

# 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.

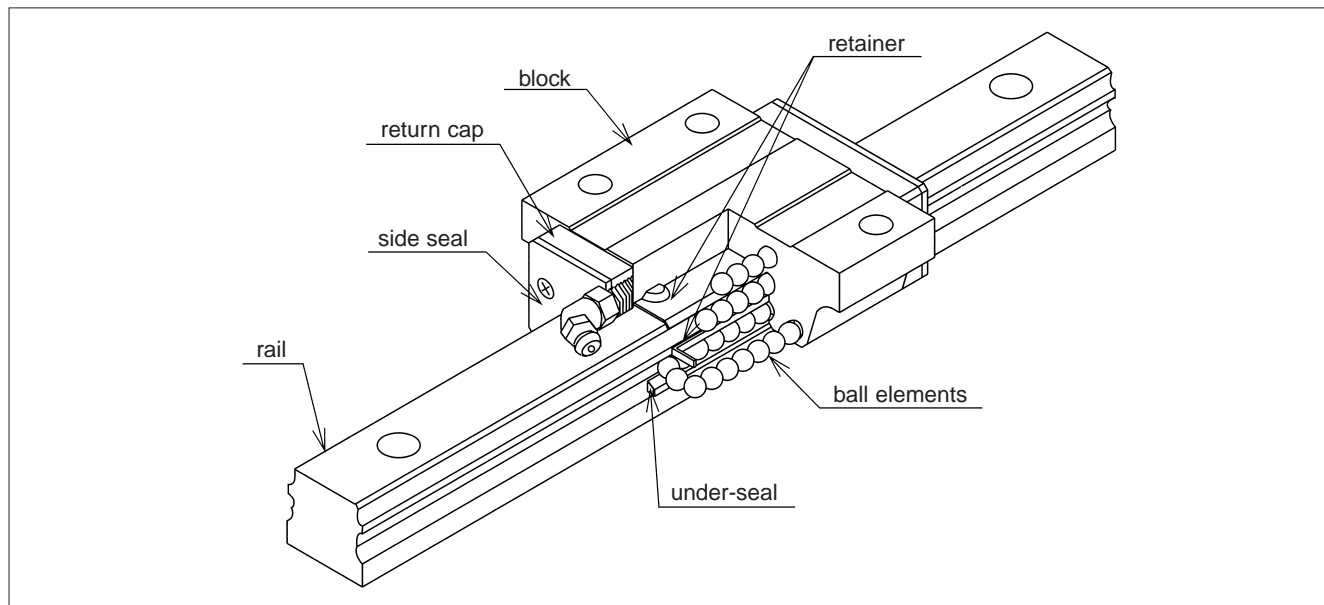
### Anti-Corrosion Specification:

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:

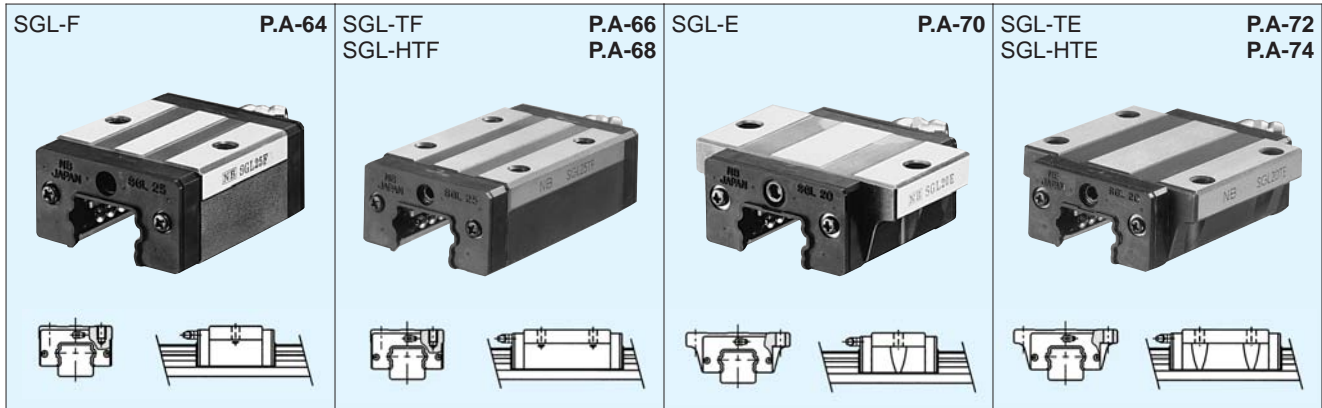
Side seals are provided as a standard. To improve the dust prevention characteristics, underseals and special rail mounting caps are also available.

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	normal	H	P	normal	H	P	normal	H	P
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

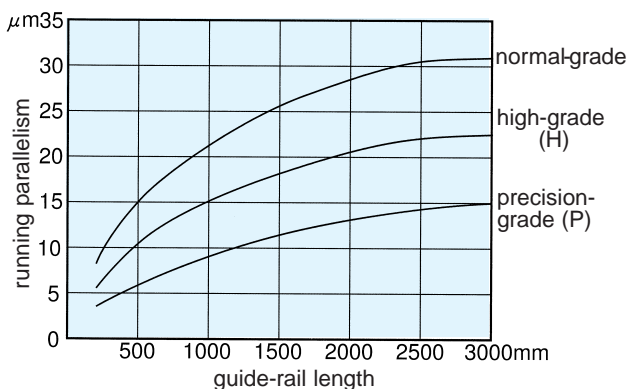
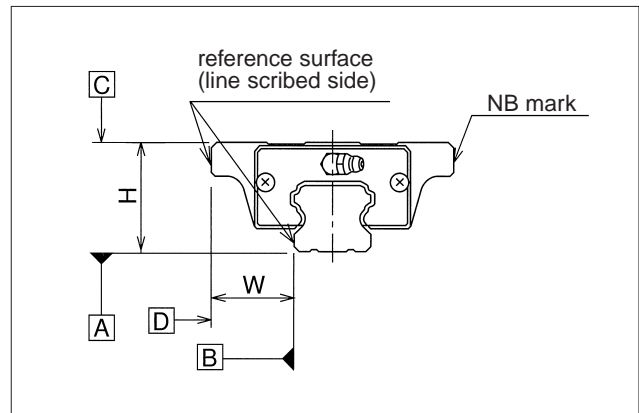


Figure A-62 Accuracy



## 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/ $\mu\text{m}$

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.

