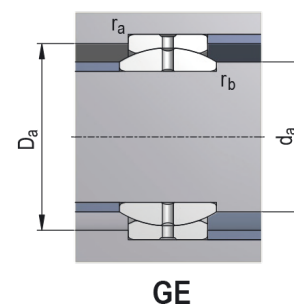
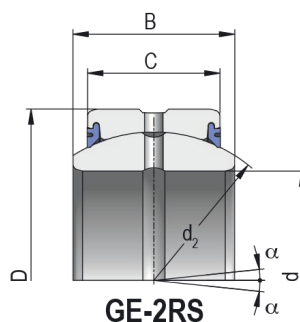
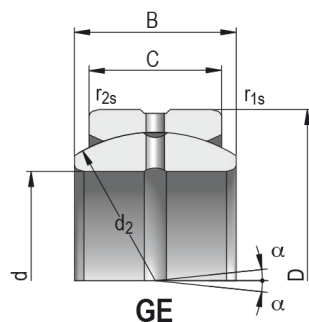


# Spherical plain bearings



Bearing Designation

;

## Dimensions (mm)

|   |  |
|---|--|
| d |  |
| D |  |
| B |  |
| C |  |

|                     |  |
|---------------------|--|
| d <sub>2</sub>      |  |
| r <sub>1s</sub> min |  |
| r <sub>2s</sub> max |  |
| α°                  |  |

## Basic Load Rating (kN)

|                |  |
|----------------|--|
| C              |  |
| C <sub>0</sub> |  |

## Radial Clearance normal (mm)

|     |  |
|-----|--|
| min |  |
| max |  |

## Abutment and Fillet Dimensions (mm)

|                    |  |
|--------------------|--|
| d <sub>a</sub> min |  |
| D <sub>a</sub> max |  |
| r <sub>a</sub> max |  |
| r <sub>b</sub> max |  |

Weight [kg]

|  |
|--|
|  |
|--|

## Tolerance Class

| Tolerance Class | Inner Ring       |     |                 |     |       |           |          |               |     |          |                   |     |                                |     |                           |
|-----------------|------------------|-----|-----------------|-----|-------|-----------|----------|---------------|-----|----------|-------------------|-----|--------------------------------|-----|---------------------------|
|                 | Cylindrical Bore |     |                 |     |       |           |          |               |     |          | Tapered Bore 1:12 |     |                                |     |                           |
|                 | $\Delta_{dmp}$   |     | V               |     |       | $V_{dmp}$ | $K_{ia}$ | $\Delta_{Bs}$ |     | $V_{Bs}$ | $\Delta_{dmp}$    |     | $\Delta_{d1mp} - \Delta_{dmp}$ |     | <sup>1)</sup><br>$V_{dp}$ |
|                 |                  |     | Diameter Series |     |       |           |          |               |     |          |                   |     |                                |     |                           |
|                 |                  |     | 7,8,9           | 0,1 | 2,3,4 |           |          |               |     |          |                   |     |                                |     |                           |
|                 | max              | min | max             | max | max   | max       | max      | max           | min | max      | max               | min | max                            | min | max                       |
|                 | $\mu m$          |     |                 |     |       |           |          |               |     |          |                   |     |                                |     |                           |
| P0              |                  |     |                 |     |       |           |          |               |     |          | -                 | -   | -                              | -   | -                         |
| P6              |                  |     |                 |     |       |           |          |               |     |          |                   |     |                                |     |                           |

| 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           |
|                 | $\mu m$           |     |                                |     |               |  |                   |     |                                |     |               |
| P0              |                   |     |                                |     |               |  |                   |     |                                |     |               |

| Tolerance Class | Outer Ring     |     |                 |     |       |                                      |           |          |                                      |
|-----------------|----------------|-----|-----------------|-----|-------|--------------------------------------|-----------|----------|--------------------------------------|
|                 | $\Delta_{Dmp}$ |     | $V_{Dp}$        |     |       |                                      | $V_{Dmp}$ | $K_{ea}$ | $\Delta_{CS}, V_{CS}$                |
|                 |                |     | Diameter Series |     |       | bearings <sup>2)</sup><br>with seals |           |          |                                      |
|                 |                |     | 7,8,9           | 0,1 | 2,3,4 |                                      |           |          |                                      |
|                 | max            | min | max             | max | max   | max                                  | max       | max      |                                      |
|                 | $\mu m$        |     |                 |     |       |                                      |           |          |                                      |
| P0              |                |     |                 |     |       |                                      |           |          | Corresponds to $\Delta_{BS}, V_{BS}$ |
| P6              |                |     |                 |     |       |                                      |           |          | of the same bearing inner ring       |

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

## Tolerance Symbols and Their Meaning

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