

Deep groove ball bearings

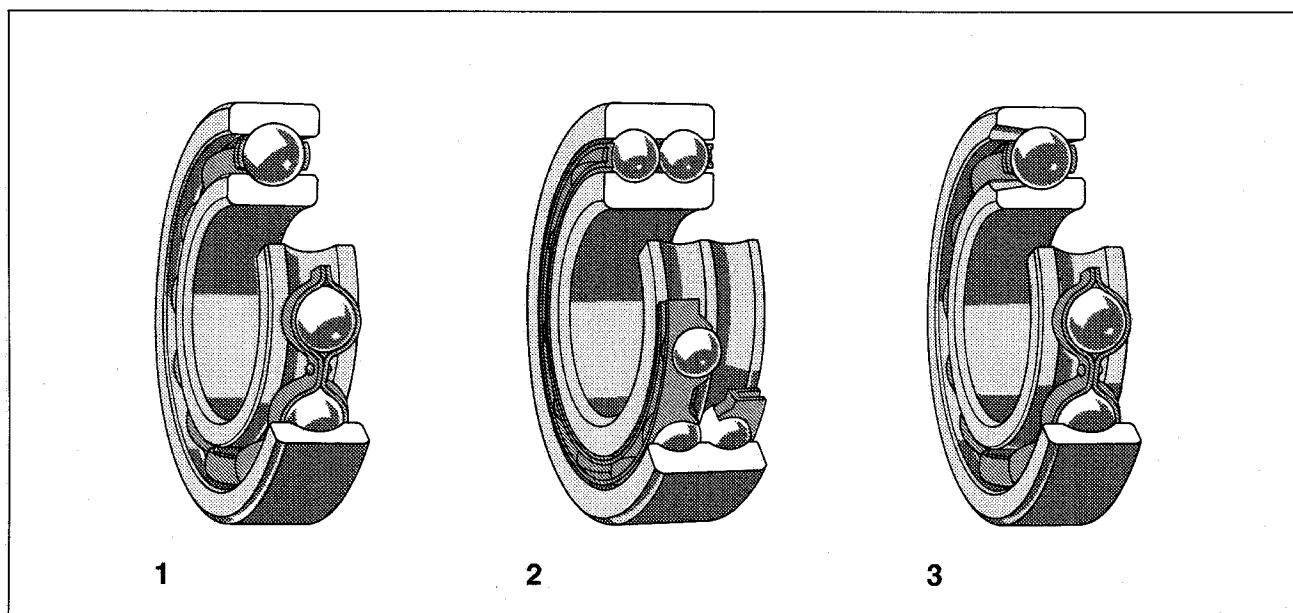
Deep groove ball bearings – page 176

Deep groove ball bearings with filling slots – page 240

Deep groove ball bearings are used in a particularly wide variety of applications. They are simple in design, non-separable, capable of operating at high and even very high speeds, and require little attention or maintenance in service. These characteristics coupled with a price advantage make deep groove ball bearings the most popular of all rolling bearings.

SKF produces deep groove ball bearings in a large number of designs and sizes including both single row (1) and double row bearings (2). The most numerous are the single row bearings without filling slots. The bearings with filling slots (3) described in the section starting on page 240 are used in special applications

and consequently only a limited range is produced.



Deep groove ball bearings

Deep groove ball bearings, single row – page 186

Deep groove ball bearings, single row, with shield(s) – page 206

Deep groove ball bearings, single row, with low-friction seal(s) – page 212

Deep groove ball bearings, single row, with seal(s) – page 218

Deep groove ball bearings, single row, with snap ring groove – page 230

Deep groove ball bearings, single row, with shield(s) and snap ring groove – page 234

Deep groove ball bearings, double row – page 236

SKF single row deep groove ball bearings have deep, uninterrupted raceways and a high degree of conformity between balls and raceways. This enables them to carry axial loads in both directions in addition to radial loads even at high speeds. Single row deep groove ball bearings are suitable for a wide variety of applications and are therefore produced in a large number of sizes and designs.

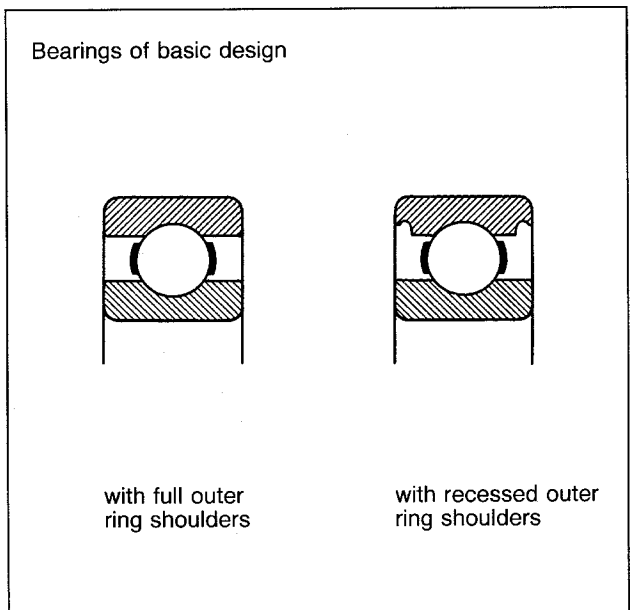
SKF double row deep groove ball bearings are similar in design to the single row bearings. They are without filling slots and can therefore accommodate axial loads in both directions.

Single row bearings, basic design

Single row deep groove ball bearings of the basic design, i.e. open at both sides, are produced by SKF in several series and in a very wide range of diameters. Those bearings of the basic design which are also produced as shielded or sealed bearings may, for manufacturing reasons, have recessed outer ring shoulders to take the shields or seals; see adjacent figure.

Shielded and sealed bearings

The most popular sizes of single row deep groove ball bearings are also produced by SKF as standard with shields (non-rubbing seals) and seals (low-friction and rubbing seals) at one or both sides.



Bearings with shields or seals at both sides are supplied as standard filled with a lithium base grease which has good rust inhibiting properties and which is suitable for operating temperatures between -30 and $+110$ °C. The bearings are lubricated for life and maintenance-free. They should not be heated prior to mounting and must on no account be washed. For maintenance-free operation over long periods, the sealed bearings of the wide series 622, 623 and 630 are particularly suitable.

To special order, the bearings with shields or seals can be supplied with other greases, e.g. for a temperature range of -40 to $+150$ °C. The actual quantity of grease is appropriate to the size of bearing and normally fills between 25 and 35 % of the free space in the bearing.

Bearings with shields

Depending on size, there are two designs of bearing with shield(s), suffix Z or 2Z, for series 60, 62 and 63. Bearings with an outside diameter up to and including 110 mm have sheet steel shields which form a long sealing gap with the land of the inner ring shoulder (1). The shields for the larger bearings do not have the cylindrical section in the shield bore (2).

Bearings fitted with Z shields are primarily intended for applications where the bearing inner ring rotates. If the outer ring rotates there is a danger that grease may be lost from the bearing at high speeds.

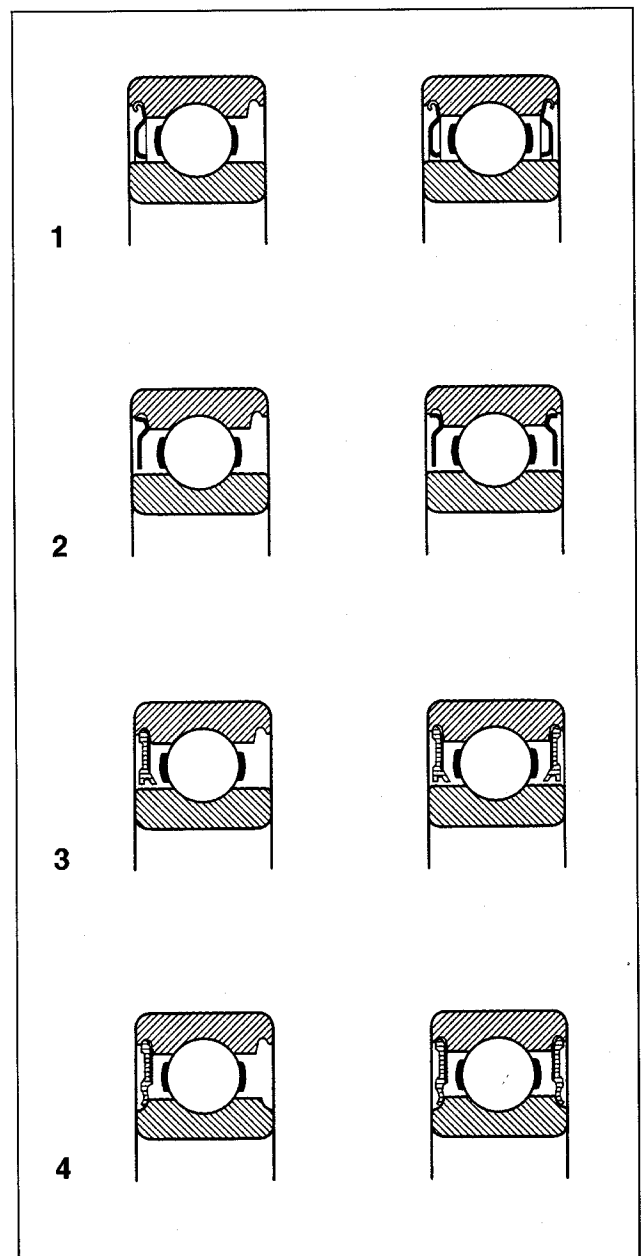
Bearings with low-friction seals

Bearings of series 618 and 619 as well as some small sizes of series 60 and 62 are equipped with RZ seals (3). These are a new SKF development to meet requirements for positive sealing coupled with a minimum of friction. The lips of the seals form a very narrow gap with the land of the inner ring shoulder, so that the seals are essentially non-rubbing. Because of the low friction, the seals permit operation at the same speeds as bearings fitted with Z shields. Their sealing performance is superior to that of the Z shields.