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

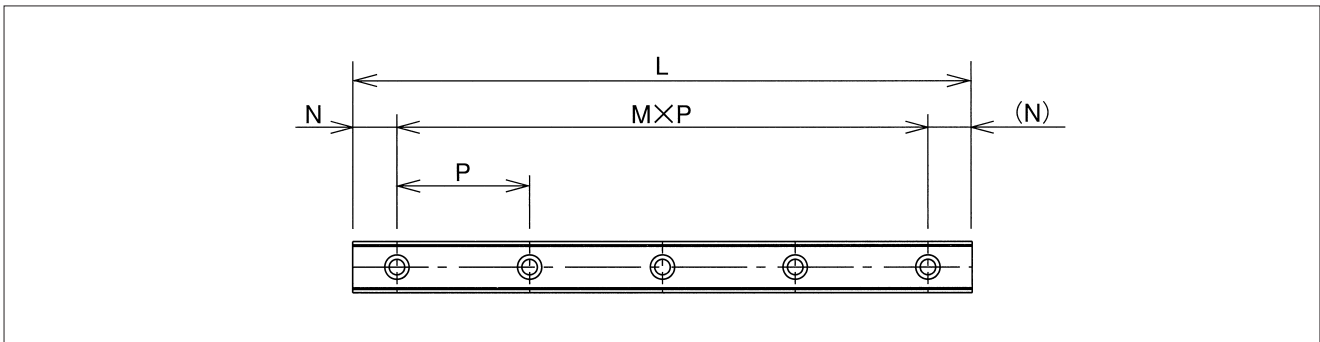
L : length (mm) N : distance to the first hole from the end of the rail (mm)  
M : number of pitches P : hole pitch (mm)

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/mm

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

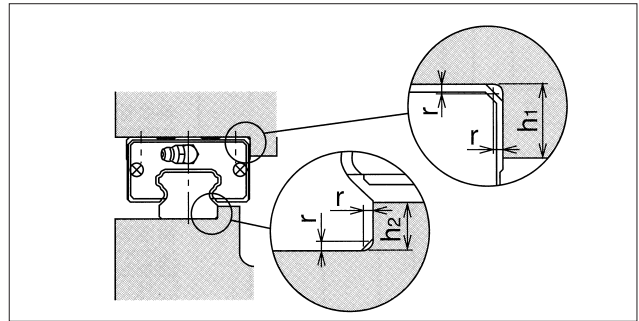


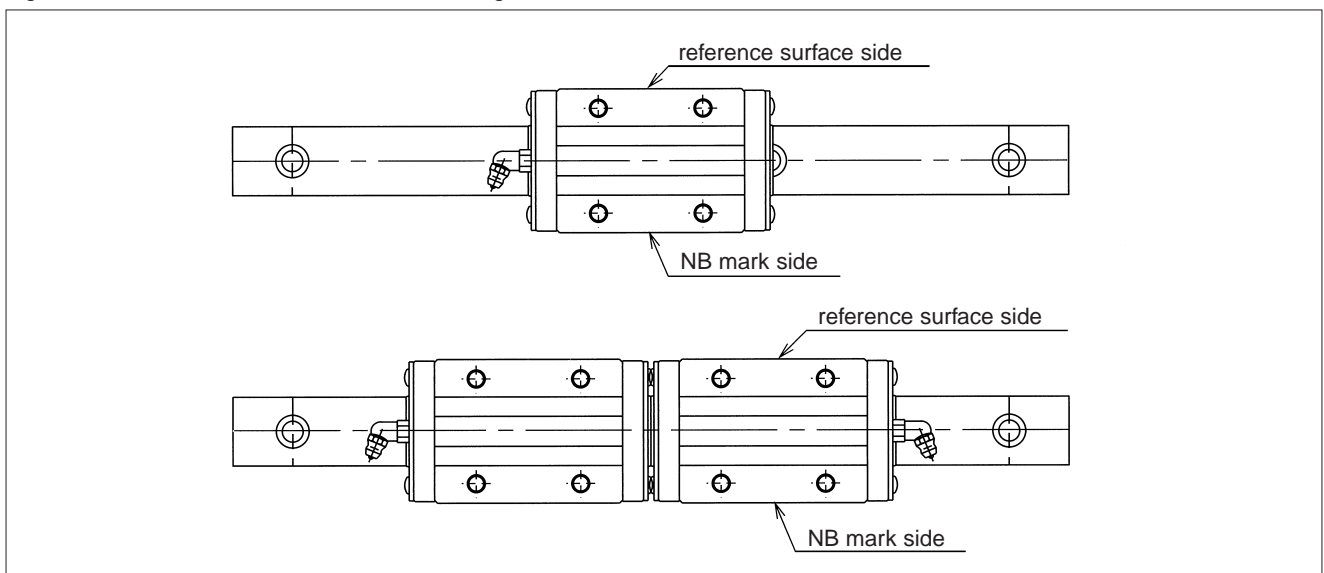
Table A-33 Mounting Surface Dimensions unit/mm

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

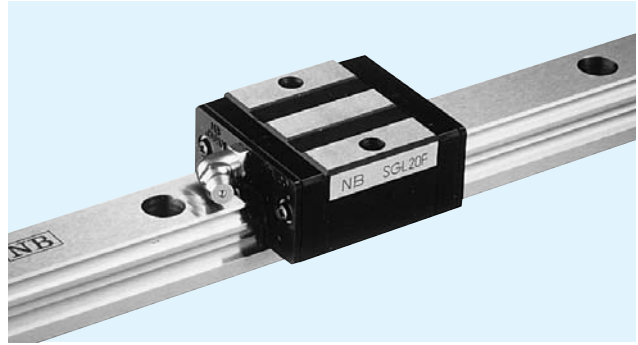
A grease fitting is attached to the SGL slide guide in the return cap for lubrication purposes. Unless otherwise specified, the orientation of the grease fitting is as shown in Figure A-65. When more than 2 blocks are used on one rail, the grease fitting orientation must be specified.

