

# SLIDE GUIDE SGL TYPE

The NB slide guide SGL type is a linear motion bearing utilizing the rolling 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

The NB slide guide SGL type consists of a rail with 4 rows of precisely 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 relatively large ball elements and raceway grooves machined to a radius close to that of the ball elements increases the contact area resulting in a high load capacity and a long travel life.

### Low Friction

Because a 4-row/2-point contact design is used, low friction and stable motion characteristics are achieved even under a preloaded 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, below, 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 can be treated with low temperature black chrome treatment to increase the

corrosion resistance. This treatment is standardized with the symbol "LB". Stainless steel SGSS type is suitable for use in clean room application.

### Dust Prevention

Side-seals are provided as a standard. To improve the dust prevention characteristics, under-seals, double-seals, scrapers, bellows and special rail mounting caps are also available.

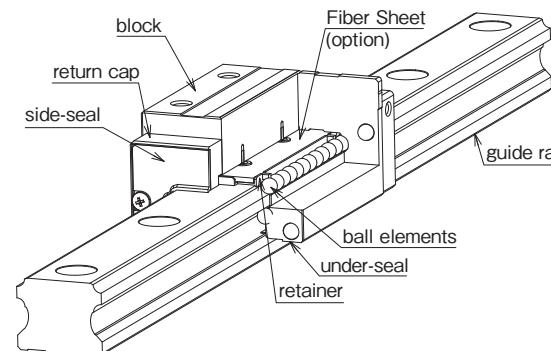
### Fiber Sheet Extends Lubricant Replenishment Intervals

A lubricant-containing Fiber Sheet incorporated in the block supplies appropriate amount of lubricant to the raceway grooves at appropriate intervals, which can significantly extend the lubricant replenishment interval. (refer to page A-18)

### REVERSE-SEAL

NB Reverse-seal realizes maintenance free by reducing grease leakage and loss. (refer to page A-19)

Figure A-48 Structure of SGL type Slide Guide



## BLOCK TYPES

Eleven SGL block types are available depending on the material and mounting method.

|   |   |                           |                                |
|---|---|---------------------------|--------------------------------|
| SGL-F type P.A-42<br>SGLS-F type P.A-42 | SGL-TF type P.A-44<br>SGLS-TF type P.A-44 | SGL-HTF type P.A-46       | SGL-HYF type P.A-48            |
|   |   |                           |                                |
| high-rigidity short type                | high-rigidity                             | high-rigidity             | high-rigidity long type        |
| SGL-E type P.A-50                       | SGL-TE type P.A-52                        | SGL-HTE type P.A-54       | SGL-HYE type P.A-56            |
|   |   |                           |                                |
| high-rigidity short flange type         | high-rigidity flange type                 | high-rigidity flange type | high-rigidity long flange type |
| SGL-HTEX type P.A-58                    |   |                           |                                |
| high-rigidity six holes flange type     |   |                           |                                |

## ACCURACY

Three accuracy grades are available: standard grade (blank), high grade (H), and precision grade (P).

Table A-18 Accuracy

unit : mm

| part number                                   | SGL15,20  |            |                | SGL25,30,35 |            |                | SGL45     |            |                |
|---|-----------|------------|----------------|-------------|------------|----------------|-----------|------------|----------------|
|   | standard  | high       | precision      | standard    | high       | precision      | standard  | high       | precision      |
| accuracy grade                                | standard  | H          | P              | standard    | H          | P              | standard  | H          | P              |
| accuracy symbol                               | blank     |            |                | blank       |            |                | blank     |            |                |
| allowable dimensional tolerance for height H  | $\pm 0.1$ | $\pm 0.03$ | $-0.03 \sim 0$ | $\pm 0.1$   | $\pm 0.04$ | $-0.04 \sim 0$ | $\pm 0.1$ | $\pm 0.05$ | $-0.05 \sim 0$ |
| 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   | $\pm 0.1$ | $\pm 0.03$ | $-0.03 \sim 0$ | $\pm 0.1$   | $\pm 0.04$ | $-0.04 \sim 0$ | $\pm 0.1$ | $\pm 0.05$ | $-0.05 \sim 0$ |
| paired difference for width W                 | 0.02      | 0.01       | 0.006          | 0.03        | 0.015      | 0.007          | 0.03      | 0.02       | 0.01           |
| Running parallelism of surface C to surface A |           |            |                |             |            |                |           |            |                |
| Running parallelism of surface D to surface B |           |            |                |             |            |                |           |            |                |

refer to Figure A-49, 50

Figure A-49 Motion Accuracy

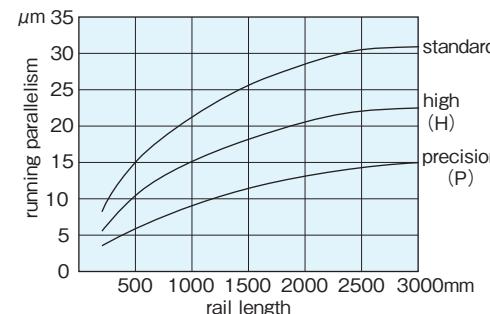
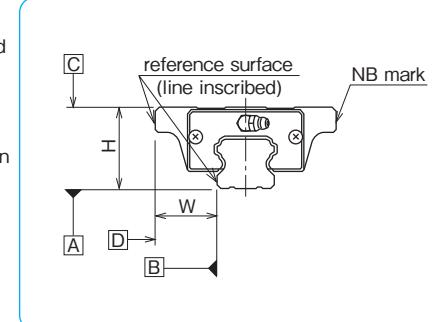


Figure A-50 Accuracy



## PRELOAD

SGL type slide guides are available with a standard preload (blank), light preload (T1), and medium preload (T2).

Table A-19 Preload Symbol and Radial Clearance unit :  $\mu\text{m}$

| preload        | standard | light   | medium* |
|----------------|----------|---------|---------|
| preload symbol | blank    | 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-20 Operating Conditions and Preload

| preload  | symbol | operating conditions  |
|----------|--------|---|
| standard | blank  | minute vibration is applied.<br>accurate motion is required.<br>moment is applied in a given direction. |
|          | T1     | light vibration is applied.<br>light torsional load is applied.<br>moment is applied.                   |
|          | T2     | shock and vibration are applied.<br>over-hang load is applied.<br>torsional load is applied.            |

\* Frictional resistance may be affected by preload.

## RAIL LENGTH

NB offers a variety of commonly used rails as standard rail lengths (described in each dimension table). Other than the standard rail length can also be offered.

In this case, if the N (N) dimension is different from the value in each dimension table, please indicate as shown in the example. Please inquire us about changing the P dimension. Please refer to the table values for the manufacturing range of N (N) dimensions.

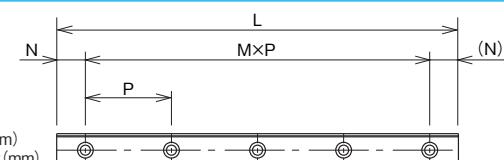
Although the rail length can be offered out of the recommended range, please be careful not to interfere with the mounting hole or affect the assembly accuracy.

**Part number structure** (Indicate after the overall rail length or rail mounting hole symbol)

**SGL 15 TF 1 T1 -330 D (N=15)** [N : (N) =15]

**SGL 35 HTE B 2 -700 (N=25/35) P** [N=25, (N) =35]

Figure A-51 Rail



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)

## MOUNTING

Slide guides are generally mounted by pushing the reference surface of the rail and block against the shoulder of the mounting surface. An undercut should be provided at the corner of the shoulder in order to avoid interference with the corner of the rail or block. The recommended shoulder height values are shown in Table A-30.

The screws to fasten the rail should be tightened equally using a torque wrench in order to secure the motion accuracy. The recommended torque values are listed in Table A-29. Please adjust the torque depending on the operating conditions.

Figure A-52 Mounting Reference Surface Profile

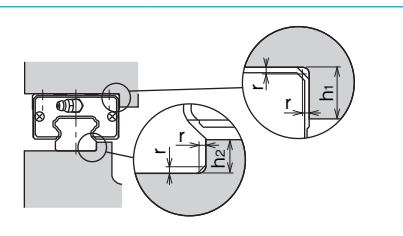


Table A-22 Recommended Torque unit : N·m

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

(for steel alloy screws)

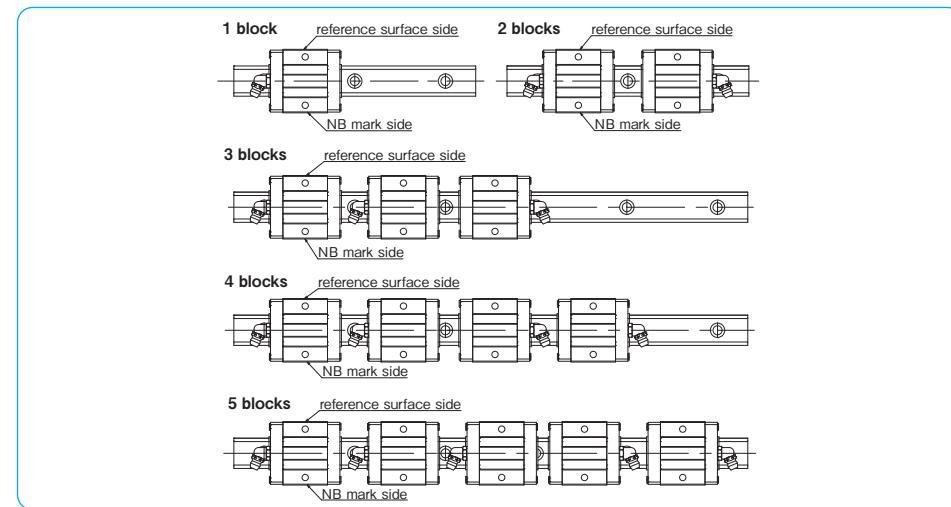
Table A-23 Shoulder Height Dimensions unit : mm

| part number | h1 | h2  | r <sub>max.</sub> |
|-------------|----|-----|-------------------|
| 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 return cap of SGL type guide blocks for lubrication purposes. Unless otherwise specified, the orientation of the grease fitting is as shown in Figure A-59. When more than 6 blocks are used on one rail, the orientation of the grease fitting is same as the orientation of 3 to 5 block used on one rail.