The RZ seals are made of oil and wear-resistant synthetic rubber and have a sheet steel reinforcement. They can withstand operating temperatures in the range of -40 to $+120$ °C.

Bearings with seals

Bearings fitted with seal(s) of the rubbing type are identified by the suffix RS1 or 2RS1. The seal lips seal against recesses in the inner ring shoulders (4). The seals are made of oil and wear-resistant synthetic rubber with a sheet steel reinforcement and are suitable for operating temperatures between -40 and $+120$ °C. The outside diameter of the seal is re-



Deep groove ball bearings

tained in a recess in the outer ring shoulder, providing a seal at this position without producing deformation. The inner sealing lip exerts a slight pressure on the inner ring.

With sealed bearings operating under extreme conditions, e.g. high speeds or high temperatures, grease may leak out between the lip and the inner ring. For applications where this can be a disadvantage, it is necessary to make other design arrangements.

Bearings with snap ring groove

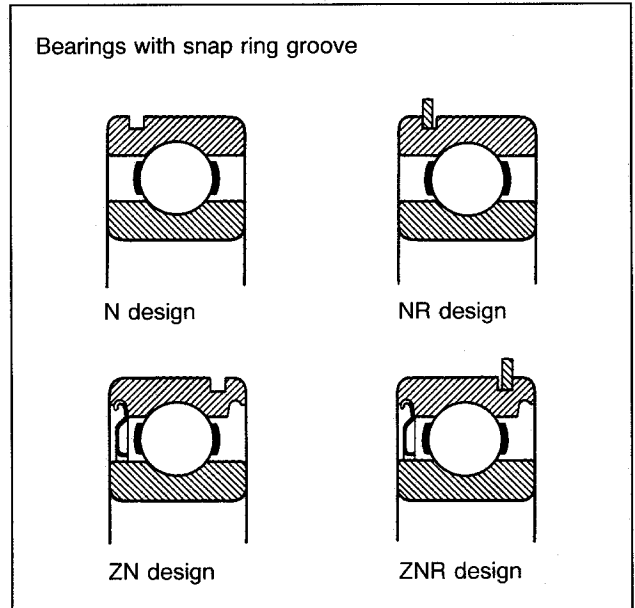
Deep groove ball bearings with a snap ring groove in the outer ring simplify arrangement design in many cases, as they can be retained in the housing by a snap ring. This method of axial location is simple and saves space. Appropriate snap rings are listed in the bearing tables and can be supplied separately or already mounted on the bearings.

Bearings for "silent running" applications

The smaller sizes of series 60 and 62 with and without shield(s) and seal(s) are also available in a special "low-noise" quality for applications where silent running is of prime importance. The bearings are identified by suffix QE5. Further details will be sent on request.

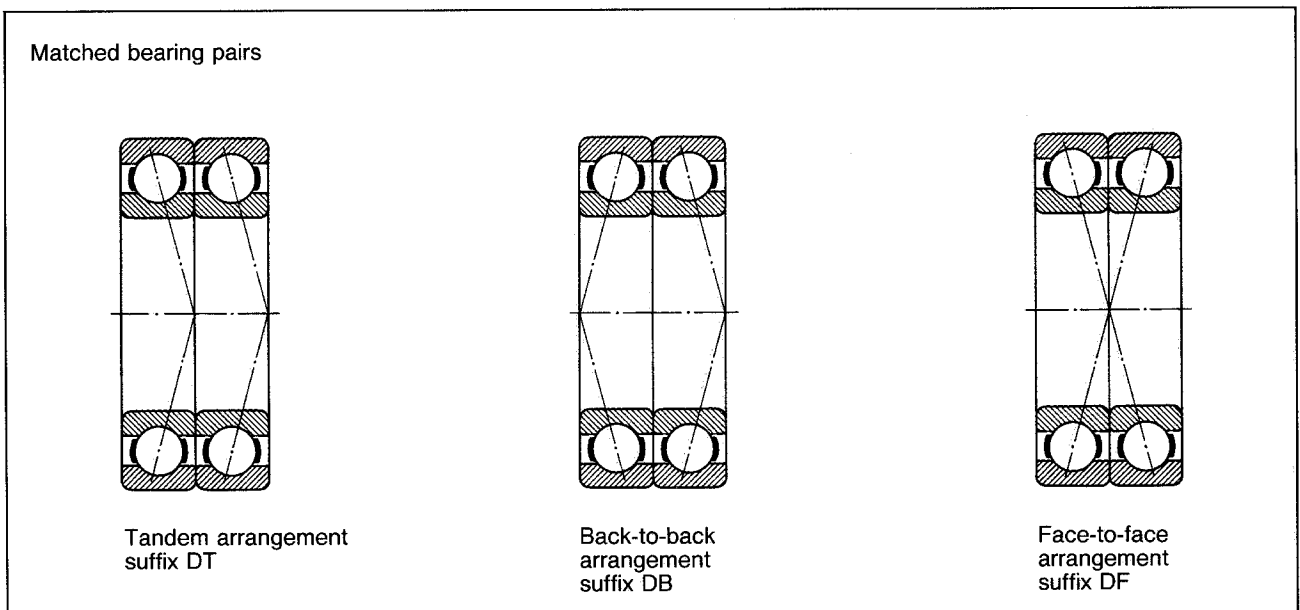
Paired deep groove ball bearings

For applications where the load carrying



capacity of a single bearing is inadequate or where the shaft has to be axially located in both directions with a given play, SKF can supply matched pairs of single row deep groove ball bearings to order. The bearings are matched in production so that when they are mounted immediately adjacent to each other, an even distribution of load will be obtained without having to use shims or similar devices. Depending on requirements the pairs can be supplied in the three alternative arrangements shown below.

In the tandem arrangement the load lines are in parallel. The bearing pair can accommodate axial loads in either direc-



tion and the axial load will be evenly divided between the two bearings.

In back-to-back arrangements, the load lines diverge towards the bearing axis. Axial loads can be carried in both directions, but only by one bearing at a time. Bearings mounted in this way provide a relatively stiff arrangement which can also accommodate tilting moments.

In face-to-face arrangements, the load lines converge towards the bearing axis. Again, axial loads can be accommodated in both directions, but only by one bearing at a time. The bearing pair is not so stiff as the back-to-back arrangement, and is not suitable for tilting moments.

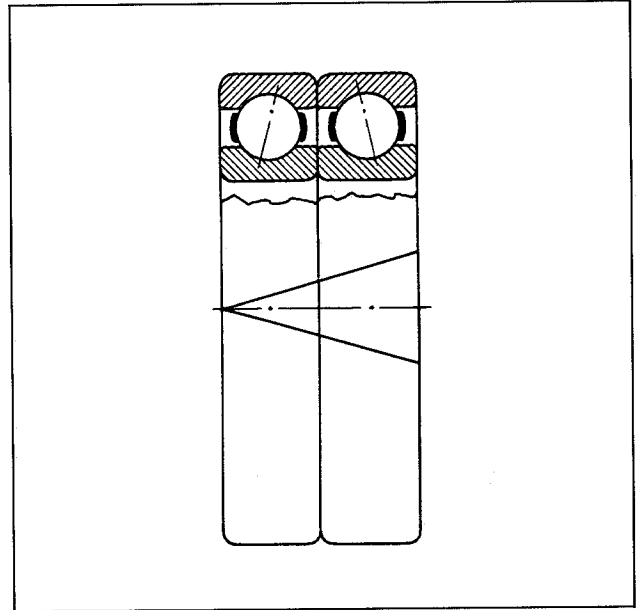
To ensure that the bearings of a pair are correctly positioned when mounting, a "V" is marked on the outside diameter of the bearing pair. To obtain satisfactory performance, the bearings must be mounted as indicated by the "V" marking. The bearing pairs are delivered in unit packages; availability should be checked before ordering.

Other single row deep groove ball bearings

Other single row deep groove ball bearings produced by SKF but not shown in this catalogue include

- miniature and instrument bearings,
- fixed section bearings,
- bearings in inch sizes,
- conveyor roller bearings,
- kiln truck bearings,
- stainless steel bearings, and
- bearings with tapered bore.

Details of these bearings are given in other publications, which will be sent on request.