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 RD 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 Raydent treatment  
with Fiber Sheet  
Fiber sheet comes only with standard grease.  
symbol for number of rails

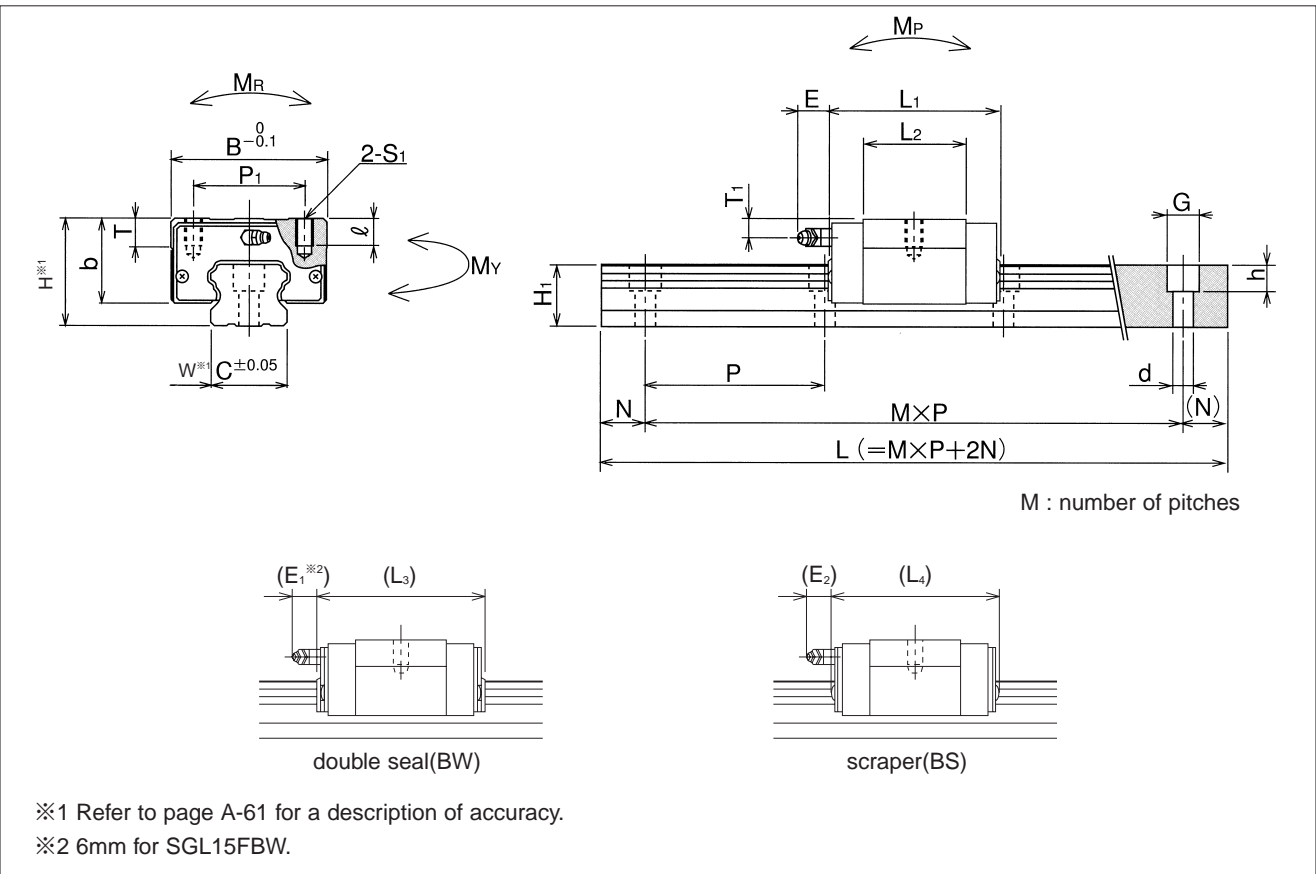
blank	single rail
W2	double rails
W3	triple rails

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

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

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

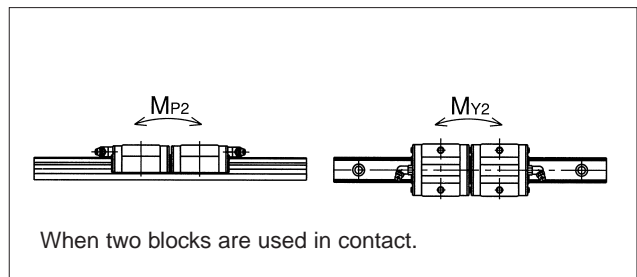
Rails exceeding the maximum specified length may be fabricated if joints are used. Contact NB for assistance.



guide-rail dimensions					basic load rating		allowable static moment			mass		size		
H <sub>1</sub>	C	d×G×h		N	P	dynamic	static	M <sub>P</sub>	M <sub>Y</sub>	M <sub>R</sub>	block		guide rail	
mm	mm	mm		mm	mm	C	Co	M <sub>P2</sub>	M <sub>Y2</sub>	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				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	0.3	3.0		25
					751	751								
24	28	9×14×12			80	23.0	28.7	195	195	418	0.5	4.6		30
27.5	34			32.0		37.8	1,263	1,263	693				0.8	
		1,873	1,873											

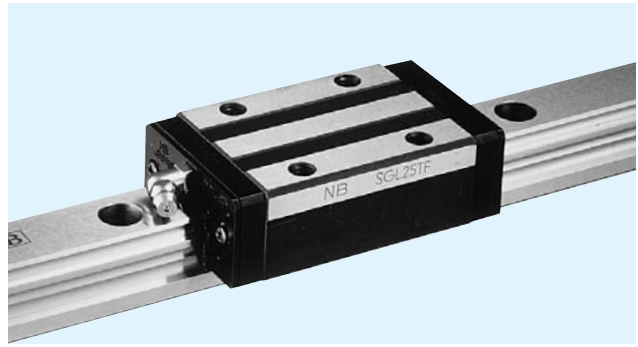
1kN ≒ 102kgf    1N·m ≒ 0.102kgf·m

							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-TF TYPE

– High Rigidity Non-Flange Type –



part number structure example **SGL 15 TF B 2 T1 - 589 D P / W2 FS RD 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 Raydent treatment

with Fiber Sheet

Fiber sheet comes only with standard grease.