Figure A-53 Grease Fitting Orientation

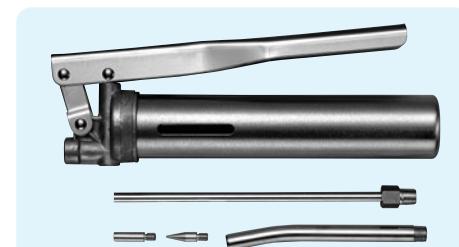


## LUBRICATION

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.

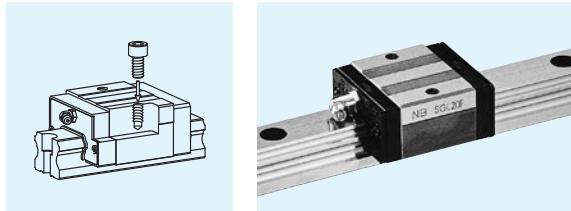
Please refer to page Eng-41 for details on the low dust generation grease.

A Grease Gun Set is available as a maintenance kit (refer to page Eng-44).



## SGL-F TYPE

— High Rigidity Short Type —



### part number structure

|  |  |
|--|--|
| example specification  | <b>SGL 15 F B 2 T1 - 580 D P / W2 FS LB F J - KGLA</b> |
| SGL: standard  |  |
| SGLS: anti-corrosion   |  |
| 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  |  |
| BR: B + reverse-seals  |  |
| BWS: BW + scraper  |  |
| number of blocks attached to one rail  |  |
| preload symbol (refer to page A-40)  |  |
| blank: standard  |  |
| T1: light  |  |
| T2: medium   |  |
| total length of rail   |  |
| size of rail installation hole (D type rail is available only for SGL 15 and 30) |  |

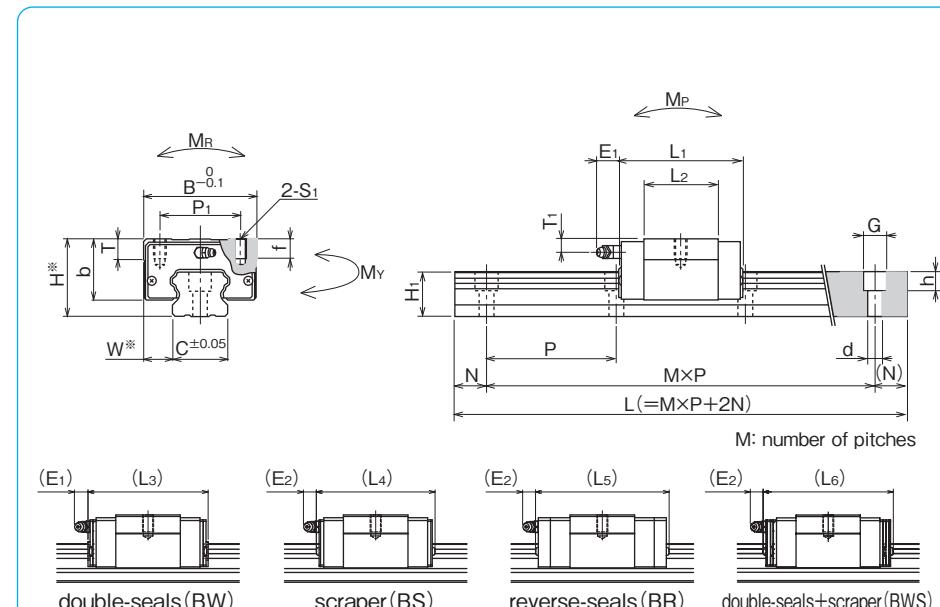
|   |  |
|---|--|
| symbol for grease (refer to page Eng-40~)         |  |
| blank: standard grease                            |  |
| KGLA: lithium-based grease                        |  |
| KGU: urea-based grease                            |  |
| KGF: anti-fretting grease                         |  |
| with bellows (refer to page A-20)                 |  |
| with rail mounting hole caps (refer to page A-17) |  |
| with low temperature black chrome treatment       |  |
| with Fiber Sheet (refer to page A-18)             |  |
| symbol for number of axes*                        |  |
| blank: single axis                                |  |
| W2: 2 parallel axes                               |  |
| W3: 3 parallel axes                               |  |
| accuracy grade (refer to page A-39)               |  |
| blank: standard                                   |  |
| H: high   |  |
| P: precision                                      |  |

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

| part number     | assembly dimensions |                |      |    |      |      |      |      |      |      |      |    |    |     | block dimensions |      |    |    |    |    |    |    |    |    |    |    |    |  |
|-----------------|---------------------|----------------|------|----|------|------|------|------|------|------|------|----|----|-----|------------------|------|----|----|----|----|----|----|----|----|----|----|----|--|
|                 | standard            | anti-corrosion | mm   | mm | mm   | mm   | mm   | mm   | mm   | mm   | mm   | mm | mm | mm  | mm               | mm   | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm |  |
| <b>SGL15F</b>   | <b>SGLS15F</b>      | 24             | 9.5  | 34 | 40.7 | 22.7 | 46.9 | 47.3 | 54.3 | 53.5 | 26   | M4 | 7  | 6   | 19.5             | 6    |    |    |    |    |    |    |    |    |    |    |    |  |
| <b>SGL15F-D</b> | <b>SGLS15F-D</b>    |                |      |    |      |      |      |      |      |      |      |    |    |     |                  |      |    |    |    |    |    |    |    |    |    |    |    |  |
| <b>SGL20F</b>   | <b>SGLS20F</b>      | 28             | 11   | 42 | 47.9 | 29.5 | 54.1 | 54.5 | 65.5 | 60.7 | 32   | M5 | 8  | 7.5 | 22               |      |    |    |    |    |    |    |    |    |    |    |    |  |
| <b>SGL25F</b>   | <b>SGLS25F</b>      | 33             | 12.5 | 48 | 58.7 | 37.7 | 65.1 | 65.9 | 76.9 | 72.1 | 35   | M6 | 9  | 8   | 26               |      |    |    |    |    |    |    |    |    |    |    |    |  |
| <b>SGL30F</b>   | <b>SGL30F-D</b>     | —              | 42   | 16 | 60   | 68   | 40   | 76.6 | 75.6 | 86.2 | 84.2 | 40 | M8 | 12  | 9                | 32.5 |    |    |    |    |    |    |    |    |    |    |    |  |
| <b>SGL35F</b>   |                     | —              | 48   | 18 | 70   | 77   | 46   | 85.6 | 84.6 | 95.2 | 93.2 | 50 |    |     | 13               | 38   |    |    |    |    |    |    |    |    |    |    |    |  |

| part number  | standard rail length L mm |                |     |     |     |     |     |     |     |     |       |       |       |       |       |       |       |  |
|--------------|---------------------------|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-------|-------|-------|-------|-------|-------|-------|--|
|              | standard                  | anti-corrosion | 160 | 220 | 280 | 340 | 400 | 460 | 520 | 580 | 640   | 700   | 760   | 820   | 880   | 940   | 1,000 |  |
| <b>SGL15</b> | <b>SGLS15</b>             | 160            | 220 | 280 | 340 | 400 | 460 | 520 | 580 | 640 | 700   | 760   | 820   | 880   | 940   | 1,000 |       |  |
| <b>SGL20</b> | <b>SGLS20</b>             | 220            | 280 | 340 | 400 | 460 | 520 | 580 | 640 | 700 | 760   | 820   | 880   | 940   | 1,000 | 1,120 |       |  |
| <b>SGL25</b> | <b>SGLS25</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. Please contact NB for assistance.



\*Please refer to page A-39 for accuracy.

