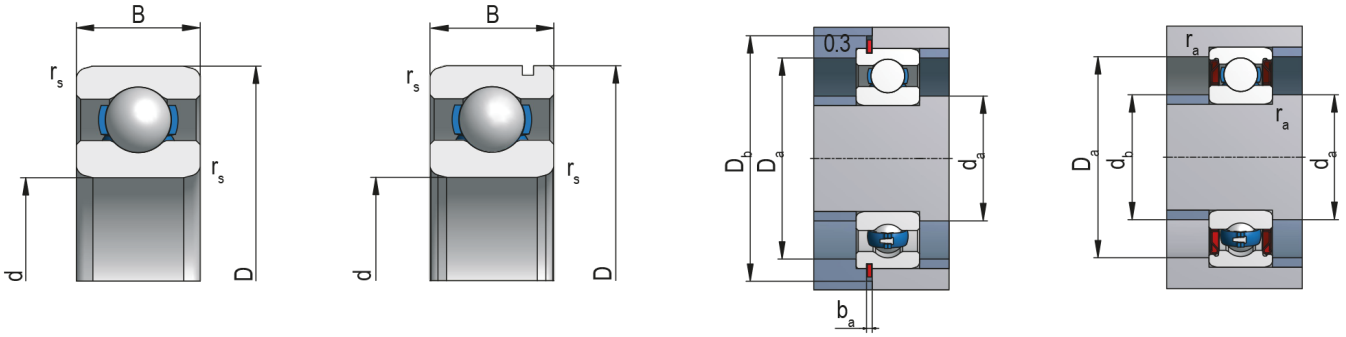
# Single row deep groove ball bearings




| Bearing Designation | 6013; 6013ZR; 6013-2ZR; 6013RSR; 6013-2RSR; 6013N |
|---|---|

## Dimensions (mm)

| | |
|---|---|
| d | 65 |
| D | 100 |
| B | 18 |
| $B_1$ | 18 |
| $r_s$ min | 1,1 |

## Abutment and Fillet Dimensions (mm)

| | |
|---|---|
| $d_a$ min | 70 |
| $D_a$ max | 93 |
| $r_a$ max | 1 |

## Basic Load Rating (kN)

| | |
|---|---|
| C | 32,06 |
| $C_0$ | 24,89 |

## Limiting Speed for Lubrication ($min^{-1}$)

| | |
|---|---|
| Grease Z, ZR | 6 300 |
| Grease RS, RSR | 4 200 |
| Oil | 7 500 |

| Weight [kg] | 0,41 |
|---|---|

ZVL SLOVAKIA, a.s. • Na stanicu 22 • 010 09 Žilina • Slovakia
phone.: +421 41 707 60 32 • fax: +421 41 707 60 24
sales.zvl@zvlslovakia.sk • www.zvlslovakia.sk

## Tolerance Class

| Tolerance Class | Inner Ring | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Cylindrical Bore | | | | | | | | | |
| | $\Delta_{dmp}$ | | $V_{dp}$ | | | $V_{dmp}$ | $K_{ia}$ | $\Delta_{B_s}$ | | $V_{B_s}$ |
| | | | Diameter Series | | | | | | | |
| | | | 7,8,9 | 0,1 | 2,3,4 | | | | | |
| | max | min | max | max | max | max | max | max | min | max |
| | µm | | | | | | | | | |
| P0 | 0 | -15 | 19 | 19 | 11 | 11 | 20 | 0 | -150 | 25 |
| P6 | 0 | -12 | 15 | 15 | 9 | 9 | 10 | 0 | -150 | 25 |

| Tolerance Class | Inner Ring | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Tapered Bore 1:12 | | | | | Tapered Bore 1:30 | | | | |
| | $\Delta_{dmp}$ | | $\Delta_{d1mp} - \Delta_{dmp}$ | | $V_{dp}$ [1] | $\Delta_{dmp}$ | | $\Delta_{d1mp} - \Delta_{dmp}$ | | $V_{dp}$ [1] |
| | max | min | max | min | max | max | min | max | min | max |
| | µm | | | | | | | | | |
| P0 = P6 | 30 | 0 | 30 | 0 | 19 | 15 | 0 | 30 | 0 | 19 |

| Tolerance Class | Outer Ring | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | $\Delta_{Dmp}$ | | $V_{Dp}$ | | | bearings [2] with seals | $V_{Dmp}$ | $K_{ea}$ | $\Delta_{CS}$, $V_{CS}$ |
| | | | Diameter Series | | | | | | |
| | | | 7,8,9 | 0,1 | 2,3,4 | | | | |
| | max | min | max | max | max | max | max | max | |
| | µm | | | | | | | | |
| P0 | 0 | -15 | 19 | 19 | 11 | 26 | 11 | 35 | Corresponds to $\Delta_{BS}$, $V_{BS}$ of the same bearing inner ring |
| P6 | 0 | -13 | 16 | 16 | 10 | 20 | 10 | 18 | |