symbol for number of rails

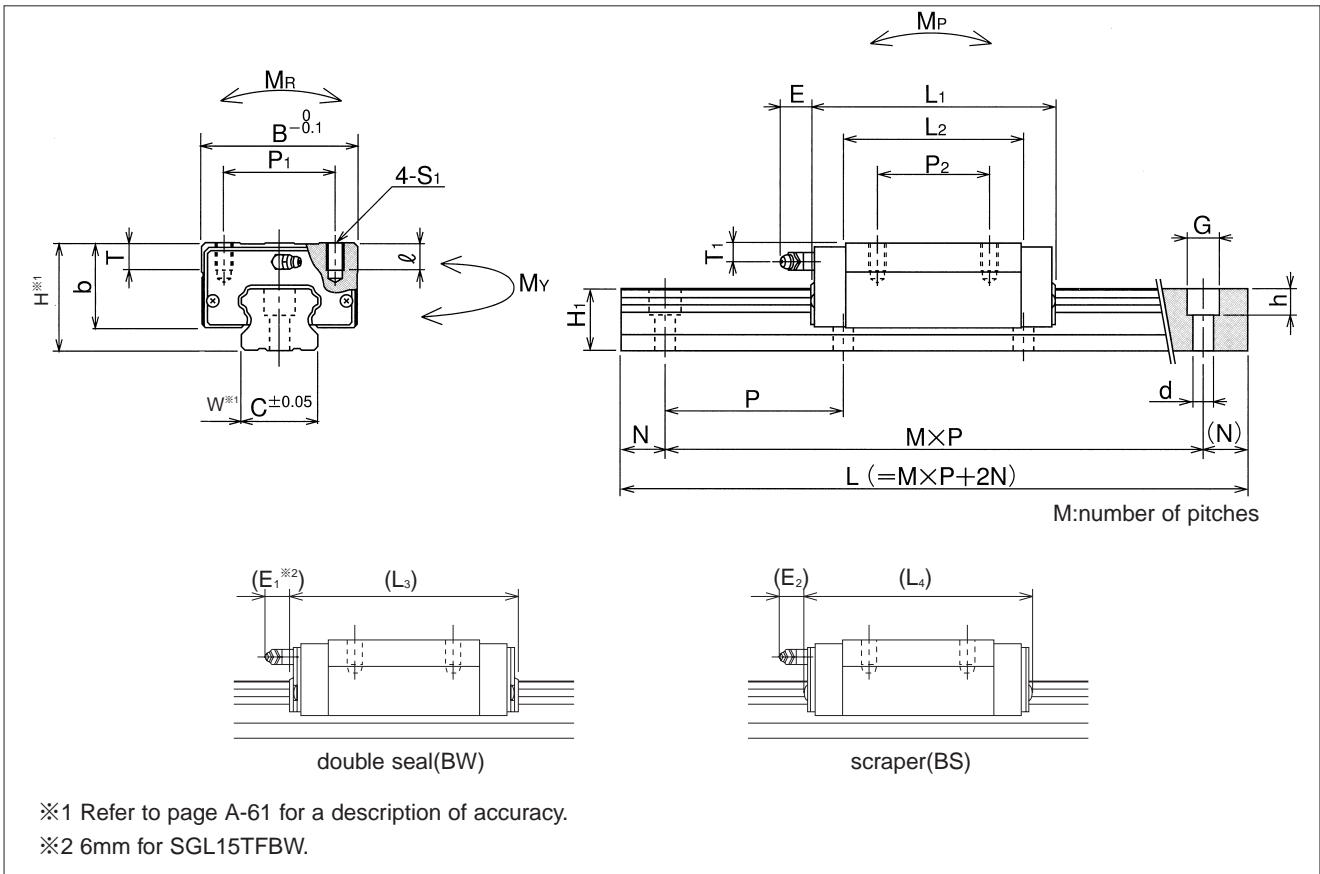
blank	single rail
W2	double rails
W3	triple rails

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

part number	assembly dimensions		block dimensions														grease fitting
	H	W	B	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	L <sub>4</sub>	P <sub>1</sub>	P <sub>2</sub>	S <sub>1</sub>	ℓ	T	b	E <sub>1</sub>	E <sub>2</sub>	T <sub>1</sub>	
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
<b>SGL15TF</b> <b>SGL15TF-D</b>	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
<b>SGL20TF</b>	28	11	42	65.8	47.4	72	72.4	32	32	M5	8	7.5	22	14	13.3	6	B-M6F
<b>SGL25TF</b>	33	12.5	48	80.2	59	86.4	87.2	35	35	M6	9	8	26		13.1	6.5	
<b>SGL30TF</b>	42	16	60	95.7	67.7	104.3	103.3	40	40	M8	12	9	32.5		14.0	9	
<b>SGL35TF</b>	48	18	70	109	78	117.6	116.6	50	50			13	38	8.5			

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

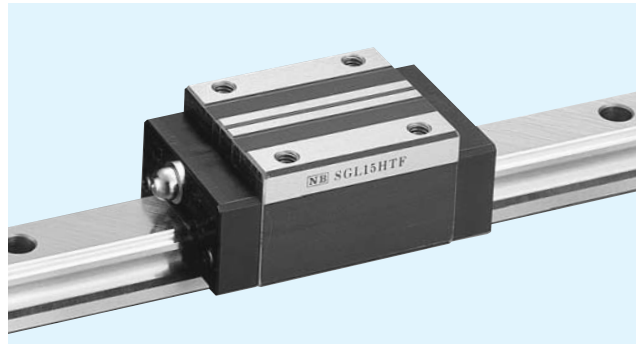


guide-rail dimensions					basic load rating		allowable static moment			mass		size
$H_1$	C	$d \times G \times h$	N	P	dynamic C	static Co	$M_P$	$M_Y$	$M_R$	block	guide rail	
mm	mm	mm	mm	mm	kN	kN	$N \cdot m$	$N \cdot m$	$N \cdot m$	kg	kg/m	
13.5	15	3.5×6×4.5	20	60	10.6	16.2	100	100	127	0.2	1.3	15
		4.5×7.5×5.3										
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	0.8	4.6
					46.7	64.8	796	796	1,188	1.3	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-HTF TYPE



part number structure example **SGL 15 HTF B 2 T1 - 589 P / W2 FS RD 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 Raydent treatment  
with Fiber Sheet  
Fiber sheet comes only with standard grease.  
symbol for number of rails