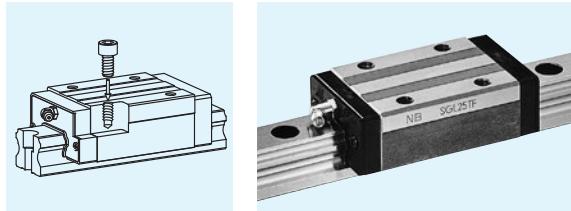
| E <sub>2</sub> | T <sub>1</sub> | grease fitting  | H <sub>1</sub> | guide rail dimensions |                          |   |   | N  | P  | basic load rating | allowable static moment | mass                                 | block size                           |                      |
|----------------|----------------|-----------------|----------------|-----------------------|--------------------------|---|---|----|----|-------------------|-------------------------|--------------------------------------|--------------------------------------|----------------------|
|                |                |                 |                | C                     | d × G × h                | N | P |    |    | dynamic C kN      | static Co kN            | M <sub>P</sub> M <sub>P2</sub> N · m | M <sub>Y</sub> M <sub>Y2</sub> N · m | M <sub>R</sub> N · m |
| 5.4            | 5              | pressed fitting | 13.5           | 15                    | 3.5×6×4.5<br>4.5×7.5×5.3 |   |   | 20 | 80 | 7.29              | 9.45                    | 36.7<br>252                          | 36.7<br>252                          | 73.9                 |
|                | 6              |                 | 16             | 20                    | 6×9.5×8.5                |   |   |    |    | 11.9              | 14.8                    | 71.9<br>447                          | 71.9<br>447                          | 159                  |
|                | 6.5            |                 | 20             | 23                    | 7×11×9                   |   |   |    |    | 17.0              | 21.1                    | 123<br>751                           | 123<br>751                           | 254                  |
|                | 9              |                 | 24             | 28                    | 7×11×9<br>9×14×12        |   |   |    |    | 23.0              | 28.7                    | 195<br>1,260                         | 195<br>1,260                         | 417                  |
|                | 8.5            |                 | 27.5           | 34                    | 9×14×12                  |   |   |    |    | 32.0              | 37.8                    | 293<br>1,870                         | 293<br>1,870                         | 693                  |
|                |                |                 |                |                       |                          |   |   |    |    |                   |                         | 0.8                                  | 6.2                                  | 35                   |

M<sub>P2</sub> and M<sub>Y2</sub> are allowable static moments when two blocks are used in close contact. 1kN = 102kgf 1N · m = 0.102kgf · m

|       |       |       |             | maximum length          |
|-------|-------|-------|-------------|-------------------------|
|       |       |       |             | mm                      |
|       |       |       |             | standard anti-corrosion |
| 1,120 | 1,240 | 1,360 | 1,480       | 2,000 1,480             |
| 1,240 | 1,360 | 1,480 | 1,600 1,660 | 3,000 1,480             |
| 1,240 | 1,360 | 1,480 | 1,600 1,660 | 3,000 1,480             |
| 1,480 | 1,640 | 1,720 | 1,800 1,880 | 3,000 —                 |
| 1,480 | 1,640 | 1,720 | 1,800 1,880 | 3,000 —                 |

**SGL-TF TYPE**

— High Rigidity Type —

**part number structure**example specification  
SGL 15 TF B 2 T1 - 580 D P / W2 FS LB F J - KGLASGL: standard  
SGLS: anti-corrosion

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

BR: B + reverse-seals

BWS: BW + scraper

number of blocks attached to one rail

preload symbol (refer to page A-40)

blank: standard

T1: light

T2: medium

total length of rail

size of rail installation hole (D type rail is available only for SGL 15 and 30)

symbol for grease  
(refer to page Eng-40~)  
blank: standard grease  
KGLA: lithium-based grease  
KGU: urea-based grease  
KGF: anti-fretting grease

with bellows (refer to page A-20)

with rail mounting hole caps (refer to page A-17)

with low temperature black chrome treatment

with Fiber Sheet (refer to page A-18)

symbol for number of axes\*

blank: single axis

W2: 2 parallel axes

W3: 3 parallel axes

accuracy grade (refer to page A-39)

blank: standard

H: high

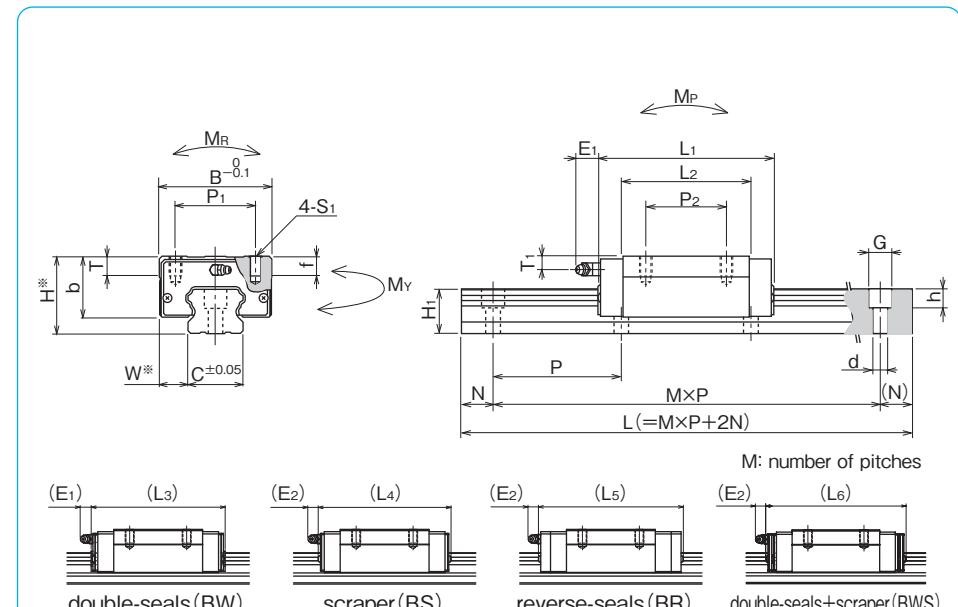
P: precision

\*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 <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | L <sub>4</sub> | L <sub>5</sub> | L <sub>6</sub> | P <sub>1</sub> | P <sub>2</sub> | S <sub>1</sub> | f  | T   | b    | E <sub>1</sub> |  |
|                  |                   | mm                  | mm   | mm               | mm             | mm             | mm             | mm             | mm             | mm             | mm             | mm             | mm             | mm | mm  | mm   | mm             |  |
| <b>SGL15TF</b>   | <b>SGLS15TF</b>   | 24                  | 9.5  | 34               | 56.5           | 38.5           | 62.7           | 63.1           | 70.1           | 69.3           | 26             | 26             | M4             | 7  | 6   | 19.5 | 6              |  |
| <b>SGL15TF-D</b> | <b>SGLS15TF-D</b> |                     |      |                  |                |                |                |                |                |                |                |                |                |    |     |      |                |  |
| <b>SGL20TF</b>   | <b>SGLS20TF</b>   | 28                  | 11   | 42               | 65.8           | 47.4           | 72             | 72.4           | 83.4           | 78.6           | 32             | 32             | M5             | 8  | 7.5 | 22   | 12             |  |
| <b>SGL25TF</b>   | <b>SGLS25TF</b>   | 33                  | 12.5 | 48               | 80             | 59             | 86.4           | 87.2           | 98.2           | 93.4           | 35             | 35             | M6             | 9  | 8   | 26   |                |  |
| <b>SGL30TF</b>   | <b>SGL30TF-D</b>  | —                   | 42   | 16               | 60             | 95.7           | 67.7           | 104.3          | 103.3          | 113.9          | 111.9          | 40             | 40             | M8 | 12  | 9    | 32.5           |  |
| <b>SGL35TF</b>   |                   | —                   | 48   | 18               | 70             | 109            | 78             | 117.6          | 116.6          | 127.2          | 125.2          | 50             | 50             |    | 13  | 38   |                |  |

| part number  |                | standard rail length L mm |     |     |     |     |     |     |     |     |       |       |       |       |       |       |  |  |
|--------------|----------------|---------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-------|-------|-------|-------|-------|-------|--|--|
| standard     | anti-corrosion | 160                       | 220 | 280 | 340 | 400 | 460 | 520 | 580 | 640 | 700   | 760   | 820   | 880   | 940   | 1,000 |  |  |
| <b>SGL15</b> | <b>SGLS15</b>  | 160                       | 220 | 280 | 340 | 400 | 460 | 520 | 580 | 640 | 700   | 760   | 820   | 880   | 940   | 1,000 |  |  |
| <b>SGL20</b> | <b>SGLS20</b>  | 220                       | 280 | 340 | 400 | 460 | 520 | 580 | 640 | 700 | 760   | 820   | 880   | 940   | 1,000 | 1,120 |  |  |
| <b>SGL25</b> | <b>SGLS25</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. Please contact NB for assistance.



\*Please refer to page A-39 for accuracy.

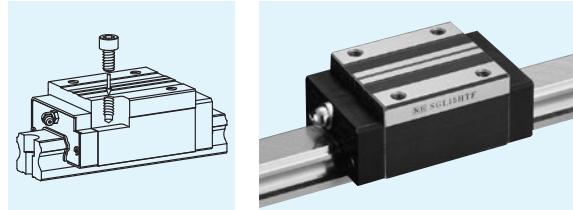
| E <sub>2</sub> | T <sub>1</sub> | grease fitting | H <sub>1</sub> | C  | guide rail dimensions |         |   | N  | P  | basic load rating | allowable static moment | mass  | block size |
|----------------|----------------|----------------|----------------|----|-----------------------|---------|---|----|----|-------------------|-------------------------|-------|------------|
|                |                |                |                |    | d                     | x       | g |    |    |                   |                         |       |            |
| 5.4            | 11             | B-M6F          | 13.5           | 15 | 3.5×6×4.5             |         |   | 20 | 80 | 10.6              | 16.2                    | 99.5  | 15         |
|                |                |                |                |    | 4.5×7.5×5.3           |         |   |    |    | 16.3              | 23.2                    | 165   | 20         |
|                |                |                | 16             | 20 | 6×9.5×8.5             |         |   |    |    | 24.7              | 36.3                    | 334   | 25         |
|                |                |                | 20             | 23 | 7×11×9                |         |   |    |    | 33.6              | 49.2                    | 528   | 30         |
|                |                |                | 24             | 28 | 7×11×9                | 9×14×12 |   |    |    | 46.6              | 64.8                    | 796   | 35         |
|                |                |                | 27.5           | 34 | 9×14×12               |         |   |    |    | 4,290             | 4,290                   | 1,180 | 40         |

Mp<sub>2</sub> and My<sub>2</sub> are allowable static moments when two blocks are used in close contact. 1kN=102kgf 1N·m=0.102kgf·m

|       |       | maximum length mm                   |
|-------|-------|-------------------------------------|
|       |       | standard anti-corrosion             |
| 1,120 | 1,240 | 1,360 1,480                         |
| 1,240 | 1,360 | 1,480 1,600 1,660 1,720 1,840 1,960 |
| 1,240 | 1,360 | 1,480 1,600 1,660 1,720 1,840 1,960 |
| 1,480 | 1,640 | 1,720 1,800 1,880 1,960             |
| 1,480 | 1,640 | 1,720 1,800 1,880 1,960             |

