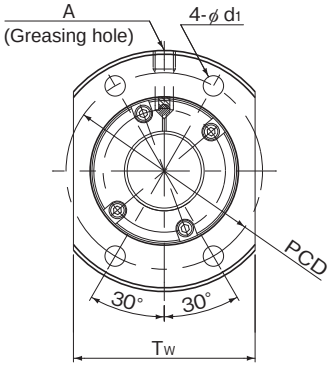
# SBK
# With Preload

| DN value | Smaller than SBK3232 |
|---|---|
| | *The permissible rotational speed ($N_2$) of the miniature SBK (smaller than SBK3232) is the highest rotational speed listed in the specification table. |




| Model No. | Screw shaft outer diameter d | Lead Ph | Ball center-to-center diameter dp | Thread minor diameter dc | No. of loaded circuits Rows × turns | Basic load rating Ca kN | Basic load rating C0a kN | Rigidity K N/μm |
|---|---|---|---|---|---|---|---|---|
| SBK 1520-3.6 | 15 | 20 | 15.75 | 12.2 | 1×1.8 | 5.8 | 7.8 | 178 |
| SBK 1616-3.6 | 16 | 16 | 16.65 | 13.5 | 1×1.8 | 4.6 | 6.4 | 182 |
| SBK 2010-5.6 | 20 | 10 | 20.75 | 17.2 | 1×2.8 | 10.7 | 17.3 | 353 |
| SBK 2020-3.6 | 20 | 20 | 20.75 | 17.2 | 1×1.8 | 7 | 10.5 | 229 |
| SBK 2030-3.6 | 20 | 30 | 20.75 | 17.2 | 1×1.8 | 6.9 | 11.2 | 236 |
| SBK 2520-3.6 | 25 | 20 | 26 | 21.5 | 1×1.8 | 11 | 16.9 | 292 |
| SBK 2525-3.6 | 25 | 25 | 26 | 21.5 | 1×1.8 | 10.8 | 16.9 | 290 |
| SBK 3220-5.6 | 32 | 20 | 33.25 | 27.9 | 1×2.8 | 23.6 | 41.1 | 565 |
| SBK 3232-5.6 | 32 | 32 | 33.25 | 27.9 | 1×2.8 | 23.1 | 41.8 | 567 |

Axial Clearance

Unit: mm

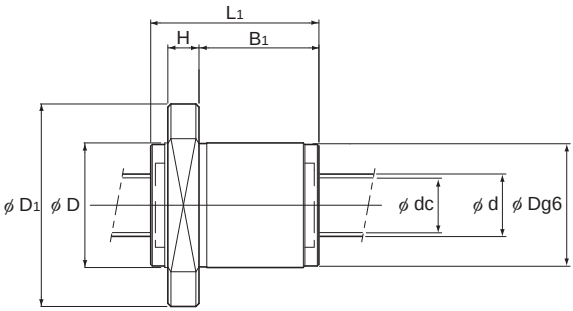
| Clearance symbol | G0 |
|---|---|
| Axial Clearance | 0 or less |

## Model number coding

**SBK2525-3.6 QZ G0 +1200L C5**

- SBK2525-3.6: Model Number
- QZ: With QZ Lubricator (no symbol if the model is without a QZ Lubricator)
- G0: Symbol for clearance in the axial direction (G0 for all SBK variations)
- +1200L: Overall screw shaft length (in mm)
- C5: Accuracy symbol (*1)

(*1) See A15-12.




Unit: mm

| | Nut dimensions | | | | | | | | | Screw shaft inertial moment/mm | Nut mass | Shaft mass | Maximum permissible rotation speed |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Outer diameter D | Flange diameter $D_1$ | Overall length $L_1$ | H | $B_1$ | PCD | $d_1$ | $T_W$ | Greasing hole A | kg•m²/mm | kg | kg/m | min⁻¹ |
| | 38 | 62 | 54 | 10 | 38.5 | 49 | 5.5 | 39 | M6 | $3.90\times10^{-8}$ | 0.41 | 1.27 | 5000 |
| | 33 | 54 | 45 | 10 | 29.5 | 43 | 4.5 | 38 | M6 | $5.05\times10^{-8}$ | 0.25 | 1.46 | |
| | 40 | 65 | 45 | 10 | 29.5 | 53 | 5.5 | 49 | M6 | $1.23\times10^{-7}$ | 0.37 | 2.18 | |
| | 40 | 65 | 54 | 10 | 38.5 | 53 | 5.5 | 49 | M6 | $1.23\times10^{-7}$ | 0.43 | 2.32 | |
| | 40 | 65 | 71 | 10 | 55.5 | 53 | 5.5 | 49 | M6 | $1.23\times10^{-7}$ | 0.55 | 2.36 | |
| | 47 | 74 | 57 | 12 | 38 | 60 | 6.6 | 56 | M6 | $3.01\times10^{-7}$ | 0.59 | 3.58 | |
| | 47 | 74 | 68 | 12 | 49 | 60 | 6.6 | 56 | M6 | $3.01\times10^{-7}$ | 0.69 | 3.63 | |
| | 58 | 92 | 82 | 15 | 58 | 74 | 9 | 68 | M6 | $8.08\times10^{-7}$ | 1.23 | 5.82 | 3900 |
| | 58 | 92 | 118 | 15 | 94 | 74 | 9 | 68 | M6 | $8.08\times10^{-7}$ | 1.70 | 5.99 | |

Note) The rigidity values in the table represent spring constants, each obtained from the load and the elastic deformation when providing a preload equal to 10% of the basic axial dynamic load rating (Ca) and applying an axial load three times greater than the pre-load.
These values do not include the rigidity of the components related to mounting the ball screw nut. Therefore, it is normally appropriate to regard roughly 80% of the value in the table as the actual value.
If the applied preload ($Fa_0$) is not 0.1 Ca, the rigidity value ($K_N$) is obtained from the following equation.

$$K_N = K\left(\frac{Fa_0}{0.1Ca}\right)^{\frac{1}{3}}$$

K: Rigidity value in the dimensional table.



Options⇒A15-307