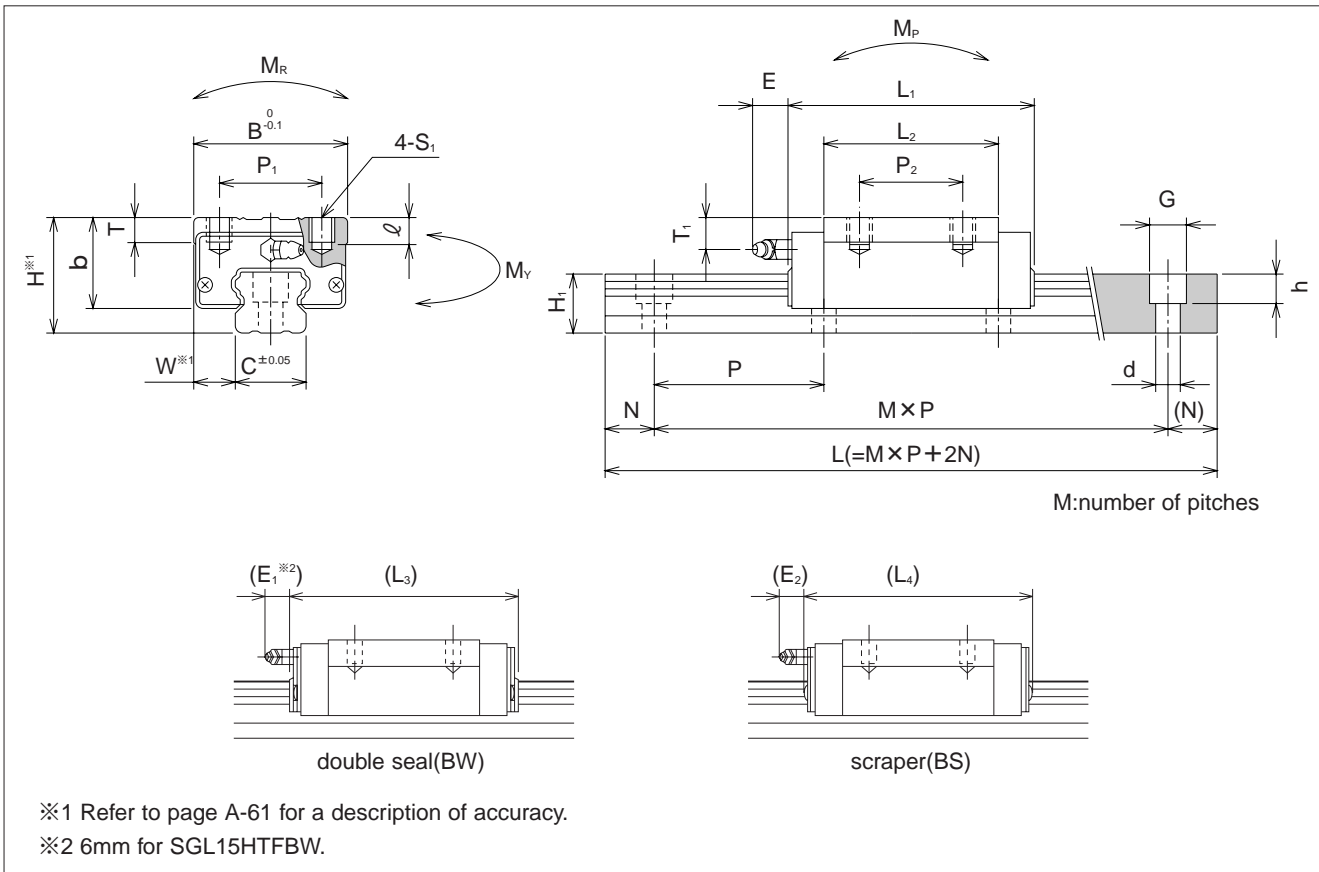
blank	single rail
W2	double rails
W3	triple rails

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

part number	assembly dimensions		block dimensions														grease fitting
	H	W	B	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	L <sub>4</sub>	P <sub>1</sub>	P <sub>2</sub>	S <sub>1</sub>	ℓ	T	b	E <sub>1</sub>	E <sub>2</sub>	T <sub>1</sub>	
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
<b>SGL15HTF</b>	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
<b>SGL20HTF</b>	30	12	44	71.6	53.2	77.8	78.2	32	36	M5	6	9.5	24	14	13.3	8	B-M6F
<b>SGL25HTF</b>	40	12.5	48	80	59	86.4	87.2	35	35	M6	8	9	33		13.1	13.5	
<b>SGL30HTF</b>	45	16	60	95.7	67.7	104.3	103.3	40	40	M8	10	13	35.5		14.0	12	
<b>SGL35HTF</b>	55	18	70	109	78	117.6	116.6	50	50		12	13	45			15.5	
<b>SGL45HTF</b>	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															
<b>SGL15</b>	160	220	280	340	400	460	520	580	640	700	760	820	880	940	1,000	
<b>SGL20</b>	220	280	340	400	460	520	580	640	700	760	820	880	940	1,000	1,120	
<b>SGL25</b>	220	280	340	400	460	520	580	640	700	760	820	880	940	1,000	1,120	
<b>SGL30</b>	280	360	440	520	600	680	760	840	920	1,000	1,080	1,160	1,240	1,320	1,400	
<b>SGL35</b>	280	360	440	520	600	680	760	840	920	1,000	1,080	1,160	1,240	1,320	1,400	
<b>SGL45</b>	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.