**SGL-HTF TYPE**

— High Rigidity Type —

**part number structure**example **SGL|15|HTF|B|2|T1-580|P/W2|FS|LB|F|J-KGLA**

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

BR: B + reverse-seals

BWS: BW + scraper

number of blocks attached to one rail

preload symbol (refer to page A-40)

blank: standard

T1: light

T2: medium

total length of rail

symbol for grease  
(refer to page Eng-40~)  
blank: standard grease  
KGLA: lithium-based grease  
KGU: urea-based grease  
KGF: anti-fretting grease

with bellows (refer to page A-20)

with rail mounting hole caps (refer to page A-17)

with low temperature black chrome treatment

with Fiber Sheet (refer to page A-18)

symbol for number of axes\*

blank: single axis

W2: 2 parallel axes

W3: 3 parallel axes

accuracy grade (refer to page A-39)

blank: standard

H: high

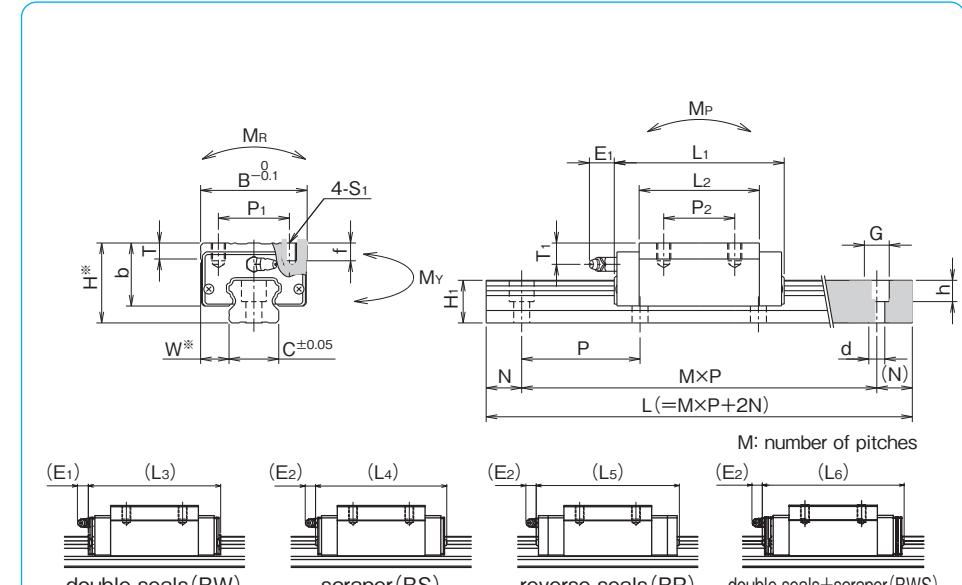
P: precision

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

| part number     | assembly dimensions |         | block dimensions |                      |                      |                      |                      |                      |                      |                      |                      |                      |         |         |         |                      |                      |    |    |  |
|-----------------|---------------------|---------|------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------|---------|---------|----------------------|----------------------|----|----|--|
|                 | H<br>mm             | W<br>mm | B<br>mm          | L <sub>1</sub><br>mm | L <sub>2</sub><br>mm | L <sub>3</sub><br>mm | L <sub>4</sub><br>mm | L <sub>5</sub><br>mm | L <sub>6</sub><br>mm | P <sub>1</sub><br>mm | P <sub>2</sub><br>mm | S <sub>1</sub><br>mm | f<br>mm | T<br>mm | b<br>mm | E <sub>1</sub><br>mm | E <sub>2</sub><br>mm |    |    |  |
| <b>SGL15HTF</b> | 28                  | 9.5     | 34               | 56.5                 | 38.5                 | 62.7                 | 63.1                 | 70.1                 | 69.3                 | 26                   | 26                   | M4                   | 5       | 6       | 23.7    | 6                    | 5.4                  |    |    |  |
| <b>SGL20HTF</b> | 30                  | 12      | 44               | 71.6                 | 53.2                 | 77.8                 | 78.2                 | 89.2                 | 84.4                 | 32                   | 36                   | M5                   | 6       | 9.5     | 24      |                      |                      |    |    |  |
| <b>SGL25HTF</b> | 40                  | 12.5    | 48               | 80                   | 59                   | 86.4                 | 87.2                 | 98.2                 | 93.4                 | 35                   | 35                   | M6                   | 8       |         | 33      |                      |                      | 12 | 11 |  |
| <b>SGL30HTF</b> | 45                  | 16      | 60               | 95.7                 | 67.7                 | 104.3                | 103.3                | 113.9                | 111.9                | 40                   | 40                   | M8                   | 10      |         | 35.5    |                      |                      |    |    |  |
| <b>SGL35HTF</b> | 55                  | 18      | 70               | 109                  | 78                   | 117.6                | 116.6                | 127.2                | 125.2                | 50                   | 50                   |                      | 12      | 13      | 45      |                      |                      |    |    |  |
| <b>SGL45HTF</b> | 70                  | 20.5    | 86               | 139                  | 102                  | 147.5                | 148                  | 158.7                | 156.6                | 60                   | 60                   | M10                  | 17      | 15      | 60      | 15                   | 15                   |    |    |  |

| part number  | standard rail length<br>L mm |     |     |     |     |       |       |       |       |       |       |       |       |       |       |       |  |  |
|--------------|------------------------------|-----|-----|-----|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|--|
|              | 160                          | 220 | 280 | 340 | 400 | 460   | 520   | 580   | 640   | 700   | 760   | 820   | 880   | 940   | 1,000 | 1,120 |  |  |
| <b>SGL15</b> | 160                          | 220 | 280 | 340 | 400 | 460   | 520   | 580   | 640   | 700   | 760   | 820   | 880   | 940   | 1,000 | 1,120 |  |  |
| <b>SGL20</b> | 220                          | 280 | 340 | 400 | 460 | 520   | 580   | 640   | 700   | 760   | 820   | 880   | 940   | 1,000 | 1,120 | 1,240 |  |  |
| <b>SGL25</b> | 220                          | 280 | 340 | 400 | 460 | 520   | 580   | 640   | 700   | 760   | 820   | 880   | 940   | 1,000 | 1,120 | 1,240 |  |  |
| <b>SGL30</b> | 280                          | 360 | 440 | 520 | 600 | 680   | 760   | 840   | 920   | 1,000 | 1,080 | 1,160 | 1,240 | 1,320 | 1,400 | 1,480 |  |  |
| <b>SGL35</b> | 280                          | 360 | 440 | 520 | 600 | 680   | 760   | 840   | 920   | 1,000 | 1,080 | 1,160 | 1,240 | 1,320 | 1,400 | 1,480 |  |  |
| <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 | 2,145 |  |  |

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



\*Please refer to page A-39 for accuracy.

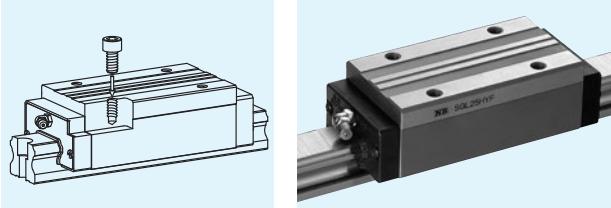
| T <sub>1</sub><br>mm | grease<br>fitting  | H <sub>1</sub><br>mm | C<br>mm | guide rail dimensions |         | N<br>mm | P<br>mm | basic load rating<br>dynamic<br>C<br>kN | allowable static<br>load<br>M <sub>P</sub><br>M <sub>P2</sub><br>N · m | allowable static<br>moment<br>M <sub>Y</sub><br>M <sub>Y2</sub><br>N · m | mass<br>block<br>kg | mass<br>guide<br>rail<br>kg/m | block<br>size |     |
|----------------------|--------------------|----------------------|---------|-----------------------|---------|---------|---------|---|--|--|---------------------|-------------------------------|---------------|-----|
|                      |                    |                      |         | d × G × h<br>mm       | N<br>mm |         |         |   |  |  |                     |                               |               |     |
| 9                    | pressed<br>fitting | 13.5                 | 15      | 4.5 × 7.5 × 5.3       |         | 20      | 60      | 10.6                                    | 16.2   | 99.5<br>565  | 99.5<br>565         | 126                           | 0.2           | 1.3 |
|                      |                    | 16                   | 20      | 6 × 9.5 × 8.5         |         |         |         | 18.3                                    | 27.5   | 226<br>1,180   | 226<br>1,180        | 296                           | 0.4           | 2.1 |
|                      |                    | 20                   | 23      | 7 × 11 × 9            |         |         |         | 24.7                                    | 36.3   | 334<br>1,740   | 334<br>1,740        | 437                           | 0.6           | 3.0 |
|                      |                    | 24                   | 28      |                       |         |         |         | 33.6                                    | 49.2   | 528<br>2,880   | 528<br>2,880        | 716                           | 0.9           | 4.6 |
|                      |                    | 27.5                 | 34      | 9 × 14 × 12           |         |         |         | 46.6                                    | 64.8   | 796<br>4,290   | 796<br>4,290        | 1,180                         | 1.5           | 6.2 |
| 20                   | B-PT1/8            | 36.5                 | 45      | 14 × 20 × 17          | 22.5    | 105     | 74.7    | 101                                     | 1,550<br>8,250   | 1,550<br>8,250   | 2,310               | 3.1                           | 10.5          | 45  |