Deep groove ball bearings

Dimensions

The boundary dimensions of the bearings listed in the tables conform to ISO 15-1981. The dimensions of the snap ring grooves and snap rings are in accordance with ISO 464-1976.

Misalignment

Single row deep groove ball bearings have very limited ability to accommodate errors of alignment. The permissible angular misalignment between inner and outer rings, which will not produce inadmissibly high additional stresses in the bearing, depends on the radial internal clearance of the bearing during operation, the bearing size, its internal design and the forces and moments acting on it. Because of the complex relationship between these factors, exact values for permissible misalignment cannot be given, but under normal service conditions, it is usually between 2 and 10 minutes of arc. It should be noted that misalignment of the bearing rings causes an appreciable increase in noise level when the bearing is running.

Double row deep groove ball bearings can only accommodate angular misalignment up to about 2 minutes of arc. Larger misalignment subjects the balls and raceways to increased and unacceptable loading, shortening bearing life.

Tolerances

SKF deep groove ball bearings are produced with normal tolerances as standard. Some single row bearings are also available with increased accuracy corresponding to tolerance classes P6 and P5. The availability of bearings to P6 and P5 specifications should be checked before ordering.

Values for the normal tolerances as well as those of classes P6 and P5 will be found in the tables on pages 74 to 76.

Internal clearance

SKF single row deep groove ball bearings are produced with Normal radial internal clearance as standard. Many of the bearings, particularly the smaller sizes, are also available with radial internal clearance which is greater or smaller than

Normal. The availability of bearings with clearance other than Normal should be checked before ordering.

SKF double row deep groove ball bearings have Normal radial internal clearance.

The values of the clearance limits are shown in the upper table opposite and conform to ISO 5753-1981 for the size range covered by this standard. The values apply to bearings before they are mounted and are for zero measuring load.

Matched pairs of SKF bearings arranged back-to-back or face-to-face are generally supplied with either

– a small axial internal clearance, suffix CA

or

– a light preload, suffix GA.

Values for the clearance and preload for matched pairs of bearings from series 60, 62 and 63 can be found in the lower table opposite.

Radial internal clearance of deep groove ball bearings

| Bore diameter d | | Radial internal clearance C2 | | | | Normal | | C3 | | C4 | | C5 | |
|-----------------|-------|------------------------------|-----|-----|-----|--------|-----|-----|-----|-----|-------|-----|-----|
| over | incl. | min | max | min | max | min | max | min | max | min | max | min | max |
| mm | | μm | | | | | | | | | | | |
| 2,5 | 10 | 0 | 7 | 2 | 13 | 8 | 23 | 14 | 29 | 20 | 37 | | |
| 10 | 18 | 0 | 9 | 3 | 18 | 11 | 25 | 18 | 33 | 25 | 45 | | |
| 18 | 24 | 0 | 10 | 5 | 20 | 13 | 28 | 20 | 36 | 28 | 48 | | |
| 24 | 30 | 1 | 11 | 5 | 20 | 13 | 28 | 23 | 41 | 30 | 53 | | |
| 30 | 40 | 1 | 11 | 6 | 20 | 15 | 33 | 28 | 46 | 40 | 64 | | |
| 40 | 50 | 1 | 11 | 6 | 23 | 18 | 36 | 30 | 51 | 45 | 73 | | |
| 50 | 65 | 1 | 15 | 8 | 28 | 23 | 43 | 38 | 61 | 55 | 90 | | |
| 65 | 80 | 1 | 15 | 10 | 30 | 25 | 51 | 46 | 71 | 65 | 105 | | |
| 80 | 100 | 1 | 18 | 12 | 36 | 30 | 58 | 53 | 84 | 75 | 120 | | |
| 100 | 120 | 2 | 20 | 15 | 41 | 36 | 66 | 61 | 97 | 90 | 140 | | |
| 120 | 140 | 2 | 23 | 18 | 48 | 41 | 81 | 71 | 114 | 105 | 160 | | |
| 140 | 160 | 2 | 23 | 18 | 53 | 46 | 91 | 81 | 130 | 120 | 180 | | |
| 160 | 180 | 2 | 25 | 20 | 61 | 53 | 102 | 91 | 147 | 135 | 200 | | |
| 180 | 200 | 2 | 30 | 25 | 71 | 63 | 117 | 107 | 163 | 150 | 230 | | |
| 200 | 225 | 4 | 32 | 28 | 82 | 73 | 132 | 120 | 187 | 175 | 255 | | |
| 225 | 250 | 4 | 36 | 31 | 92 | 87 | 152 | 140 | 217 | 205 | 290 | | |
| 250 | 280 | 4 | 39 | 36 | 97 | 97 | 162 | 152 | 237 | 255 | 320 | | |
| 280 | 315 | 8 | 45 | 42 | 110 | 110 | 180 | 175 | 260 | 260 | 360 | | |
| 315 | 355 | 8 | 50 | 50 | 120 | 120 | 200 | 200 | 290 | 290 | 405 | | |
| 355 | 400 | 8 | 60 | 60 | 140 | 140 | 230 | 230 | 330 | 330 | 460 | | |
| 400 | 450 | 10 | 70 | 70 | 160 | 160 | 260 | 260 | 370 | 370 | 520 | | |
| 450 | 500 | 10 | 80 | 80 | 180 | 180 | 290 | 290 | 410 | 410 | 570 | | |
| 500 | 560 | 20 | 90 | 90 | 200 | 200 | 320 | 320 | 460 | 460 | 630 | | |
| 560 | 630 | 20 | 100 | 100 | 220 | 220 | 350 | 350 | 510 | 510 | 700 | | |
| 630 | 710 | 30 | 120 | 120 | 250 | 250 | 390 | 390 | 560 | 560 | 780 | | |
| 710 | 800 | 30 | 130 | 130 | 280 | 280 | 440 | 440 | 620 | 620 | 860 | | |
| 800 | 900 | 30 | 150 | 150 | 310 | 310 | 490 | 490 | 690 | 690 | 960 | | |
| 900 | 1 000 | 40 | 160 | 160 | 340 | 340 | 540 | 540 | 760 | 760 | 1 040 | | |
| 1 000 | 1 120 | 40 | 170 | 170 | 370 | 370 | 590 | 590 | 840 | 840 | 1 120 | | |

Axial internal clearance and preload of paired bearings of series 60, 62 and 63

| Bore diameter d | | Axial internal clearance CA | | Preload GA Bearings of series | | |
|-----------------|-------|-----------------------------|-----|----------------------------------|-------|-------|
| over | incl. | min | max | 60 | 62 | 63 |
| mm | | μm | | N | | |
| - | 10 | 15 | 35 | 30 | 30 | - |
| 10 | 18 | 20 | 40 | 50 | 50 | 100 |
| 18 | 30 | 25 | 45 | 100 | 100 | 100 |
| 30 | 50 | 35 | 55 | 100 | 100 | 200 |
| 50 | 80 | 40 | 70 | 200 | 200 | 350 |
| 80 | 120 | 50 | 80 | 300 | 400 | 600 |
| 120 | 180 | 60 | 100 | 500 | 700 | 900 |
| 180 | 250 | 70 | 110 | 800 | 1 000 | 1 200 |

Values for larger sizes on request

Deep groove ball bearings

Cages

SKF single row deep groove ball bearings of standard production are fitted with the cages shown in the table below. For particular applications, those bearings which have a pressed steel cage as standard may be supplied with other cages. These include cages of glass fibre reinforced polyamide 6,6 (suffix TN9), and machined brass cages (suffixes M, MA or MB). The availability of bearings fitted with non-standard cages should be checked before ordering.

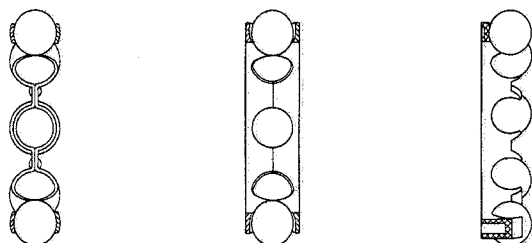
The double row deep groove ball bearings are fitted with glass fibre reinforced polyamide 6,6 cages as standard (suffix TN9).

Bearings with glass fibre reinforced polyamide 6,6 cages can be used at operating temperatures up to +120 °C; see also section "Materials for cages" on page 90.

Masses

The masses given in the tables are for the basic design of bearing. The mass of bearings with shield(s), seal(s) or snap ring groove differs only slightly from that of the basic bearing.

Standard cages for single row deep groove ball bearings



| Bearing series | Pressed steel or pressed brass cage | Machined brass cage | Polyamide 6,6 cage |
|----------------|-------------------------------------|--|--------------------|
| – | bearing size ¹⁾ | | |
| 60 | incl. 30 | 32 and larger | – |
| 62 | incl. 30 | 32 and larger | – |
| 63 | incl. 24 | 26 and larger | – |
| 64 | incl. 18 | – | – |
| 160 | incl. 44 | 48 and larger | – |
| 161 | 00, 01 | – | – |
| 618 | incl. 28, 34, 56 | 30, 32, 36–52, 60–96, /530–/630, /710 and larger | /500, /670 |
| 619 | incl. 21 | 22 and larger | – |
| 622 | all | – | – |
| 623 | all | – | – |
| 630 | all | – | – |

¹⁾ Last two figures of bearing designation or when preceded by an oblique stroke, the bore diameter in mm.