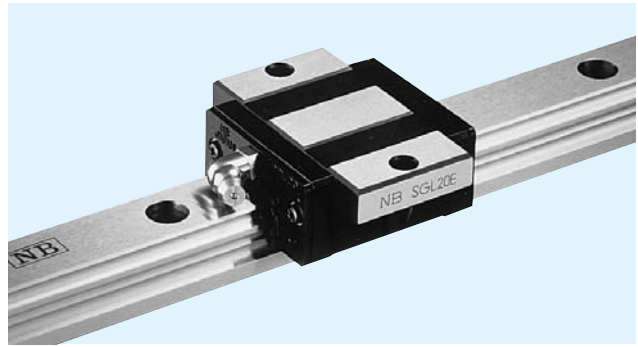
guide-rail dimensions					basic load rating		allowable static moment			mass		size
H <sub>1</sub>	C	d × G × h	N	P	dynamic C	static C <sub>0</sub>	M <sub>P</sub>	M <sub>Y</sub>	M <sub>R</sub>	block	guide rail	
mm	mm	mm	mm	mm	kN	kN	N · m	N · m	N · m	kg	kg/m	
13.5	15	4.5 × 7.5 × 5.3	20	60	10.6	16.2	100	100	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 RD 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 Raydent treatment

with Fiber Sheet

Fiber sheet comes only with standard grease.

symbol for number of rails

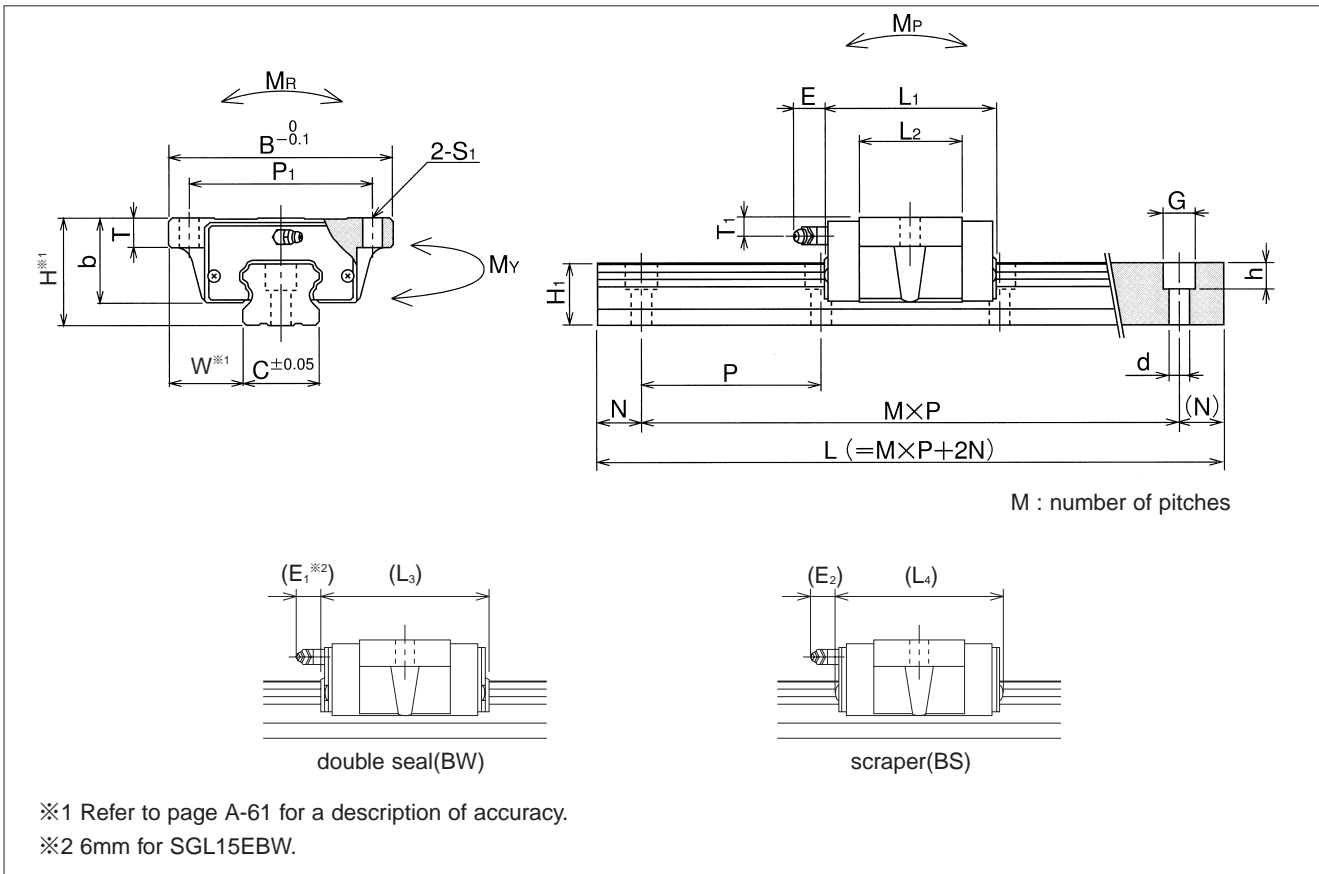
blank	single rail
W2	double rails
W3	triple rails

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

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

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

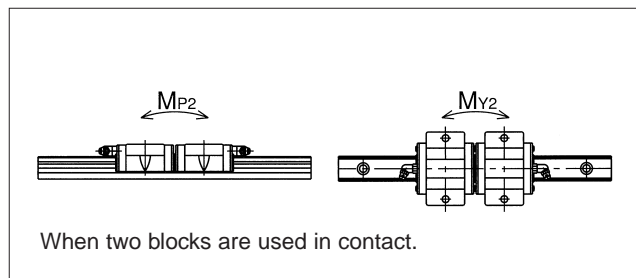
Rails exceeding the maximum specified length may be fabricated if joints are used. Contact NB for assistance.



guide-rail dimensions					basic load rating		allowable static moment			mass		size	
H <sub>1</sub>	C	d×G×h		N	P	dynamic C	static Co	M <sub>P</sub> M <sub>P2</sub>	M <sub>Y</sub> M <sub>Y2</sub>	M <sub>R</sub>	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	
		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	294				
								1,873	1,873				