M<sub>P2</sub> and M<sub>Y2</sub> are allowable static moments when two blocks are used in close contact. 1kN = 102kgf 1N · m = 0.102kgf · m

| maximum length<br>mm                            |
|---|
| 1,240 1,360 1,480                               |
| 1,360 1,480 1,600 1,660 1,720 1,840 1,960       |
| 1,360 1,480 1,600 1,660 1,720 1,840 1,960       |
| 1,640 1,720 1,800 1,880 1,960                   |
| 1,640 1,720 1,800 1,880 1,960                   |
| 2,250 2,355 2,460 2,565 2,670 2,775 2,880 2,985 |

**SGL-HYF TYPE**

— High Rigidity Long Type —

**part number structure**example **SGL|15|HYF|B|2|T1-580|P/W2|FS|LB|F|J-KGLA**

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

BR: B + reverse-seals

BWS: BW + scraper

number of blocks attached to one rail

preload symbol (refer to page A-40)

blank: standard

T1: light

T2: medium

total length of rail

symbol for grease  
(refer to page Eng-40~)  
blank: standard grease  
KGLA: lithium-based grease  
KGU: urea-based grease  
KGF: anti-fretting grease

with bellows (refer to page A-20)

with rail mounting hole caps (refer to page A-17)

with low temperature black chrome treatment

with Fiber Sheet (refer to page A-18)

symbol for number of axes\*

blank: single axis

W2: 2 parallel axes

W3: 3 parallel axes

accuracy grade (refer to page A-39)

blank: standard

H: high

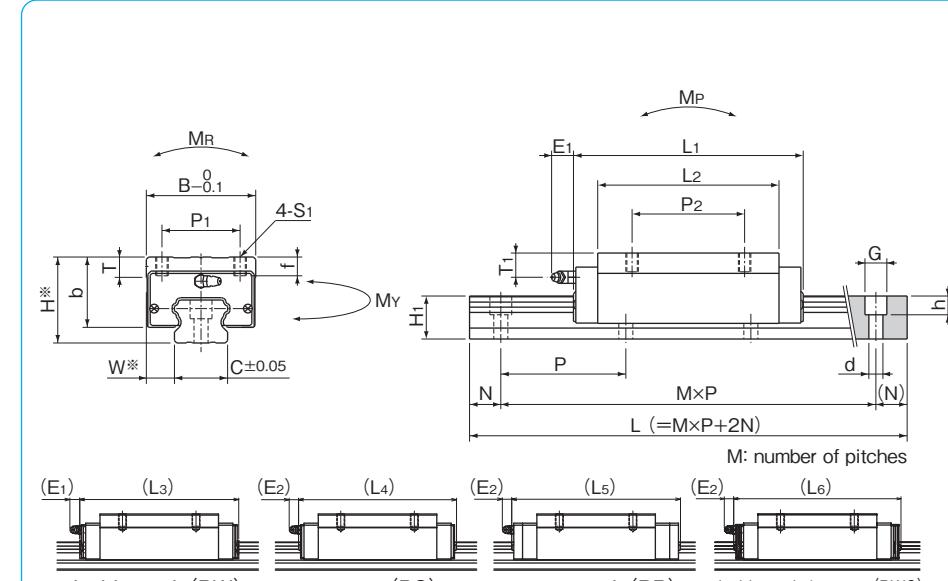
P: precision

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

| part number     | assembly dimensions |         | block dimensions |          |          |          |          |          |          |          |          |          |         |         |         |          |          |  |
|-----------------|---------------------|---------|------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|---------|---------|---------|----------|----------|--|
|                 | H<br>mm             | W<br>mm | B<br>mm          | L1<br>mm | L2<br>mm | L3<br>mm | L4<br>mm | L5<br>mm | L6<br>mm | P1<br>mm | P2<br>mm | S1<br>mm | f<br>mm | T<br>mm | b<br>mm | E1<br>mm | E2<br>mm |  |
| <b>SGL15HYF</b> | 28                  | 9.5     | 34               | 79       | 61       | 85.2     | 85.6     | 92.6     | 91.8     | 26       | 26       | M4       | 5       | 6       | 23.7    | 6        | 5.4      |  |
| <b>SGL20HYF</b> | 30                  | 12      | 44               | 96       | 77.6     | 102.2    | 102.6    | 113.6    | 108.8    | 32       | 50       | M5       | 6       | 9.5     | 24      | 12       | 11       |  |
| <b>SGL25HYF</b> | 40                  | 12.5    | 48               | 109      | 88       | 115.4    | 116.2    | 127.2    | 122.4    | 35       |          | M6       | 8       | 9       | 33      |          |          |  |
| <b>SGL30HYF</b> | 45                  | 16      | 60               | 129      | 101      | 137.6    | 136.6    | 147.2    | 145.2    | 40       |          | M8       | 10      |         | 35.5    |          |          |  |
| <b>SGL35HYF</b> | 55                  | 18      | 70               | 147      | 116      | 155.6    | 154.6    | 165.2    | 163.2    | 50       |          | M8       | 12      | 13      | 45      |          |          |  |
| <b>SGL45HYF</b> | 70                  | 20.5    | 86               | 171      | 134      | 179.5    | 180      | 190.7    | 188.6    | 60       |          | M10      | 17      | 15      | 60      | 15       | 15       |  |

| part number  | standard rail length<br>L mm |     |     |     |     |       |       |       |       |       |       |       |       |       |       |       |
|--------------|------------------------------|-----|-----|-----|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|              | 160                          | 220 | 280 | 340 | 400 | 460   | 520   | 580   | 640   | 700   | 760   | 820   | 880   | 940   | 1,000 | 1,120 |
| <b>SGL15</b> | 160                          | 220 | 280 | 340 | 400 | 460   | 520   | 580   | 640   | 700   | 760   | 820   | 880   | 940   | 1,000 | 1,120 |
| <b>SGL20</b> | 220                          | 280 | 340 | 400 | 460 | 520   | 580   | 640   | 700   | 760   | 820   | 880   | 940   | 1,000 | 1,120 | 1,240 |
| <b>SGL25</b> | 220                          | 280 | 340 | 400 | 460 | 520   | 580   | 640   | 700   | 760   | 820   | 880   | 940   | 1,000 | 1,120 | 1,240 |
| <b>SGL30</b> | 280                          | 360 | 440 | 520 | 600 | 680   | 760   | 840   | 920   | 1,000 | 1,080 | 1,160 | 1,240 | 1,320 | 1,400 | 1,480 |
| <b>SGL35</b> | 280                          | 360 | 440 | 520 | 600 | 680   | 760   | 840   | 920   | 1,000 | 1,080 | 1,160 | 1,240 | 1,320 | 1,400 | 1,480 |
| <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 | 2,145 |

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



\*Please refer to page A-39 for accuracy.

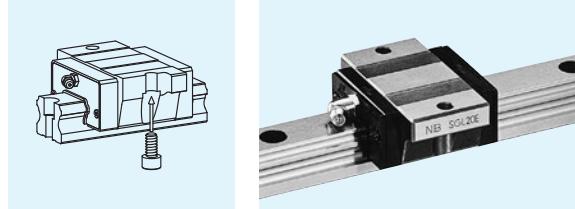
| T <sub>1</sub><br>mm | grease<br>fitting  | guide rail dimensions |         |                 |         |         | basic load rating<br>dynamic<br>C<br>kN | allowable static<br>moment<br>M <sub>P</sub><br>M <sub>P2</sub><br>N · m | allowable static<br>moment<br>M <sub>Y</sub><br>M <sub>Y2</sub><br>N · m | mass<br>block<br>kg | mass<br>guide<br>rail<br>kg/m | block<br>size |           |  |  |
|----------------------|--------------------|-----------------------|---------|-----------------|---------|---------|---|--|--|---------------------|-------------------------------|---------------|-----------|--|--|
|                      |                    | H <sub>1</sub><br>mm  | C<br>mm | d × G × h<br>mm | N<br>mm | P<br>mm |   |  |  |                     |                               |               |           |  |  |
| 9                    | pressed<br>fitting | 13.5                  | 15      | 4.5×7.5×5.3     | 20      | 60      | 14.6                                    | 25.6   | 238<br>1,200   | 200                 | 0.3                           | 1.3           | <b>15</b> |  |  |
|                      |                    | 16                    | 20      | 6×9.5×8.5       |         |         | 23.9                                    | 40.2   | 467<br>2,250   | 432                 | 0.5                           | 2.1           | <b>20</b> |  |  |
|                      |                    | 20                    | 23      | 7×11×9          |         |         | 32.8                                    | 54.5   | 723<br>3,480   | 655                 | 0.9                           | 3.0           | <b>25</b> |  |  |
|                      |                    | 24                    | 28      | 9×14×12         |         |         | 44.6                                    | 73.8   | 1,140<br>5,680   | 1,070               | 1.3                           | 4.6           | <b>30</b> |  |  |
|                      |                    | 27.5                  | 34      |                 |         |         | 61.9                                    | 97.2   | 1,720<br>8,480   | 1,780               | 2.2                           | 6.2           | <b>35</b> |  |  |
| 20                   | B-PT1/8            | 36.5                  | 45      | 14×20×17        | 22.5    | 105     | 91.4                                    | 134  | 2,680<br>13,300  | 3,080               | 4.0                           | 10.5          | <b>45</b> |  |  |

M<sub>P2</sub> and M<sub>Y2</sub> are allowable static moments when two blocks are used in close contact. 1kN=102kgf 1N·m=0.102kgf·m

| maximum length<br>mm |
|----------------------|
| 2,000                |
| 3,000                |
| 3,000                |
| 3,000                |
| 3,000                |
| 3,000                |