Minimum load

In order to guarantee the satisfactory operation of all ball and roller bearings they must always be subjected to a given minimum load. This is also true of deep groove ball bearings, particularly if they run at high speeds where the inertia forces of the balls and cage, and the friction in the lubricant can have a detrimental influence on the rolling conditions in the bearing and may cause damaging sliding movements to occur between the balls and the raceways.

The requisite minimum radial load to be applied in such cases can be estimated from

$$F_{rm} = k_r \left(\frac{\nu n}{1\ 000} \right)^{2/3} \left(\frac{d_m}{100} \right)^2$$

where

F_{rm} = minimum radial load, N

k_r = minimum load factor

= 15 for bearings of series 618

= 20 for bearings of series 619 and 160

= 25 for bearings of series 60, 161 and 62

= 30 for bearings of series 63

= 35 for bearings of series 64

= 50 for bearings of series 42

= 60 for bearings of series 43

for bearing pairs the above value should be doubled

ν = oil viscosity at operating temperature, mm²/s, see page 37

n = speed, r/min

d_m = mean diameter of bearing

= 0,5 (d + D), mm

The weight of the components supported by the bearing, together with the external forces, often exceeds the requisite minimum load. If this is not the case, the bearing must be subjected to an additional radial load or – a procedure which is particularly simple in arrangements using deep groove ball bearings – an axial preload should be applied by adjusting the inner or outer rings against each other, or by using springs.

Speeds for paired bearings

The speed ratings quoted in the bearing tables are for single bearings. For matched pairs, the values should be reduced by approximately 20%.

Load carrying capacity of paired bearings

The values of the basic dynamic and static load ratings as well as the fatigue load limit quoted in the bearing tables are for single bearings.

For matched pairs the basic dynamic load rating C obtained from the table should be multiplied by 1,62. The basic static load rating and the fatigue load limit for the bearing pair are obtained by multiplying the table value of C_0 and P_u by 2.

Deep groove ball bearings

Equivalent dynamic bearing load

For single bearings and bearing pairs arranged in tandem

$$P = F_r \quad \text{when } F_a/F_r \leq e$$
$$P = XF_r + YF_a \quad \text{when } F_a/F_r > e$$

The X and Y factors required for the calculation of the equivalent bearing load of deep groove ball bearings are dependent on the ratio of the axial load F_a to the basic static load rating C_0 . They are also influenced by the magnitude of the radial internal clearance; increased clearance enables heavier axial loads to be carried.

If the bearings are mounted with the usual fits (tolerance j5 to n6 depending on shaft diameter, and J7 for the housing) the values of e, X and Y given in the upper table opposite can be used to calculate the equivalent load. For bearing pairs in tandem, the values given under "C3 clearance" should be used. If a greater clearance than Normal is chosen because a reduction in clearance will be obtained in operation, for example as a result of strong heating of the inner ring, then the values of the factors under Normal clearance should be used.

For bearing pairs in tandem, F_a and F_r are the forces acting on the bearing pair.

For bearing pairs arranged back-to-back or face-to-face

$$P = F_r + Y_1 F_a \quad \text{when } F_a/F_r \leq e$$
$$P = 0,75 F_r + Y_2 F_a \quad \text{when } F_a/F_r > e$$

F_r and F_a are the forces acting on the bearing pair. The values for factors e, Y_1 and Y_2 for different values of F_a/C_0 are given in the lower table opposite.

Equivalent static bearing load

For single bearings and bearing pairs in tandem

$$P_0 = 0,6 F_r + 0,5 F_a$$

When $P_0 < F_r$, $P_0 = F_r$ should be used. For paired bearings, F_r and F_a are the forces acting on the bearing pair.

For bearing pairs arranged back-to-back or face-to-face

$$P_0 = F_r + 1,7 F_a$$

F_r and F_a are the forces acting on the bearing pair.

Axial load carrying capacity

If deep groove ball bearings are subjected to a purely axial load, this axial load should generally not exceed the value of $0,5 C_0$. Small bearings and light series bearings (Diameter Series 8, 9, 0 and 1) should not be subjected to a load greater than $0,25 C_0$. Excessive axial loads can lead to an appreciable reduction in bearing life.

Calculation factors for single row deep groove ball bearings
Single bearings and bearing pairs in tandem

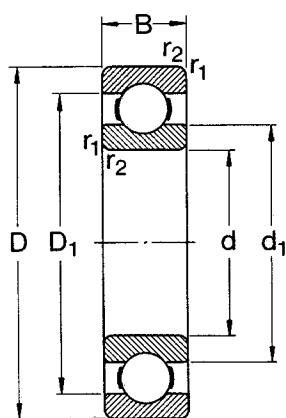
| F_a/C_0 | Normal clearance | | | C3 clearance | | | C4 clearance | | |
|--------------|------------------|------|-----|--------------|------|------|--------------|------|------|
| | e | X | Y | e | X | Y | e | X | Y |
| 0,025 | 0,22 | 0,56 | 2 | 0,31 | 0,46 | 1,75 | 0,4 | 0,44 | 1,42 |
| 0,04 | 0,24 | 0,56 | 1,8 | 0,33 | 0,46 | 1,62 | 0,42 | 0,44 | 1,36 |
| 0,07 | 0,27 | 0,56 | 1,6 | 0,36 | 0,46 | 1,46 | 0,44 | 0,44 | 1,27 |
| 0,13 | 0,31 | 0,56 | 1,4 | 0,41 | 0,46 | 1,3 | 0,48 | 0,44 | 1,16 |
| 0,25 | 0,37 | 0,56 | 1,2 | 0,46 | 0,46 | 1,14 | 0,53 | 0,44 | 1,05 |
| 0,5 | 0,44 | 0,56 | 1 | 0,54 | 0,46 | 1 | 0,56 | 0,44 | 1 |

Calculation factors for single row deep groove ball bearings
Bearing pairs arranged back-to-back or face-to-face

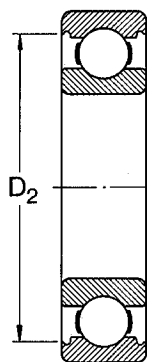
| F_a/C_0 | e | Y_1 | Y_2 |
|-------------|------|-------|-------|
| 0,03 | 0,32 | 2 | 2,8 |
| 0,10 | 0,4 | 1,55 | 2,2 |
| 0,25 | 0,47 | 1,3 | 1,85 |