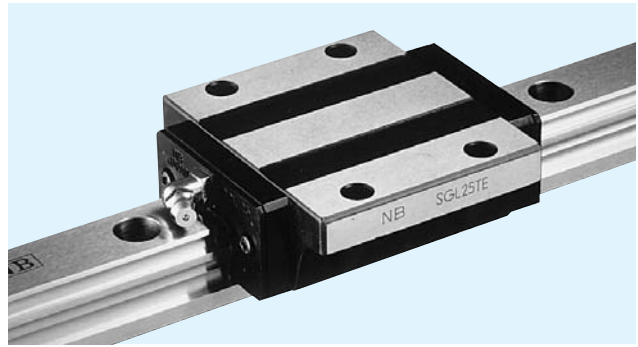
1kN ≒ 102kgf    1N·m ≒ 0.102kgf·m

							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 RD 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 Raydent treatment

with Fiber Sheet

Fiber sheet comes only with standard grease.

symbol for number of rails

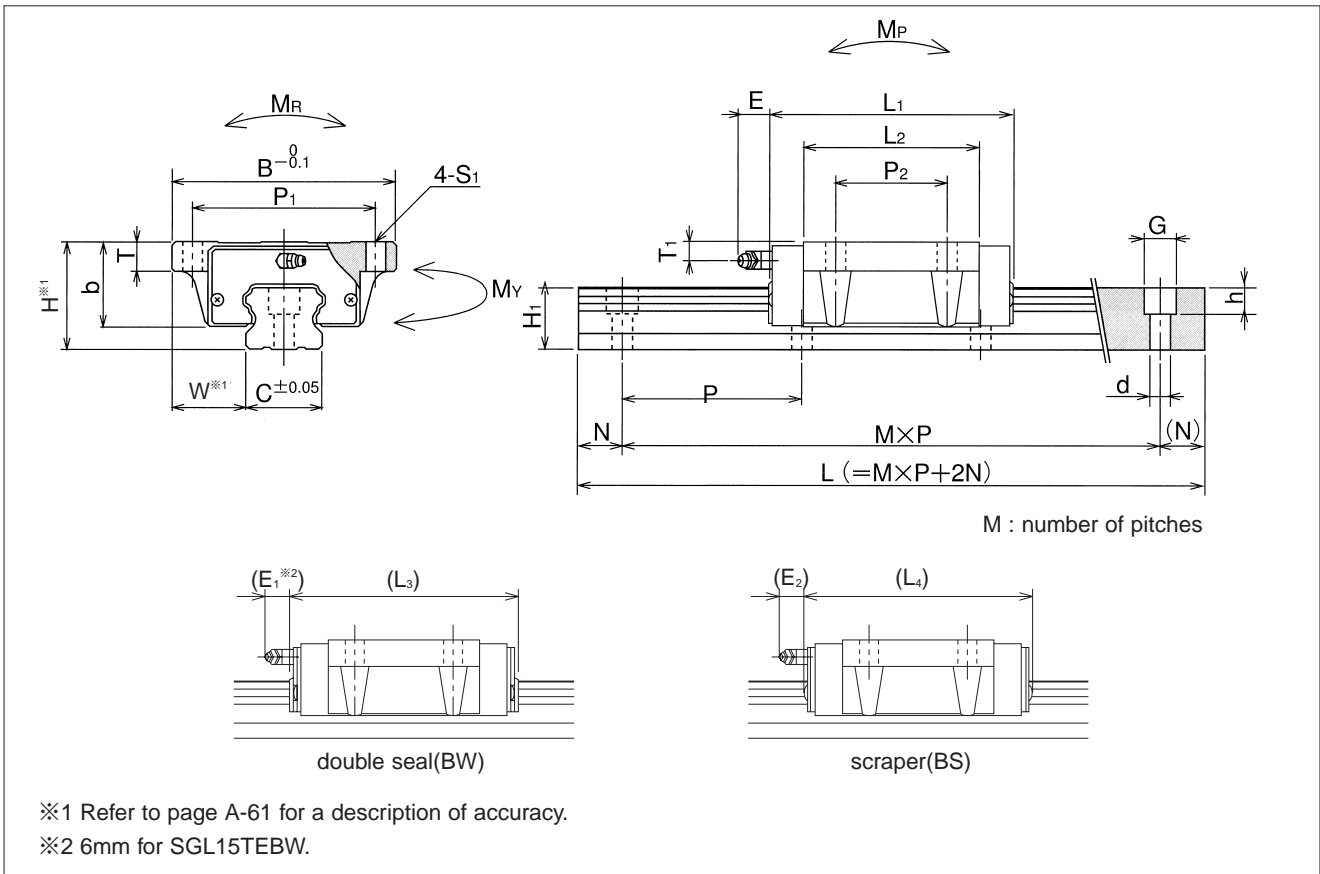
blank	single rail
W2	double rails
W3	triple rails

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

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

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

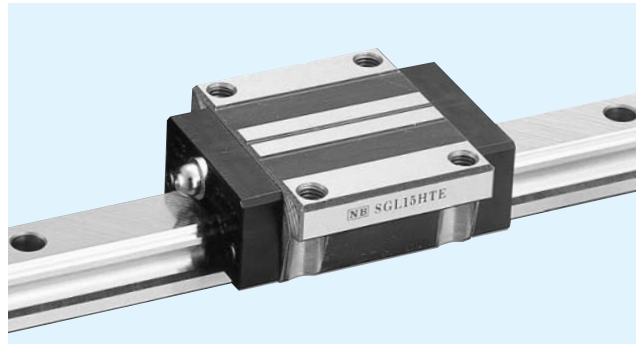


guide-rail dimensions					basic load rating		allowable static moment			mass		size
$H_1$	C	$d \times G \times h$	N	P	dynamic C	static $C_0$	$M_P$	$M_Y$	$M_R$	block	guide rail	
mm	mm	mm	mm	mm	kN	kg	$N \cdot m$	$N \cdot m$	$N \cdot m$	kg	kg/m	
13.5	15	3.5 × 6 × 4.5	20	60	10.6	16.2	100	100	127	0.2	1.3	15
		4.5 × 7.5 × 5.3										
16	20	6 × 9.5 × 8.5										
20	23	7 × 11 × 9		80	33.6	49.2	529	529	716	1.0	4.6	30
24	28											
27.5	34	9 × 14 × 12			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 RD 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 Raydent treatment  
 with Fiber Sheet  
 Fiber sheet comes only with standard grease.