## SGL-E TYPE

— High Rigidity Short Flange Type —



### part number structure

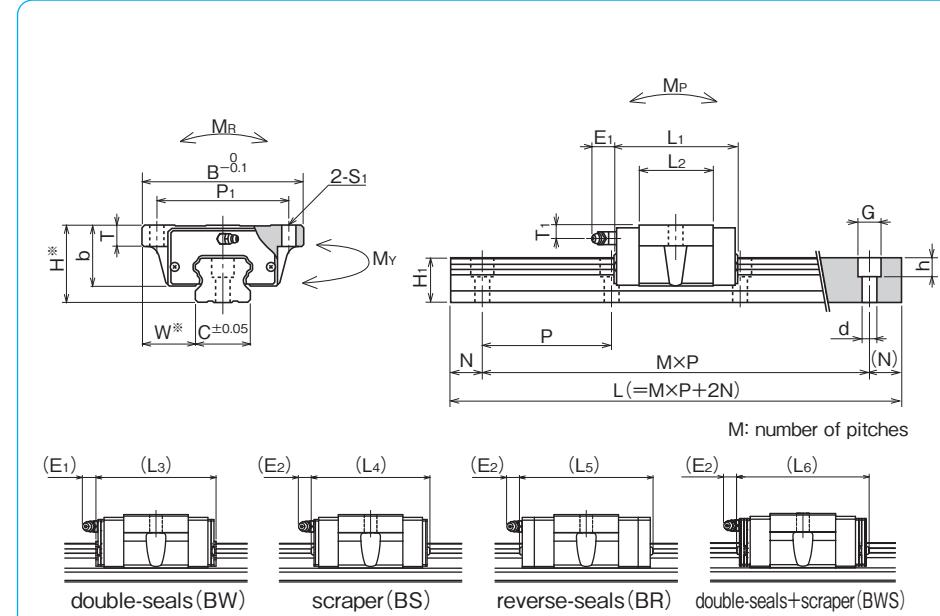
|  |            |           |          |          |          |           |             |          |          |            |           |           |          |          |              |
|--|------------|-----------|----------|----------|----------|-----------|-------------|----------|----------|------------|-----------|-----------|----------|----------|--------------|
| example  | <b>SGL</b> | <b>15</b> | <b>E</b> | <b>B</b> | <b>2</b> | <b>T1</b> | <b>-580</b> | <b>D</b> | <b>P</b> | <b>/W2</b> | <b>FS</b> | <b>LB</b> | <b>F</b> | <b>J</b> | <b>-KGLA</b> |
| 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  |            |           |          |          |          |           |             |          |          |            |           |           |          |          |              |
| BR: B + reverse-seals  |            |           |          |          |          |           |             |          |          |            |           |           |          |          |              |
| BWS: BW + scraper  |            |           |          |          |          |           |             |          |          |            |           |           |          |          |              |
| number of blocks attached to one rail  |            |           |          |          |          |           |             |          |          |            |           |           |          |          |              |
| preload symbol (refer to page A-40)  |            |           |          |          |          |           |             |          |          |            |           |           |          |          |              |
| blank: standard  |            |           |          |          |          |           |             |          |          |            |           |           |          |          |              |
| T1: light  |            |           |          |          |          |           |             |          |          |            |           |           |          |          |              |
| T2: medium   |            |           |          |          |          |           |             |          |          |            |           |           |          |          |              |
| total length of rail   |            |           |          |          |          |           |             |          |          |            |           |           |          |          |              |
| size of rail installation hole (D type rail is available only for SGL 15 and 30) |            |           |          |          |          |           |             |          |          |            |           |           |          |          |              |
| accuracy grade (refer to page A-39)  |            |           |          |          |          |           |             |          |          |            |           |           |          |          |              |
| blank: standard  |            |           |          |          |          |           |             |          |          |            |           |           |          |          |              |
| H: high  |            |           |          |          |          |           |             |          |          |            |           |           |          |          |              |
| P: precision   |            |           |          |          |          |           |             |          |          |            |           |           |          |          |              |

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

| part number     | assembly dimensions |         | block dimensions |                      |                      |                      |                      |                      |                      |                      |                      |         |         |                      |                      |
|-----------------|---------------------|---------|------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------|---------|----------------------|----------------------|
|                 | H<br>mm             | W<br>mm | B<br>mm          | L <sub>1</sub><br>mm | L <sub>2</sub><br>mm | L <sub>3</sub><br>mm | L <sub>4</sub><br>mm | L <sub>5</sub><br>mm | L <sub>6</sub><br>mm | P <sub>1</sub><br>mm | S <sub>1</sub><br>mm | T<br>mm | b<br>mm | E <sub>1</sub><br>mm | E <sub>2</sub><br>mm |
| <b>SGL15E</b>   | 24                  | 18.5    | 52               | 40.7                 | 22.7                 | 46.9                 | 47.3                 | 54.3                 | 53.5                 | 41                   | 4.5                  | 7       | 19.5    | 6                    | 5.4                  |
| <b>SGL15E-D</b> |                     |         |                  |                      |                      |                      |                      |                      |                      |                      |                      |         |         |                      |                      |
| <b>SGL20E</b>   | 28                  | 19.5    | 59               | 47.9                 | 29.5                 | 54.1                 | 54.5                 | 65.5                 | 60.7                 | 49                   | 5.5                  | 9       | 22      |                      |                      |
| <b>SGL25E</b>   | 33                  | 25      | 73               | 58.7                 | 37.7                 | 65.1                 | 65.9                 | 76.9                 | 72.1                 | 60                   | 7                    |         | 26      |                      |                      |
| <b>SGL30E</b>   | 42                  | 31      | 90               | 68                   | 40                   | 76.6                 | 75.6                 | 86.2                 | 84.2                 | 72                   |                      | 9       | 32.5    |                      |                      |
| <b>SGL30E-D</b> |                     |         |                  |                      |                      |                      |                      |                      |                      |                      |                      |         |         |                      |                      |
| <b>SGL35E</b>   | 48                  | 33      | 100              | 77                   | 46                   | 85.6                 | 84.6                 | 95.2                 | 93.2                 | 82                   |                      | 13      | 38      |                      |                      |
|                 |                     |         |                  |                      |                      |                      |                      |                      |                      |                      |                      |         |         |                      |                      |

| part number  | standard rail length<br>L mm |     |     |     |     |     |     |     |     |       |       |       |       |       |       |       |
|--------------|------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-------|-------|-------|-------|-------|-------|-------|
|              | 160                          | 220 | 280 | 340 | 400 | 460 | 520 | 580 | 640 | 700   | 760   | 820   | 880   | 940   | 1,000 | 1,120 |
| <b>SGL15</b> | 160                          | 220 | 280 | 340 | 400 | 460 | 520 | 580 | 640 | 700   | 760   | 820   | 880   | 940   | 1,000 | 1,120 |
| <b>SGL20</b> | 220                          | 280 | 340 | 400 | 460 | 520 | 580 | 640 | 700 | 760   | 820   | 880   | 940   | 1,000 | 1,120 | 1,240 |
| <b>SGL25</b> | 220                          | 280 | 340 | 400 | 460 | 520 | 580 | 640 | 700 | 760   | 820   | 880   | 940   | 1,000 | 1,120 | 1,240 |
| <b>SGL30</b> | 280                          | 360 | 440 | 520 | 600 | 680 | 760 | 840 | 920 | 1,000 | 1,080 | 1,160 | 1,240 | 1,320 | 1,400 | 1,480 |
| <b>SGL35</b> | 280                          | 360 | 440 | 520 | 600 | 680 | 760 | 840 | 920 | 1,000 | 1,080 | 1,160 | 1,240 | 1,320 | 1,400 | 1,480 |

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



\*Please refer to page A-39 for accuracy.

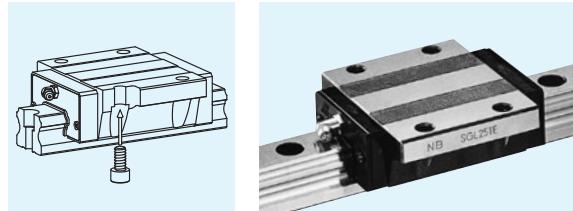
| T <sub>1</sub><br>mm | grease<br>fitting  | guide rail dimensions |         |                          |         | basic load rating<br>dynamic<br>C<br>kN | allowable static<br>load<br>M <sub>P</sub><br>M <sub>P2</sub><br>N·m | allowable static<br>moment<br>M <sub>Y</sub><br>M <sub>Y2</sub><br>N·m | mass<br>block<br>kg | mass<br>guide<br>rail<br>kg/m | block<br>size |     |
|----------------------|--------------------|-----------------------|---------|--------------------------|---------|---|--|--|---------------------|-------------------------------|---------------|-----|
|                      |                    | H <sub>1</sub><br>mm  | C<br>mm | d×G×h<br>mm              | N<br>mm |   |  |  |                     |                               |               |     |
| 5                    | pressed<br>fitting | 13.5                  | 15      | 3.5×6×4.5<br>4.5×7.5×5.3 | 20      | 7.29                                    | 9.45   | 36.7<br>252  | 36.7<br>252         | 73.9                          | 0.1           | 1.3 |
|                      |                    | 16                    | 20      | 6×9.5×8.5                |         |   |  | 11.9<br>447  | 14.8<br>447         | 159                           | 0.2           | 2.1 |
|                      |                    | 20                    | 23      | 7×11×9                   |         |   |  | 17.0<br>751  | 21.1<br>751         | 254                           | 0.4           | 3.0 |
|                      |                    | 24                    | 28      | 7×11×9<br>9×14×12        | 80      | 23.0                                    | 28.7   | 195<br>1,260   | 195<br>1,260        | 417                           | 0.6           | 4.6 |
|                      |                    | 27.5                  | 34      | 9×14×12                  |         |   |  | 32.0<br>1,870  | 37.8<br>1,870       | 693                           | 0.9           | 6.2 |
|                      |                    |                       |         |                          |         |   |  | 293<br>1,870   | 293<br>1,870        |                               |               |     |