Deep groove ball bearings single row

d 2,5–12 mm

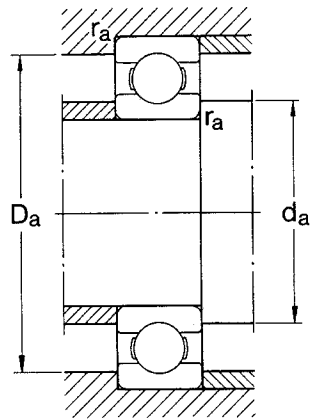


With full outer ring shoulders



With recessed outer ring shoulders

| Principal dimensions | | | Basic load ratings | | Fatigue load limit P_u | Speed ratings | | Mass | Designation |
|----------------------|----|-----|--------------------|-----------------|-----------------------------|-----------------------|--------|--------|---------------|
| d | D | B | dynamic C | static C_0 | | Lubrication grease | oil | | |
| mm | | | N | N | N | r/min | | kg | – |
| 2,5 | 8 | 2,8 | 319 | 106 | 4 | 67 000 | 80 000 | 0,0007 | 60/2.5 |
| 3 | 10 | 4 | 488 | 146 | 6 | 60 000 | 70 000 | 0,0015 | 623 |
| 4 | 9 | 2,5 | 540 | 180 | 7 | 63 000 | 75 000 | 0,0007 | 618/4 |
| | 12 | 4 | 806 | 280 | 12 | 53 000 | 63 000 | 0,0022 | 604 |
| | 13 | 5 | 975 | 305 | 14 | 48 000 | 56 000 | 0,0031 | 624 |
| | 16 | 5 | 1 110 | 380 | 16 | 43 000 | 50 000 | 0,0054 | 634 |
| 5 | 11 | 3 | 637 | 255 | 11 | 53 000 | 63 000 | 0,0012 | 618/5 |
| | 16 | 5 | 1 110 | 380 | 16 | 43 000 | 50 000 | 0,0050 | 625 |
| | 19 | 6 | 1 720 | 620 | 26 | 36 000 | 43 000 | 0,0090 | 635 |
| 6 | 13 | 3,5 | 884 | 345 | 15 | 48 000 | 56 000 | 0,0020 | 618/6 |
| | 19 | 6 | 1 720 | 620 | 26 | 36 000 | 43 000 | 0,0084 | 626 |
| 7 | 14 | 3,5 | 956 | 400 | 17 | 45 000 | 53 000 | 0,0022 | 618/7 |
| | 19 | 6 | 1 720 | 620 | 26 | 38 000 | 45 000 | 0,0075 | 607 |
| | 22 | 7 | 3 250 | 1 370 | 57 | 32 000 | 38 000 | 0,013 | 627 |
| 8 | 16 | 4 | 1 330 | 570 | 24 | 40 000 | 48 000 | 0,0030 | 618/8 |
| | 22 | 7 | 3 250 | 1 370 | 57 | 36 000 | 43 000 | 0,012 | 608 |
| 9 | 17 | 4 | 1 430 | 640 | 27 | 38 000 | 45 000 | 0,0034 | 618/9 |
| | 24 | 7 | 3 710 | 1 660 | 71 | 32 000 | 38 000 | 0,014 | 609 |
| | 26 | 8 | 4 620 | 1 960 | 83 | 28 000 | 34 000 | 0,020 | 629 |
| 10 | 19 | 5 | 1 380 | 585 | 25 | 36 000 | 43 000 | 0,0055 | 61800 |
| | 22 | 6 | 1 950 | 750 | 32 | 34 000 | 40 000 | 0,010 | 61900 |
| | 26 | 8 | 4 620 | 1 960 | 83 | 30 000 | 36 000 | 0,019 | 6000 |
| | 28 | 8 | 4 620 | 1 960 | 83 | 28 000 | 34 000 | 0,022 | 16100 |
| | 30 | 9 | 5 070 | 2 360 | 100 | 24 000 | 30 000 | 0,032 | 6200 |
| | 35 | 11 | 8 060 | 3 400 | 143 | 20 000 | 26 000 | 0,053 | 6300 |
| 12 | 21 | 5 | 1 430 | 670 | 28 | 32 000 | 38 000 | 0,0063 | 61801 |
| | 24 | 6 | 2 250 | 980 | 43 | 30 000 | 36 000 | 0,011 | 61901 |
| | 28 | 8 | 5 070 | 2 360 | 100 | 26 000 | 32 000 | 0,022 | 6001 |
| | 30 | 8 | 5 070 | 2 360 | 100 | 26 000 | 32 000 | 0,023 | 16101 |
| | 32 | 10 | 6 890 | 3 100 | 132 | 22 000 | 28 000 | 0,037 | 6201 |
| | 37 | 12 | 9 750 | 4 150 | 176 | 19 000 | 24 000 | 0,060 | 6301 |



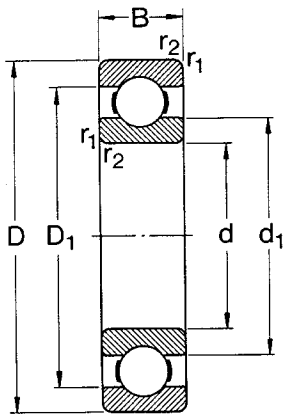
Dimensions **Abutment and fillet dimensions**

| d | d ₁ ≈ | D ₁ ≈ | D ₂ ≈ | r _{1,2} min | d _a min | D _a max | r _a max |
|-----|---------------------|---------------------|---------------------|-------------------------|-----------------------|-----------------------|-----------------------|
| mm | | | | | mm | | |
| 2,5 | 4,6 | 6,4 | – | 0,15 | 3,7 | 6,8 | 0,1 |
| 3 | 5,2 | 7,5 | 8,2 | 0,15 | 4,2 | 8,8 | 0,1 |
| 4 | 5,2 | 7,5 | – | 0,1 | 5,2 | 7,8 | 0,1 |
| | 6,4 | 9,6 | – | 0,2 | 5,6 | 10,4 | 0,2 |
| | 6,7 | 10,3 | 11,2 | 0,2 | 5,6 | 11,4 | 0,2 |
| | 8,4 | 12 | 13,3 | 0,3 | 6 | 14 | 0,3 |
| 5 | 6,8 | 9,3 | – | 0,15 | 6,2 | 9,8 | 0,1 |
| | 8,4 | 12 | 13,3 | 0,3 | 7 | 14 | 0,3 |
| | 10,7 | 15,3 | 16,5 | 0,3 | 7 | 17 | 0,3 |
| 6 | 7,9 | 11,2 | – | 0,15 | 7,2 | 11,8 | 0,1 |
| | 10,7 | 15,3 | 16,5 | 0,3 | 8 | 17 | 0,3 |
| 7 | 8,9 | 12,2 | – | 0,15 | 8,2 | 12,8 | 0,1 |
| | 10,7 | 15,3 | 16,5 | 0,3 | 9 | 17 | 0,3 |
| | 11,8 | 17,6 | 19 | 0,3 | 9 | 20 | 0,3 |
| 8 | 10,1 | 14 | – | 0,2 | 9,6 | 14,4 | 0,2 |
| | 11,8 | 17,6 | 19 | 0,3 | 10 | 20 | 0,3 |
| 9 | 11,1 | 15 | – | 0,2 | 10,6 | 15,4 | 0,2 |
| | 14,2 | 19,8 | 21,2 | 0,3 | 11 | 22 | 0,3 |
| | 14,4 | 21,4 | 22,6 | 0,3 | 11 | 24 | 0,3 |
| 10 | 12,6 | 16,4 | – | 0,3 | 12 | 17 | 0,3 |
| | 13 | 18,1 | – | 0,3 | 12 | 20 | 0,3 |
| | 14,4 | 21,4 | 22,6 | 0,3 | 12 | 24 | 0,3 |
| | 16,7 | 23,4 | 24,8 | 0,3 | 12 | 26 | 0,3 |
| | 16,7 | 23,4 | 24,8 | 0,6 | 14 | 26 | 0,6 |
| | 17,5 | 27,1 | 28,7 | 0,6 | 14 | 31 | 0,6 |
| 12 | 15 | 18,2 | – | 0,3 | 14 | 19 | 0,3 |
| | 15,5 | 20,6 | – | 0,3 | 14 | 22 | 0,3 |
| | 16,7 | 23,4 | 24,8 | 0,3 | 14 | 26 | 0,3 |
| | 16,7 | 23,4 | 24,8 | 0,3 | 14 | 28 | 0,3 |
| | 18,2 | 25,9 | 27,4 | 0,6 | 16 | 28 | 0,6 |
| | 19,5 | 29,7 | 31,5 | 1 | 17 | 32 | 1 |

