	1.3	15
		4.5 × 7.5 × 5.3										
16	20	6 × 9.5 × 8.5										
20	23	7 × 11 × 9										
24	28											
27.5	34	9 × 14 × 12		80	33.6	49.2	529	529	716	1.0	4.6	30
					46.7	64.8	796	796	1,188	1.5	6.2	35

1kN ≒ 102kgf 1N · m ≒ 0.102kgf · m

							maximum length
							mm
1,120	1,240	1,360	1,480				2,000
1,240	1,360	1,480	1,600	1,720	1,840	1,960	3,000
1,240	1,360	1,480	1,600	1,720	1,840	1,960	3,000
1,480	1,640	1,720	1,800	1,960			3,000
1,480	1,640	1,720	1,800	1,960			3,000

SGL-HTE TYPE



part number structure example **SGL 15 HTE B 2 T1 -589 P / W2 FS LB F J KGL**

SGL type
size
block style
seal(refer to page A-14)

blank	With side-seals
B	With side seals + under-seals
BW	With double seals + under-seals
BS	B + scraper

number of blocks per rail
symbol for pre-load

blank	standard
T1	light
T2	medium

total length of rail

accuracy grade

blank	standard
H	high
P	precision

symbol for grease

blank	standard grease w/fiber sheet
KGL	lithium-based grease w/o fiber sheet
KGU	urea-based grease w/o fiber sheet
KGF	anti-fretting grease w/o fiber sheet
GK	K-grease w/o fiber sheet

refer to page Eng-20 for details on special grease
Fiber sheet is omitted when special grease is specified.

with bellows(refer to page A-16)
with rail mounting hole caps
with low temperature black chrome treatment
with Fiber Sheet
Fiber sheet comes only with standard grease.
symbol for number of rails

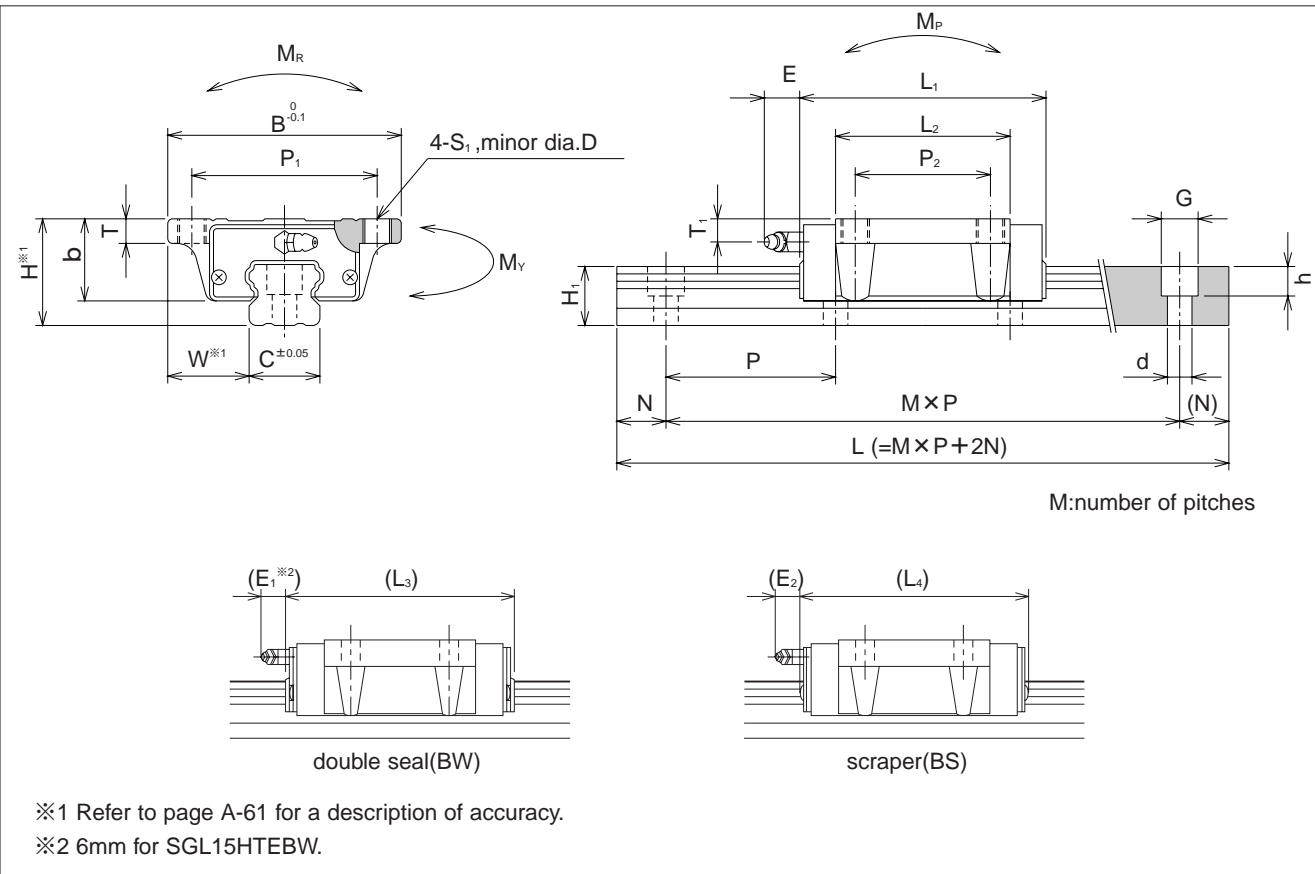
blank	single rail
W2	double rails
W3	triple rails