M<sub>P2</sub> and M<sub>Y2</sub> are allowable static moments when two blocks are used in close contact. 1kN=102kgf 1N·m=0.102kgf·m

|       | maximum length<br>mm |
|-------|----------------------|
| 1,240 | 1,360                |
| 1,360 | 1,480                |
| 1,360 | 1,600                |
| 1,640 | 1,720                |
| 1,640 | 1,800                |
| 1,640 | 1,960                |
| 1,640 | 1,720                |
| 1,640 | 1,800                |
| 1,640 | 1,960                |

**SGL-TE TYPE**

— High Rigidity Flange Type —

**part number structure**example **SGL 15 TE B2 T1 -580 D P/W2 FS LB F J -KGLA**

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

BR: B + reverse-seals

BWS: BW + scraper

number of blocks attached to one rail

preload symbol (refer to page A-40)

blank: standard

T1: light

T2: medium

total length of rail

size of rail installation hole (D type rail is available only for SGL 15 and 30)

symbol for grease  
(refer to page Eng-40~)  
blank: standard grease  
KGLA: lithium-based grease  
KGU: urea-based grease  
KGF: anti-fretting grease

with bellows (refer to page A-20)

with rail mounting hole caps (refer to page A-17)

with low temperature black chrome treatment

with Fiber Sheet (refer to page A-18)

symbol for number of axes\*

blank: single axis

W2: 2 parallel axes

W3: 3 parallel axes

accuracy grade (refer to page A-39)

blank: standard

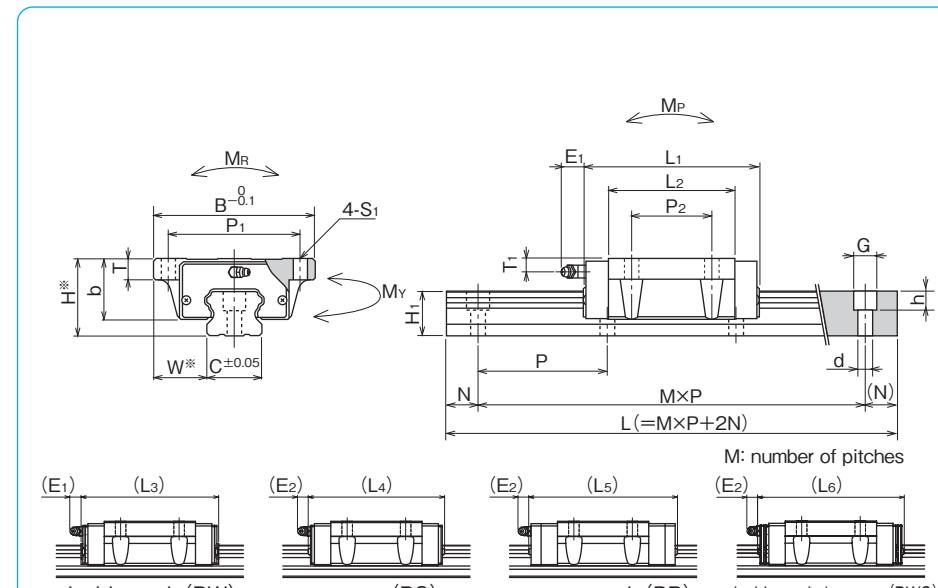
H: high

P: precision

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

| part number      | block dimensions |      |     |                |                |                |                |                |                |                |                |                |    |      |                |                |    |  |
|------------------|------------------|------|-----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----|------|----------------|----------------|----|--|
|                  | H                | W    | B   | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | L <sub>4</sub> | L <sub>5</sub> | L <sub>6</sub> | P <sub>1</sub> | P <sub>2</sub> | S <sub>1</sub> | T  | b    | E <sub>1</sub> | E <sub>2</sub> |    |  |
| mm               | mm               | mm   | mm  | mm             | mm             | mm             | mm             | mm             | mm             | mm             | mm             | mm             | mm | mm   | mm             | mm             | mm |  |
| <b>SGL15TE</b>   | 24               | 18.5 | 52  | 56.5           | 38.5           | 62.7           | 63.1           | 70.1           | 69.3           | 41             | 26             | 4.5            | 7  | 19.5 | 6              | 5.4            |    |  |
| <b>SGL15TE-D</b> |                  |      |     |                |                |                |                |                |                |                |                |                |    |      |                |                |    |  |
| <b>SGL20TE</b>   | 28               | 19.5 | 59  | 65.8           | 47.4           | 72             | 72.4           | 83.4           | 78.6           | 49             | 32             | 5.5            | 9  | 22   |                |                |    |  |
| <b>SGL25TE</b>   | 33               | 25   | 73  | 80             | 59             | 86.4           | 87.2           | 98.2           | 93.4           | 60             | 35             | 7              |    | 26   |                |                |    |  |
| <b>SGL30TE</b>   | 42               | 31   | 90  | 95.7           | 67.7           | 104.3          | 103.3          | 113.9          | 111.9          | 72             | 40             |                | 9  | 32.5 |                |                |    |  |
| <b>SGL30TE-D</b> |                  |      |     |                |                |                |                |                |                |                |                |                |    |      |                |                |    |  |
| <b>SGL35TE</b>   | 48               | 33   | 100 | 109            | 78             | 117.6          | 116.6          | 127.2          | 125.2          | 82             | 50             |                | 9  | 13   | 38             |                |    |  |
|                  |                  |      |     |                |                |                |                |                |                |                |                |                |    |      |                |                |    |  |
|                  |                  |      |     |                |                |                |                |                |                |                |                |                |    |      |                |                |    |  |

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



\*Please refer to page A-39 for accuracy.

| T <sub>1</sub><br>mm | grease<br>fitting  | guide rail dimensions |         |                          |         |         | basic load rating<br>dynamic C<br>kN | allowable static moment<br>M <sub>P</sub><br>M <sub>P2</sub><br>N · m | allowable static moment<br>M <sub>Y</sub><br>M <sub>Y2</sub><br>N · m | mass block<br>kg | mass guide rail<br>kg/m | block size |     |  |  |
|----------------------|--------------------|-----------------------|---------|--------------------------|---------|---------|--------------------------------------|---|---|------------------|-------------------------|------------|-----|--|--|
|                      |                    | H <sub>1</sub><br>mm  | C<br>mm | d × G × h<br>mm          | N<br>mm | P<br>mm |                                      |   |   |                  |                         |            |     |  |  |
| 5                    | pressed<br>fitting | 13.5                  | 15      | 3.5×6×4.5<br>4.5×7.5×5.3 | 20      | 60      | 10.6                                 | 16.2  | 99.5<br>565   | 99.5<br>565      | 126                     | 0.2        | 1.3 |  |  |
|                      |                    | 16                    | 20      | 6×9.5×8.5                |         |         | 16.3                                 | 23.2  | 165<br>897  | 165<br>897       | 250                     | 0.3        | 2.1 |  |  |
|                      |                    | 20                    | 23      | 7×11×9                   |         |         | 24.7                                 | 36.3  | 334<br>1,740  | 334<br>1,740     | 437                     | 0.6        | 3.0 |  |  |
|                      |                    | 24                    | 28      | 7×11×9<br>9×14×12        |         |         | 33.6                                 | 49.2  | 528<br>2,880  | 528<br>2,880     | 716                     | 1.0        | 4.6 |  |  |
|                      |                    | 27.5                  | 34      | 9×14×12                  |         |         | 46.6                                 | 64.8  | 796<br>4,290  | 796<br>4,290     | 1,180                   | 1.5        | 6.2 |  |  |
| B-M6F                |                    |                       |         |                          |         |         |                                      |   |   |                  |                         |            |     |  |  |
| 6                    |                    |                       |         |                          |         |         |                                      |   |   |                  |                         |            |     |  |  |
|                      |                    |                       |         |                          |         |         |                                      |   |   |                  |                         |            |     |  |  |
| 6.5                  |                    |                       |         |                          |         |         |                                      |   |   |                  |                         |            |     |  |  |
|                      |                    |                       |         |                          |         |         |                                      |   |   |                  |                         |            |     |  |  |
| 9                    |                    |                       |         |                          |         |         |                                      |   |   |                  |                         |            |     |  |  |
|                      |                    |                       |         |                          |         |         |                                      |   |   |                  |                         |            |     |  |  |
| 8.5                  |                    |                       |         |                          |         |         |                                      |   |   |                  |                         |            |     |  |  |
|                      |                    |                       |         |                          |         |         |                                      |   |   |                  |                         |            |     |  |  |

M<sub>P2</sub> and M<sub>Y2</sub> are allowable static moments when two blocks are used in close contact. 1kN = 102kgf 1N · m = 0.102kgf · m