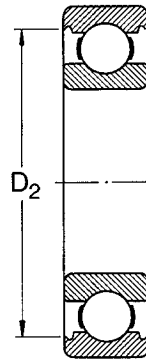
Deep groove ball bearings

single row

d 15–30 mm

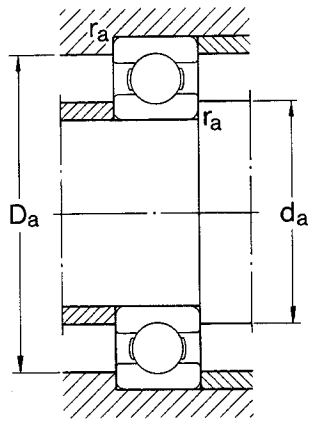


With full outer ring shoulders



With recessed outer ring shoulders

| Principal dimensions | | | Basic load ratings | | Fatigue load limit P_u | Speed ratings | | Mass | Designation |
|----------------------|----|----|--------------------|-----------------|-----------------------------|-----------------------|--------|--------|-------------|
| d | D | B | dynamic C | static C_0 | | Lubrication grease | oil | | |
| mm | | | N | | N | r/min | | kg | – |
| 15 | 24 | 5 | 1 560 | 800 | 34 | 28 000 | 34 000 | 0,0074 | 61802 |
| | 28 | 7 | 4 030 | 2 040 | 85 | 24 000 | 30 000 | 0,016 | 61902 |
| | 32 | 8 | 5 590 | 2 850 | 120 | 22 000 | 28 000 | 0,025 | 16002 |
| | 32 | 9 | 5 590 | 2 850 | 120 | 22 000 | 28 000 | 0,030 | 6002 |
| | 35 | 11 | 7 800 | 3 750 | 160 | 19 000 | 24 000 | 0,045 | 6202 |
| | 42 | 13 | 11 400 | 5 400 | 228 | 17 000 | 20 000 | 0,082 | 6302 |
| 17 | 26 | 5 | 1 680 | 930 | 39 | 24 000 | 30 000 | 0,0082 | 61803 |
| | 30 | 7 | 4 360 | 2 320 | 98 | 22 000 | 28 000 | 0,018 | 61903 |
| | 35 | 8 | 6 050 | 3 250 | 137 | 19 000 | 24 000 | 0,032 | 16003 |
| | 35 | 10 | 6 050 | 3 250 | 137 | 19 000 | 24 000 | 0,039 | 6003 |
| | 40 | 12 | 9 560 | 4 750 | 200 | 17 000 | 20 000 | 0,065 | 6203 |
| | 47 | 14 | 13 500 | 6 550 | 275 | 16 000 | 19 000 | 0,12 | 6303 |
| | 62 | 17 | 22 900 | 10 800 | 455 | 12 000 | 15 000 | 0,27 | 6403 |
| 20 | 32 | 7 | 2 700 | 1 500 | 63 | 19 000 | 24 000 | 0,018 | 61804 |
| | 37 | 9 | 6 370 | 3 650 | 156 | 18 000 | 22 000 | 0,038 | 61904 |
| | 42 | 8 | 6 890 | 4 050 | 173 | 17 000 | 20 000 | 0,050 | 16004 |
| | 42 | 12 | 9 360 | 5 000 | 212 | 17 000 | 20 000 | 0,069 | 6004 |
| | 47 | 14 | 12 700 | 6 550 | 280 | 15 000 | 18 000 | 0,11 | 6204 |
| | 52 | 15 | 15 900 | 7 800 | 335 | 13 000 | 16 000 | 0,14 | 6304 |
| | 72 | 19 | 30 700 | 15 000 | 640 | 10 000 | 13 000 | 0,40 | 6404 |
| | 25 | 37 | 7 | 4 360 | 2 600 | 125 | 17 000 | 20 000 | 0,022 |
| 42 | | 9 | 6 630 | 4 000 | 176 | 16 000 | 19 000 | 0,045 | 61905 |
| 47 | | 8 | 7 610 | 4 750 | 212 | 14 000 | 17 000 | 0,060 | 16005 |
| 47 | | 12 | 11 200 | 6 550 | 275 | 15 000 | 18 000 | 0,080 | 6005 |
| 52 | | 15 | 14 000 | 7 800 | 335 | 12 000 | 15 000 | 0,13 | 6205 |
| 62 | | 17 | 22 500 | 11 600 | 490 | 11 000 | 14 000 | 0,23 | 6305 |
| 80 | | 21 | 35 800 | 19 300 | 815 | 9 000 | 11 000 | 0,53 | 6405 |
| 30 | | 42 | 7 | 4 490 | 2 900 | 146 | 15 000 | 18 000 | 0,027 |
| | 47 | 9 | 7 280 | 4 550 | 212 | 14 000 | 17 000 | 0,051 | 61906 |
| | 55 | 9 | 11 200 | 7 350 | 310 | 12 000 | 15 000 | 0,085 | 16006 |
| | 55 | 13 | 13 300 | 8 300 | 355 | 12 000 | 15 000 | 0,12 | 6006 |
| | 62 | 16 | 19 500 | 11 200 | 475 | 10 000 | 13 000 | 0,20 | 6206 |
| | 72 | 19 | 28 100 | 16 000 | 670 | 9 000 | 11 000 | 0,35 | 6306 |
| | 90 | 23 | 43 600 | 23 600 | 1 000 | 8 500 | 10 000 | 0,74 | 6406 |



Dimensions

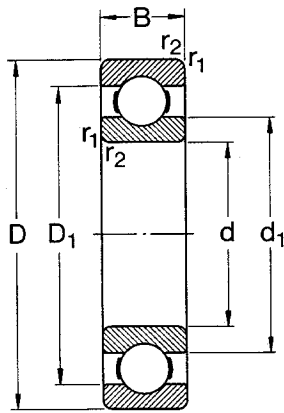
Abutment and fillet dimensions

| d | d ₁ ≈ | D ₁ ≈ | D ₂ ≈ | r _{1,2} min | d _a min | D _a max | r _a max |
|----|---------------------|---------------------|---------------------|-------------------------|-----------------------|-----------------------|-----------------------|
| mm | | | | mm | | | |
| 15 | 17,9 | 21,1 | - | 0,3 | 17 | 22 | 0,3 |
| | 18,4 | 24,7 | - | 0,3 | 17 | 26 | 0,3 |
| | 20,2 | 27 | 28,2 | 0,3 | 17 | 30 | 0,3 |
| | 20,2 | 27 | 28,2 | 0,3 | 17 | 30 | 0,3 |
| | 21,5 | 29,2 | 30,4 | 0,6 | 19 | 31 | 0,6 |
| | 23,7 | 33,9 | 36,3 | 1 | 20 | 37 | 1 |
| 17 | 20,2 | 23,2 | - | 0,3 | 19 | 24 | 0,3 |
| | 20,4 | 26,7 | - | 0,3 | 19 | 28 | 0,3 |
| | 22,7 | 29,5 | 31,2 | 0,3 | 19 | 33 | 0,3 |
| | 22,7 | 29,5 | 31,2 | 0,3 | 19 | 33 | 0,3 |
| | 24,2 | 32,9 | 35 | 0,6 | 21 | 36 | 0,6 |
| | 26,5 | 37,6 | 39,6 | 1 | 22 | 42 | 1 |
| | 32,4 | 47,4 | - | 1,1 | 23,5 | 55,5 | 1 |
| 20 | 24 | 28,3 | - | 0,3 | 22 | 30 | 0,3 |
| | 25,6 | 31,4 | - | 0,3 | 22 | 35 | 0,3 |
| | 27,3 | 34,6 | - | 0,3 | 22 | 40 | 0,3 |
| | 27,2 | 35,1 | 37,2 | 0,6 | 24 | 38 | 0,6 |
| | 28,5 | 38,7 | 40,6 | 1 | 25 | 42 | 1 |
| | 30,3 | 42,1 | 44,8 | 1,1 | 26,5 | 45,5 | 1 |
| | 37,1 | 55,6 | - | 1,1 | 26,5 | 65,5 | 1 |
| | 37,1 | 55,6 | - | 1,1 | 26,5 | 65,5 | 1 |
| 25 | 28,5 | 33,3 | - | 0,3 | 27 | 35 | 0,3 |
| | 30,2 | 36,8 | - | 0,3 | 27 | 40 | 0,3 |
| | 33,3 | 40,7 | - | 0,3 | 27 | 45 | 0,3 |
| | 32 | 40,3 | 42,2 | 0,6 | 29 | 43 | 0,6 |
| | 34 | 44,2 | 46,3 | 1 | 30 | 47 | 1 |
| | 36,6 | 50,9 | 52,7 | 1,1 | 31,5 | 55,5 | 1 |
| | 45,4 | 63,8 | - | 1,5 | 33 | 72 | 1,5 |
| | 45,4 | 63,8 | - | 1,5 | 33 | 72 | 1,5 |
| 30 | 33,7 | 38,5 | - | 0,3 | 32 | 40 | 0,3 |
| | 35,2 | 41,8 | - | 0,3 | 32 | 45 | 0,3 |
| | 38 | 47,3 | - | 0,3 | 32 | 53 | 0,3 |
| | 38,2 | 47,1 | 49 | 1 | 35 | 50 | 1 |
| | 40,3 | 52,1 | 54,1 | 1 | 35 | 57 | 1 |
| | 44,6 | 59,9 | 61,9 | 1,1 | 36,5 | 65,5 | 1 |
| | 50,3 | 70,7 | - | 1,5 | 38 | 82 | 1,5 |
| | 50,3 | 70,7 | - | 1,5 | 38 | 82 | 1,5 |