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

part number	assembly dimensions		block dimensions														grease fitting
	H	W	B	L ₁	L ₂	L ₃	L ₄	P ₁	P ₂	S ₁	D	T	b	E ₁	E ₂	T ₁	
	mm	mm	mm	mm	mm	mm	mm	mm	mm		mm	mm	mm	mm	mm	mm	mm
SGL15HTE	24	16	47	56.5	38.5	62.7	63.1	38	30	M5	4.4	7	19.7	5	5.4	5	pressed fitting
SGL20HTE	30	21.5	63	71.6	53.2	77.8	78.2	53	40	M6	5.4	10.5	24	14	13.3	8	B-M6F
SGL25HTE	36	23.5	70	80	59	86.4	87.2	57	45	M8	6.8	12.5	29		13.1	9.5	
SGL30HTE	42	31	90	95.7	67.7	104.3	103.3	72	52	M10	8.5	10	32.5		14.0	9	
SGL35HTE	48	33	100	109	78	117.6	116.6	82	62			13	38	8.5			
SGL45HTE	60	37.5	120	139	102	147	147.5	100	80	M12	10.5	15	50	16	16	10	B-PT1/8

part number	standard rail length														
	L mm														
SGL15	160	220	280	340	400	460	520	580	640	700	760	820	880	940	1,000
SGL20	220	280	340	400	460	520	580	640	700	760	820	880	940	1,000	1,120
SGL25	220	280	340	400	460	520	580	640	700	760	820	880	940	1,000	1,120
SGL30	280	360	440	520	600	680	760	840	920	1,000	1,080	1,160	1,240	1,320	1,400
SGL35	280	360	440	520	600	680	760	840	920	1,000	1,080	1,160	1,240	1,320	1,400
SGL45	570	675	780	885	990	1,095	1,200	1,305	1,410	1,515	1,620	1,725	1,830	1,935	2,040

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



guide-rail dimensions					basic load rating		allowable static moment			mass		size
H_1	C	$d \times G \times h$	N	P	dynamic C	static Co	M_P	M_Y	M_R	block	guide rail	
mm	mm	mm	mm	mm	kN	kN	$N \cdot m$	$N \cdot m$	$N \cdot m$	kg	kg/m	
13.5	15	4.5×7.5×5.3	20	60	10.6	16.2	100	100	127	0.2	1.3	15
16	20	6×9.5×8.5			18.4	27.5	227	227	296	0.4	2.1	20
20	23	7×11×9			24.8	36.3	335	335	437	0.6	3.0	25
24	28	9×14×12		80	33.6	49.2	529	529	716	1.0	4.6	30
27.5	34				46.7	64.8	796	796	1,188	1.5	6.2	35
36.5	45	14×20×17	22.5	105	74.8	101.2	1,553	1,553	2,312	3.1	10.5	45

1kN ≅ 102kgf 1N·m ≅ 0.102kgf·m

									maximum length mm
1,120	1,240	1,360	1,480						2,000
1,240	1,360	1,480	1,600	1,660	1,720	1,840	1,960	3,000	
1,240	1,360	1,480	1,600	1,660	1,720	1,840	1,960	3,000	
1,480	1,640	1,720	1,800	1,880	1,960				3,000
1,480	1,640	1,720	1,800	1,880	1,960				3,000
2,145	2,250	2,355	2,460	2,565	2,670	2,775	2,880	2,985	3,000