symbol for number of rails

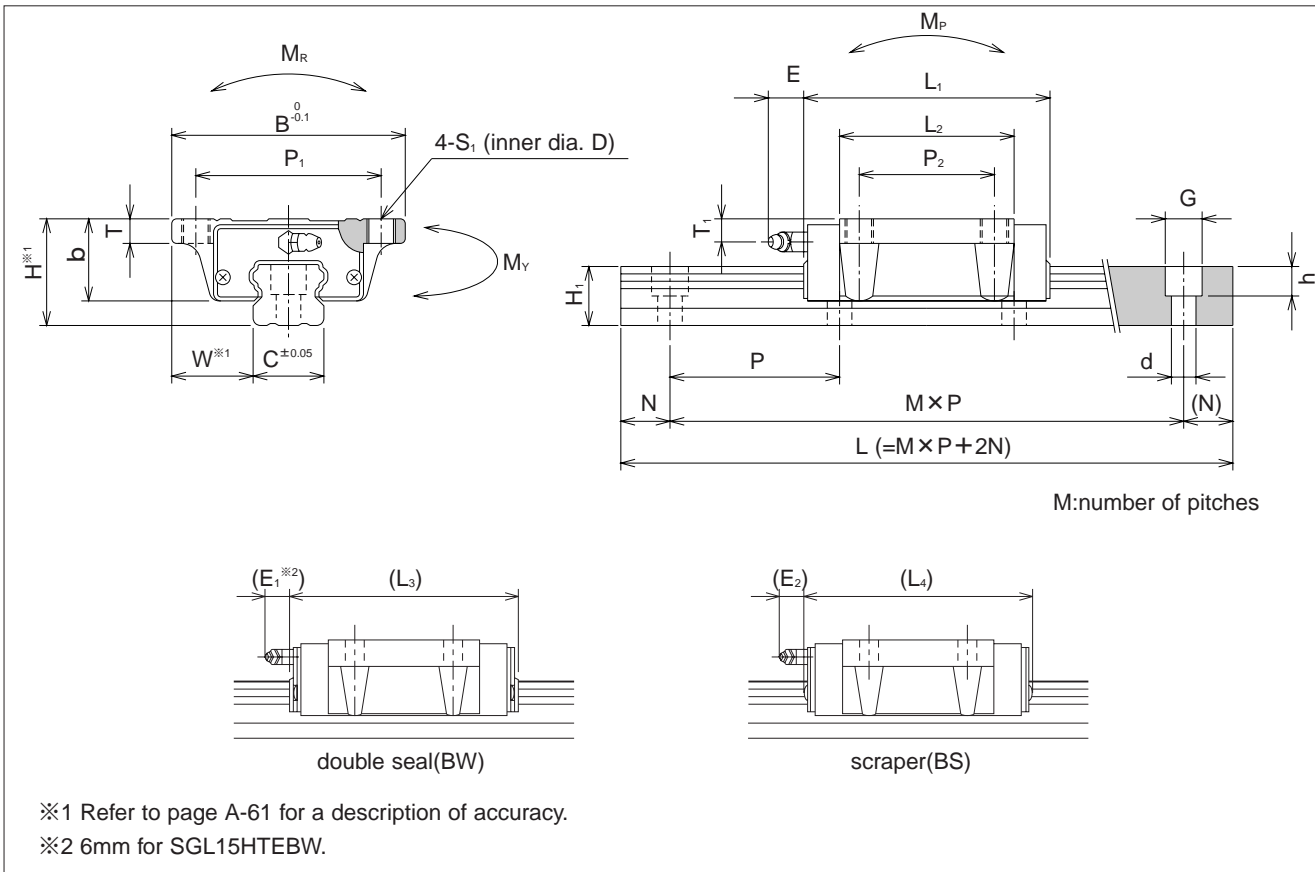
blank	single rail
W2	double rails
W3	triple rails

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

part number	assembly dimensions		block dimensions														grease fitting
	H	W	B	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	L <sub>4</sub>	P <sub>1</sub>	P <sub>2</sub>	S <sub>1</sub>	D	T	b	E <sub>1</sub>	E <sub>2</sub>	T <sub>1</sub>	
	mm	mm	mm	mm	mm	mm	mm	mm	mm		mm	mm	mm	mm	mm	mm	mm
<b>SGL15HTE</b>	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
<b>SGL20HTE</b>	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
<b>SGL25HTE</b>	36	23.5	70	80	59	86.4	87.2	57	45	M8	6.8	12.5	29		13.1	9.5	
<b>SGL30HTE</b>	42	31	90	95.7	67.7	104.3	103.3	72	52	M10	8.5	10	32.5		14.0	9	
<b>SGL35HTE</b>	48	33	100	109	78	117.6	116.6	82	62			13	38	8.5			
<b>SGL45HTE</b>	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															
<b>SGL15</b>	160	220	280	340	400	460	520	580	640	700	760	820	880	940	1,000	
<b>SGL20</b>	220	280	340	400	460	520	580	640	700	760	820	880	940	1,000	1,120	
<b>SGL25</b>	220	280	340	400	460	520	580	640	700	760	820	880	940	1,000	1,120	
<b>SGL30</b>	280	360	440	520	600	680	760	840	920	1,000	1,080	1,160	1,240	1,320	1,400	
<b>SGL35</b>	280	360	440	520	600	680	760	840	920	1,000	1,080	1,160	1,240	1,320	1,400	
<b>SGL45</b>	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 <sub>1</sub>	C	d × G × h	N	P	dynamic C	static C <sub>0</sub>	M <sub>P</sub>	M <sub>Y</sub>	M <sub>R</sub>	block kg	guide rail kg/m	
mm	mm	mm	mm	mm	kN	kN	N · m	N · m	N · 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	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