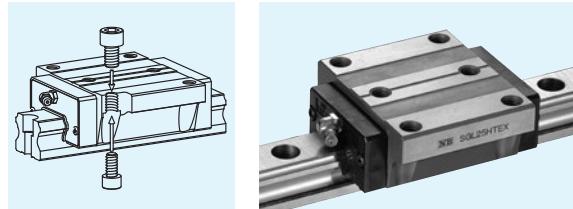
|       | maximum length mm |
|-------|-------------------|
| 1,240 | 1,360             |
| 1,360 | 1,480             |
| 1,480 | 1,600             |
| 1,600 | 1,660             |
| 1,660 | 1,720             |
| 1,720 | 1,840             |
| 1,840 | 1,960             |
| 1,960 | 3,000             |
| 3,000 | 3,000             |
| 3,000 | 3,000             |
| 3,000 | 3,000             |
| 3,000 | 3,000             |





## SGL-HTEX TYPE

— High Rigidity Six hole Flange Type —



### part number structure

example **SGL|15|HTEX|B|2|T1-580|P/W2|FS|LB|F|J-KGLA**

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

**BR:** B + reverse-seals

**BWS:** BW + scraper

number of blocks attached to one rail

preload symbol (refer to page A-40)

**blank:** standard

**T1:** light

**T2:** medium

total length of rail

symbol for grease  
(refer to page Eng-40~)  
**blank:** standard grease  
**KGLA:** lithium-based grease  
**KGU:** urea-based grease  
**KGF:** anti-fretting grease

with bellows (refer to page A-20)

with rail mounting hole caps (refer to page A-17)

with low temperature black chrome treatment

with Fiber Sheet (refer to page A-18)

symbol for number of axes\*

**blank:** single axis

**W2:** 2 parallel axes

**W3:** 3 parallel axes

accuracy grade (refer to page A-39)

**blank:** standard

**H:** high

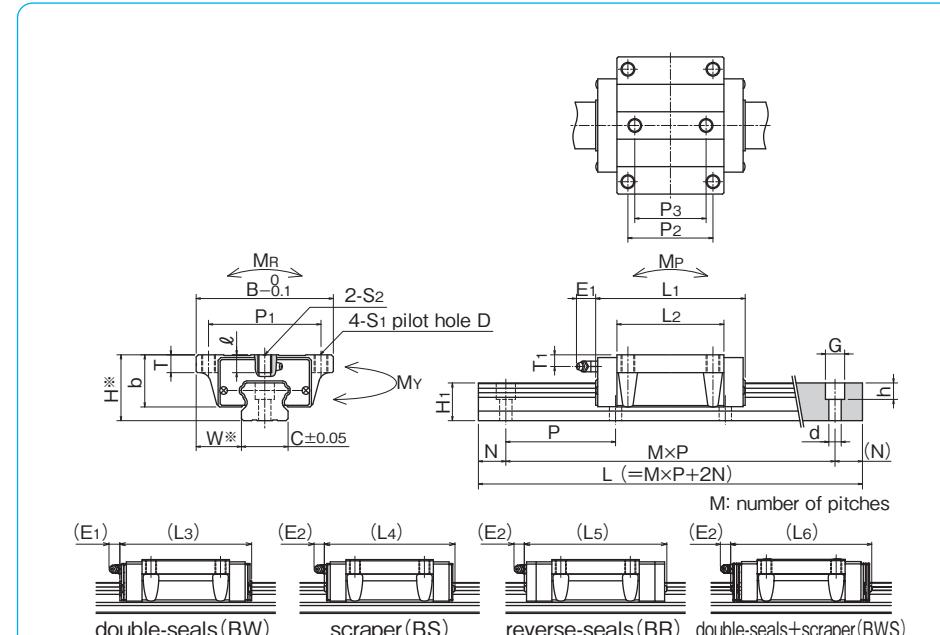
**P:** precision

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

| part number      | block dimensions |      |     |                |                |                |                |                |                |                |                |                |      |      |                |                |    |      |
|------------------|------------------|------|-----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------|------|----------------|----------------|----|------|
|                  | H                | W    | B   | L <sub>1</sub> | L <sub>2</sub> | L <sub>3</sub> | L <sub>4</sub> | L <sub>5</sub> | L <sub>6</sub> | P <sub>1</sub> | P <sub>2</sub> | S <sub>1</sub> | D    | T    | P <sub>3</sub> | S <sub>2</sub> | f  | b    |
| mm               | mm               | mm   | mm  | mm             | mm             | mm             | mm             | mm             | mm             | mm             | mm             | mm             | mm   | mm   | mm             | mm             | mm | mm   |
| <b>SGL15HTEX</b> | 24               | 16   | 47  | 56.5           | 38.5           | 62.7           | 63.1           | 70.1           | 69.3           | 38             | 30             | M5             | 4.4  | 7.5  | 26             | M5             | 6  | 19.7 |
| <b>SGL20HTEX</b> | 30               | 21.5 | 63  | 71.6           | 53.2           | 77.8           | 78.2           | 89.2           | 84.4           | 53             | 40             | M6             | 5.4  | 10.5 | 35             | M6             | 8  | 24   |
| <b>SGL25HTEX</b> | 36               | 23.5 | 70  | 80             | 59             | 86.4           | 87.2           | 98.2           | 93.4           | 57             | 45             | M8             | 6.8  | 12.5 | 40             | M8             | 10 | 29   |
| <b>SGL30HTEX</b> | 42               | 31   | 90  | 95.7           | 67.7           | 104.3          | 103.3          | 113.9          | 111.9          | 72             | 52             | M10            | 8.5  | 10   | 44             | M10            | 13 | 32.5 |
| <b>SGL35HTEX</b> | 48               | 33   | 100 | 109            | 78             | 117.6          | 116.6          | 127.2          | 125.2          | 82             | 62             |                | 13   | 52   | 13             |                | 38 |      |
| <b>SGL45HTEX</b> | 60               | 37.5 | 120 | 139            | 102            | 147.5          | 148            | 158.7          | 156.6          | 100            | 80             | M12            | 10.5 | 15   | 60             | M12            | 14 | 50   |

| part number  | standard rail length L mm |     |     |     |     |       |       |       |       |       |       |       |       |       |       |       |  |  |
|--------------|---------------------------|-----|-----|-----|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|--|
|              | 160                       | 220 | 280 | 340 | 400 | 460   | 520   | 580   | 640   | 700   | 760   | 820   | 880   | 940   | 1,000 | 1,120 |  |  |
| <b>SGL15</b> | 160                       | 220 | 280 | 340 | 400 | 460   | 520   | 580   | 640   | 700   | 760   | 820   | 880   | 940   | 1,000 | 1,120 |  |  |
| <b>SGL20</b> | 220                       | 280 | 340 | 400 | 460 | 520   | 580   | 640   | 700   | 760   | 820   | 880   | 940   | 1,000 | 1,120 | 1,240 |  |  |
| <b>SGL25</b> | 220                       | 280 | 340 | 400 | 460 | 520   | 580   | 640   | 700   | 760   | 820   | 880   | 940   | 1,000 | 1,120 | 1,240 |  |  |
| <b>SGL30</b> | 280                       | 360 | 440 | 520 | 600 | 680   | 760   | 840   | 920   | 1,000 | 1,080 | 1,160 | 1,240 | 1,320 | 1,400 | 1,480 |  |  |
| <b>SGL35</b> | 280                       | 360 | 440 | 520 | 600 | 680   | 760   | 840   | 920   | 1,000 | 1,080 | 1,160 | 1,240 | 1,320 | 1,400 | 1,480 |  |  |
| <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 | 2,145 |  |  |

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



| E <sub>1</sub> | E <sub>2</sub> | T <sub>1</sub> | grease fitting | H <sub>1</sub> | guide rail dimensions |             |    | N  | P    | basic load rating dynamic C kN | basic load rating static Co kN | allowable static moment M <sub>P</sub> N·m <sup>2</sup> | allowable static moment M <sub>y</sub> N·m | allowable static moment M <sub>R</sub> N·m | mass block kg | mass guide rail kg/m | block size |  |
|----------------|----------------|----------------|----------------|----------------|-----------------------|-------------|----|----|------|--------------------------------|--------------------------------|---|--|--|---------------|----------------------|------------|--|
|                |                |                |                |                | C                     | d×G×h       | N  |    |      |                                |                                |   |  |  |               |                      |            |  |
| 6              | 12             | 11             | B-M6F          | 13.5           | 15                    | 4.5×7.5×5.3 | 20 | 80 | 10.6 | 16.2                           | 99.5<br>565                    | 99.5<br>565   | 126  | 0.2  | 1.3           | <b>15</b>            |            |  |
|                |                |                |                | 16             | 20                    | 6×9.5×8.5   |    |    | 18.3 | 27.5                           | 226<br>1,180                   | 226<br>1,180  | 296  | 0.4  | 2.1           | <b>20</b>            |            |  |
|                |                |                |                | 20             | 23                    | 7×11×9      |    |    | 24.7 | 36.3                           | 334<br>1,740                   | 334<br>1,740  | 437  | 0.6  | 3.0           | <b>25</b>            |            |  |
|                |                |                |                | 24             | 28                    | 9×14×12     |    |    | 33.6 | 49.2                           | 528<br>2,880                   | 528<br>2,880  | 716  | 1.0  | 4.6           | <b>30</b>            |            |  |
|                |                |                |                | 27.5           | 34                    |             |    |    | 46.6 | 64.8                           | 796<br>4,290                   | 796<br>4,290  | 1,180                                      | 1.5  | 6.2           | <b>35</b>            |            |  |
|                |                |                |                | 15             | 15                    | 10          |    |    | 105  | 74.7                           | 1,550<br>8,250                 | 1,550<br>8,250  | 2,310                                      | 3.1  | 10.5          | <b>45</b>            |            |  |

M<sub>P2</sub> and M<sub>y2</sub> are allowable static moments when two blocks are used in close contact. 1kN=102kgf 1N·m=0.102kgf·m

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