1) Valid in any bore radial plane

2) P0 - Valid only for bearings in diameter series 2, 3 and 4 * P6 - Valid only for bearings in diameter series 0, 1, 2, 3 and 4

## Radial Clearance

| C2 | | normal | | C3 | | C4 | | C5 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| min | max | min | max | min | max | min | max | min | max | | min | max |
| µm | | | | | | | | | | | | |
| 1 | 15 | 8 | 28 | 23 | 43 | 38 | 61 | 55 | 90 | | | |

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## Tolerance Symbols and Their Meaning

| | |
|---|---|
| $d$ | nominal bore diameter |
| $d_1$ | nominal diameter of larger theoretical tapered bore diameter |
| $d_2$ | nominal diameter of the shaft washer of double direction thrust bearings |
| $\Delta_{ds}$ | deviation of single bore diameter from nominal |
| $\Delta_{dmp}$ | mean cylindrical bore diameter deviation in single radial plane (for tapered bore $\Delta_{dmp}$ is valid for theoretical bore diameter) |
| $\Delta_{d1mp}$ | deviation of mean larger theoretical diameter of tapered bore |
| $\Delta_{d2mp}$ | mean shaft washer bore diameter deviation of double direction thrust bearings in single radial plane |
| $V_{dp}$ | single bore diameter variation in single radial plane |
| $V_{dmp}$ | mean cylindrical bore diameter variation |
| $V_{d2p}$ | shaft washer bore diameter variation of double direction thrust bearings in single radial plane |
| $D$ | nominal outside diameter |
| $\Delta_{Ds}$ | deviation of single outside diameter from the nominal dimension |
| $\Delta_{Dmp}$ | mean outside cylindrical surface diameter deviation in single plane |
| $V_{Dp}$ | single outside cylindrical surface diameter variation in single radial plane |
| $V_{Dmp}$ | mean outside cylindrical surface diameter variation |
| $B$ | inner ring nominal width |
| $T$ | total nominal width of tapered roller bearings |
| $T_1$ | nominal effective width of cup sub-unit |
| $T_2$ | nominal effective width of cone sub-unit |
| $H$ | rated width of unidirectional axial bearing |
| $H_1$ | rated height of unidirectional ball axial bearing including the body ring |
| $H_2$ | rated height of bidirectional axial bearing |
| $H_3$ | rated height of bidirectional axial ball bearing including body rings |
| $H_4$ | rated height of spherical-roller bearing |
| $\Delta_{Bs}$ | inner ring single width deviation |
| $\Delta_{Cs}$ | outer ring single width deviation |
| $\Delta_{Ts}$ | bearing single width deviation (total) |
| $\Delta_{T1s}$ | cone sub-unit effective width deviation |
| $\Delta_{T2s}$ | cup sub-unit effective width deviation |
| $\Delta_{Hs}$ | height deviation of single direction axial bearings from nominal value |
| $\Delta_{H1s}$ | height deviation of single direction axial ball bearings with sphered housing washer from nominal value |
| $\Delta_{H2s}$ | height deviation of double direction axial bearings from nominal value |
| $\Delta_{H3s}$ | height deviation of double direction axial ball bearings with sphered housing washer from nominal value |
| $\Delta_{H4s}$ | height deviation of axial spherical-roller bearing from the rated value |
| $C$ | outer ring nominal width |
| $V_{Bs}$ | inner ring single width variation |
| $V_{Cs}$ | outer ring single width variation |
| $K_{ia}$ | radial runout of assembled bearing inner ring |
| $K_{ea}$ | radial runout of assembled bearing outer ring |
| $S_i$ | shaft washer raceway axial runout |
| $S_e$ | housing washer raceway axial runout |
| $S_{ia}$ | inner ring flat seat face axial runout of assembled bearing |
| $S_{ea}$ | outer ring flat seat face axial runout of assembled bearing |
| $S_d$ | flat seat face axial runout |
| $S_D$ | runout of outside cylindrical surface towards outer ring face |
| $S_s$ | runout of supporting face towards seat face for single row tapered roller bearings |