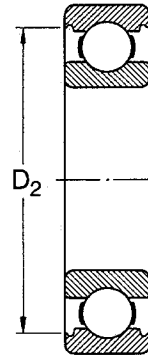
Deep groove ball bearings

single row

d 35–55 mm

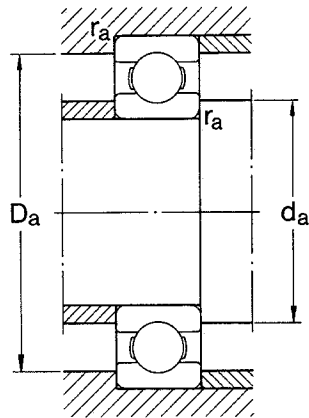


With full outer ring shoulders



With recessed outer ring shoulders

| Principal dimensions | | | Basic load ratings | | Fatigue load limit P_u | Speed ratings | | Mass | Designation |
|----------------------|-----|--------|--------------------|-----------------|-----------------------------|-----------------------|--------|-------|-------------|
| d | D | B | dynamic C | static C_0 | | Lubrication grease | oil | | |
| mm | | | N | | N | r/min | | kg | – |
| 35 | 47 | 7 | 4 750 | 3 200 | 166 | 13 000 | 16 000 | 0,030 | 61807 |
| | 55 | 10 | 9 560 | 6 200 | 290 | 11 000 | 14 000 | 0,080 | 61907 |
| | 62 | 9 | 12 400 | 8 150 | 375 | 10 000 | 13 000 | 0,11 | 16007 |
| | 62 | 14 | 15 900 | 10 200 | 440 | 10 000 | 13 000 | 0,16 | 6007 |
| | 72 | 17 | 25 500 | 15 300 | 655 | 9 000 | 11 000 | 0,29 | 6207 |
| | 80 | 21 | 33 200 | 19 000 | 815 | 8 500 | 10 000 | 0,46 | 6307 |
| 100 | 25 | 55 300 | 31 000 | 1 290 | 7 000 | 8 500 | 0,95 | 6407 | |
| 40 | 52 | 7 | 4 940 | 3 450 | 186 | 11 000 | 14 000 | 0,034 | 61808 |
| | 62 | 12 | 13 800 | 9 300 | 425 | 10 000 | 13 000 | 0,12 | 61908 |
| | 68 | 9 | 13 300 | 9 150 | 440 | 9 500 | 12 000 | 0,13 | 16008 |
| | 68 | 15 | 16 800 | 11 600 | 490 | 9 500 | 12 000 | 0,19 | 6008 |
| | 80 | 18 | 30 700 | 19 000 | 800 | 8 500 | 10 000 | 0,37 | 6208 |
| | 90 | 23 | 41 000 | 24 000 | 1 020 | 7 500 | 9 000 | 0,63 | 6308 |
| 110 | 27 | 63 700 | 36 500 | 1 530 | 6 700 | 8 000 | 1,25 | 6408 | |
| 45 | 58 | 7 | 6 050 | 4 300 | 228 | 9 500 | 12 000 | 0,040 | 61809 |
| | 68 | 12 | 14 000 | 9 800 | 465 | 9 000 | 11 000 | 0,14 | 61909 |
| | 75 | 10 | 15 600 | 10 800 | 520 | 9 000 | 11 000 | 0,17 | 16009 |
| | 75 | 16 | 20 800 | 14 600 | 640 | 9 000 | 11 000 | 0,25 | 6009 |
| | 85 | 19 | 33 200 | 21 600 | 915 | 7 500 | 9 000 | 0,41 | 6209 |
| | 100 | 25 | 52 700 | 31 500 | 1 340 | 6 700 | 8 000 | 0,83 | 6309 |
| 120 | 29 | 76 100 | 45 000 | 1 900 | 6 000 | 7 000 | 1,55 | 6409 | |
| 50 | 65 | 7 | 6 240 | 4 750 | 250 | 9 000 | 11 000 | 0,052 | 61810 |
| | 72 | 12 | 14 600 | 10 400 | 500 | 8 500 | 10 000 | 0,14 | 61910 |
| | 80 | 10 | 16 300 | 11 400 | 560 | 8 500 | 10 000 | 0,18 | 16010 |
| | 80 | 16 | 21 600 | 16 000 | 710 | 8 500 | 10 000 | 0,26 | 6010 |
| | 90 | 20 | 35 100 | 23 200 | 980 | 7 000 | 8 500 | 0,46 | 6210 |
| | 110 | 27 | 61 800 | 38 000 | 1 600 | 6 300 | 7 500 | 1,05 | 6310 |
| 130 | 31 | 87 100 | 52 000 | 2 200 | 5 300 | 6 300 | 1,90 | 6410 | |
| 55 | 72 | 9 | 8 840 | 6 800 | 360 | 8 500 | 10 000 | 0,083 | 61811 |
| | 80 | 13 | 15 900 | 11 400 | 560 | 8 000 | 9 500 | 0,19 | 61911 |
| | 90 | 11 | 19 500 | 14 000 | 695 | 7 500 | 9 000 | 0,26 | 16011 |
| | 90 | 18 | 28 100 | 21 200 | 900 | 7 500 | 9 000 | 0,39 | 6011 |
| | 100 | 21 | 43 600 | 29 000 | 1 250 | 6 300 | 7 500 | 0,61 | 6211 |
| | 120 | 29 | 71 500 | 45 000 | 1 900 | 5 600 | 6 700 | 1,35 | 6311 |
| 140 | 33 | 99 500 | 62 000 | 2 600 | 5 000 | 6 000 | 2,30 | 6411 | |



Dimensions

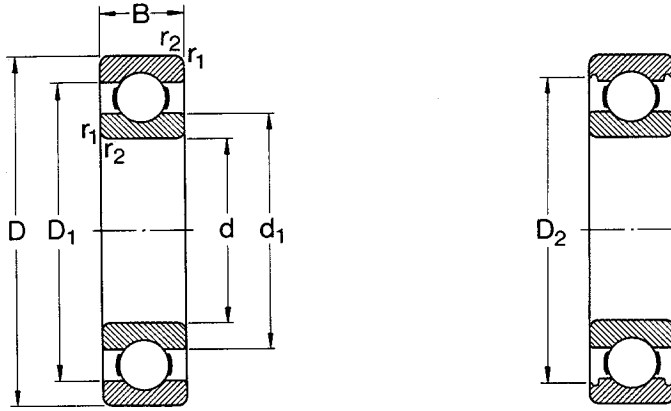
Abutment and fillet dimensions

| d | d_1 | D_1 | D_2 | $r_{1,2}$ min | d_a min | D_a max | r_a max |
|-----------|-------|-------|-------|------------------|--------------|--------------|--------------|
| | | | | mm | | | |
| 35 | 38,7 | 43,5 | — | 0,3 | 37 | 45 | 0,3 |
| | 41,6 | 48,6 | — | 0,6 | 39 | 51 | 0,6 |
| | 44 | 53,3 | — | 0,3 | 37 | 60 | 0,3 |
| | 43,7 | 53,6 | 55,7 | 1 | 40 | 57 | 1 |
| | 46,9 | 60,6 | 62,7 | 1,1 | 41,5 | 65,5 | 1 |
| | 49,5 | 66,1 | 69,2 | 1,5 | 43 | 72 | 1,5 |
| | 57,4 | 80,6 | — | 1,5 | 43 | 92 | 1,5 |
| 40 | 43,7 | 48,5 | — | 0,3 | 42 | 50 | 0,3 |
| | 47 | 55,2 | — | 0,6 | 44 | 58 | 0,6 |
| | 49,4 | 57 | — | 0,3 | 42 | 66 | 0,3 |
| | 49,2 | 59,1 | 61,1 | 1 | 45 | 63 | 1 |
| | 52,6 | 67,9 | 69,8 | 1,1 | 46,5 | 73,5 | 1 |
| | 56,1 | 74,7 | 77,7 | 1,5 | 48 | 82 | 1,5 |
| | 62,8 | 88 | — | 2 | 49 | 101 | 2 |
| 45 | 48,7 | 54,5 | — | 0,3 | 47 | 56 | 0,3 |
| | 52,3 | 60,8 | — | 0,6 | 49 | 64 | 0,6 |
| | 55 | 65,4 | — | 0,6 | 49 | 71 | 0,6 |
| | 54,7 | 65,6 | 67,8 | 1 | 50 | 70 | 1 |
| | 57,6 | 72,9 | 75,2 | 1,1 | 51,5 | 78,5 | 1 |
| | 62,1 | 83,7 | 86,7 | 1,5 | 53 | 92 | 1,5 |
| | 68,9 | 96,9 | — | 2 | 54 | 111 | 2 |
| 50 | 54,7 | 60,5 | — | 0,3 | 52 | 63 | 0,3 |
| | 56,8 | 65,3 | — | 0,6 | 54 | 68 | 0,6 |
| | 60 | 70,4 | — | 0,6 | 54 | 76 | 0,6 |
| | 59,7 | 70,6 | 72,8 | 1 | 55 | 75 | 1 |
| | 62,5 | 78,1 | 81,7 | 1,1 | 56,5 | 83,5 | 1 |
| | 68,7 | 92,1 | 95,2 | 2 | 59 | 101 | 2 |
| | 75,4 | 106 | — | 2,1 | 61 | 119 | 2 |
| 55 | 60,2 | 67 | — | 0,3 | 57 | 70 | 0,3 |
| | 63 | 72,1 | — | 1 | 60 | 75 | 1 |
| | 67 | 78 | — | 0,6 | 59 | 86 | 0,6 |
| | 66,3 | 79,1 | 81,5 | 1,1 | 61,5 | 83,5 | 1 |
| | 69 | 86,6 | 89,4 | 1,5 | 63 | 92 | 1,5 |
| | 75,3 | 101 | 104 | 2 | 64 | 111 | 2 |
| | 81,5 | 115 | — | 2,1 | 66 | 129 | 2 |

Deep groove ball bearings

single row

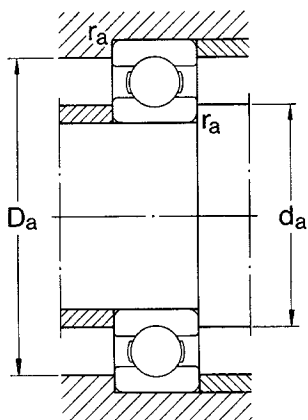
d 60–80 mm



With full outer ring shoulders

With recessed outer ring shoulders

| Principal dimensions | | | Basic load ratings | | Fatigue load limit P_u | Speed ratings | | Mass | Designation |
|----------------------|-----|----|--------------------|---------|-----------------------------|--------------------|-------|------|--------------|
| d | D | B | C | C_0 | | Lubrication grease | oil | | |
| mm | | | N | | N | r/min | | kg | – |
| 60 | 78 | 10 | 8 710 | 6 700 | 365 | 7 500 | 9 000 | 0,11 | 61812 |
| | 85 | 13 | 16 500 | 12 000 | 600 | 7 500 | 9 000 | 0,20 | 61912 |
| | 95 | 11 | 19 900 | 15 000 | 735 | 6 700 | 8 000 | 0,28 | 16012 |
| | 95 | 18 | 29 600 | 23 200 | 980 | 6 700 | 8 000 | 0,42 | 6012 |
| | 110 | 22 | 52 700 | 36 000 | 1 530 | 6 000 | 7 000 | 0,78 | 6212 |
| | 130 | 31 | 81 900 | 52 000 | 2 200 | 5 000 | 6 000 | 1,70 | 6312 |
| | 150 | 35 | 108 000 | 69 500 | 2 900 | 4 800 | 5 600 | 2,75 | 6412 |
| 65 | 85 | 10 | 11 900 | 9 650 | 510 | 7 000 | 8 500 | 0,13 | 61813 |
| | 90 | 13 | 17 400 | 13 400 | 680 | 6 700 | 8 000 | 0,22 | 61913 |
| | 100 | 11 | 21 200 | 16 600 | 830 | 6 300 | 7 500 | 0,30 | 16013 |
| | 100 | 18 | 30 700 | 25 000 | 1 060 | 6 300 | 7 500 | 0,44 | 6013 |
| | 120 | 23 | 55 900 | 40 500 | 1 730 | 5 300 | 6 300 | 0,99 | 6213 |
| | 140 | 33 | 92 300 | 60 000 | 2 500 | 4 800 | 5 600 | 2,10 | 6313 |
| | 160 | 37 | 119 000 | 78 000 | 3 150 | 4 500 | 5 300 | 3,30 | 6413 |
| 70 | 90 | 10 | 12 100 | 10 000 | 540 | 6 700 | 8 000 | 0,14 | 61814 |
| | 100 | 16 | 23 800 | 18 300 | 900 | 6 300 | 7 500 | 0,35 | 61914 |
| | 110 | 13 | 28 100 | 25 000 | 1 060 | 6 000 | 7 000 | 0,43 | 16014 |
| | 110 | 20 | 37 700 | 31 000 | 1 320 | 6 000 | 7 000 | 0,60 | 6014 |
| | 125 | 24 | 60 500 | 45 000 | 1 900 | 5 000 | 6 000 | 1,05 | 6214 |
| | 150 | 35 | 104 000 | 68 000 | 2 750 | 4 500 | 5 300 | 2,50 | 6314 |
| | 180 | 42 | 143 000 | 104 000 | 3 900 | 3 800 | 4 500 | 4,85 | 6414 |
| 75 | 95 | 10 | 12 500 | 10 800 | 585 | 6 300 | 7 500 | 0,15 | 61815 |
| | 105 | 16 | 24 200 | 19 300 | 965 | 6 000 | 7 000 | 0,37 | 61915 |
| | 115 | 13 | 28 600 | 27 000 | 1 140 | 5 600 | 6 700 | 0,46 | 16015 |
| | 115 | 20 | 39 700 | 33 500 | 1 430 | 5 600 | 6 700 | 0,64 | 6015 |
| | 130 | 25 | 66 300 | 49 000 | 2 040 | 4 800 | 5 600 | 1,20 | 6215 |
| | 160 | 37 | 114 000 | 76 500 | 3 000 | 4 300 | 5 000 | 3,00 | 6315 |
| | 190 | 45 | 153 000 | 114 000 | 4 150 | 3 600 | 4 300 | 6,80 | 6415 |
| 80 | 100 | 10 | 12 700 | 11 200 | 610 | 6 000 | 7 000 | 0,15 | 61816 |
| | 110 | 16 | 25 100 | 20 400 | 1 020 | 5 600 | 6 700 | 0,40 | 61916 |
| | 125 | 14 | 33 200 | 31 500 | 1 320 | 5 300 | 6 300 | 0,60 | 16016 |
| | 125 | 22 | 47 500 | 40 000 | 1 660 | 5 300 | 6 300 | 0,85 | 6016 |
| | 140 | 26 | 70 200 | 55 000 | 2 200 | 4 500 | 5 300 | 1,40 | 6216 |
| | 170 | 39 | 124 000 | 86 500 | 3 250 | 3 800 | 4 500 | 3,60 | 6316 |
| | 200 | 48 | 163 000 | 125 000 | 4 500 | 3 400 | 4 000 | 8,00 | 6416 |



Dimensions

Abutment and fillet dimensions

d d₁ D₁ D₂ r_{1,2} d_a D_a r_a
 ≈ ≈ ≈ min min max max

mm

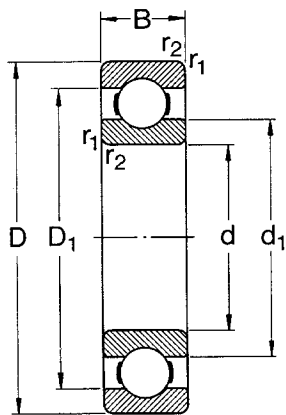
mm

| | | | | | | | |
|-----------|------|------|------|-----|------|-------|-----|
| 60 | 65,6 | 72,6 | - | 0,3 | 62 | 76 | 0,3 |
| | 68 | 77,1 | - | 1 | 65 | 80 | 1 |
| | 72 | 83,4 | - | 0,6 | 64 | 91 | 0,6 |
| | 71,3 | 84,1 | 86,5 | 1,1 | 66,5 | 88,5 | 1 |
| | 75,5 | 94,2 | 97 | 1,5 | 68 | 102 | 1,5 |
| | 81,8 | 109 | 113 | 2,1 | 71 | 119 | 2 |
| | 88,1 | 123 | - | 2,1 | 71 | 139 | 2 |
| 65 | 71,1 | 79,1 | - | 0,6 | 69 | 81 | 0,6 |
| | 73 | 82,1 | - | 1 | 70 | 85 | 1 |
| | 76,5 | 88,5 | - | 0,6 | 69 | 96 | 0,6 |
| | 76,3 | 89,1 | 91,5 | 1,1 | 71,5 | 93,5 | 1 |
| | 83,3 | 103 | 106 | 1,5 | 73 | 112 | 1,5 |
| | 88,3 | 118 | 122 | 2,1 | 76 | 129 | 2 |
| | 94 | 132 | - | 2,1 | 76 | 149 | 2 |
| 70 | 76,1 | 84,1 | - | 0,6 | 74 | 86 | 0,6 |
| | 79,6 | 90,6 | - | 1 | 75 | 95 | 1 |
| | 83,3 | 97,1 | - | 0,6 | 74 | 106 | 0,6 |
| | 82,8 | 97,6 | 99,9 | 1,1 | 76,5 | 103,5 | 1 |
| | 87 | 109 | 111 | 1,5 | 78 | 117 | 1,5 |
| | 94,9 | 126 | 130 | 2,1 | 81 | 139 | 2 |
| | 103 | 147 | - | 3 | 83 | 167 | 2,5 |
| 75 | 81,1 | 89,1 | - | 0,6 | 79 | 91 | 0,6 |
| | 84,6 | 95,6 | - | 1 | 80 | 100 | 1 |
| | 88,3 | 102 | - | 0,6 | 79 | 111 | 0,6 |
| | 87,8 | 103 | 105 | 1,1 | 81,5 | 108,5 | 1 |
| | 92 | 114 | 117 | 1,5 | 83 | 122 | 1,5 |
| | 101 | 135 | 139 | 2,1 | 86 | 149 | 2 |
| | 110 | 156 | 159 | 3 | 88 | 177 | 2,5 |
| 80 | 86,1 | 94,1 | - | 0,6 | 84 | 96 | 0,6 |
| | 89,6 | 101 | - | 1 | 85 | 105 | 1 |
| | 95,3 | 110 | - | 0,6 | 84 | 121 | 0,6 |
| | 94,4 | 112 | 115 | 1,1 | 86,5 | 118,5 | 1 |
| | 101 | 123 | 127 | 2 | 89 | 131 | 2 |
| | 108 | 143 | 147 | 2,1 | 91 | 159 | 2 |
| | 116 | 164 | - | 3 | 93 | 187 | 2,5 |

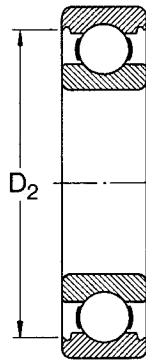
Deep groove ball bearings

single row

d 85–105 mm

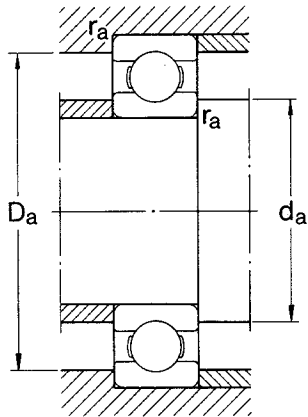


With full outer ring shoulders



With recessed outer ring shoulders

| Principal dimensions | | | Basic load ratings | | Fatigue load limit P_u | Speed ratings | | Mass | Designation |
|----------------------|-----|---------|--------------------|-----------------|-----------------------------|-----------------------|-------|-------------|--------------|
| d | D | B | dynamic C | static C_0 | | Lubrication grease | oil | | |
| mm | | | N | | N | r/min | | kg | – |
| 85 | 110 | 13 | 19 500 | 16 600 | 880 | 5 300 | 6 300 | 0,27 | 61817 |
| | 120 | 18 | 31 900 | 30 000 | 1 250 | 5 300 | 6 300 | 0,55 | 61917 |
| | 130 | 14 | 33 800 | 33 500 | 1 370 | 5 000 | 6 000 | 0,63 | 16017 |
| | 130 | 22 | 49 400 | 43 000 | 1 760 | 5 000 | 6 000 | 0,89 | 6017 |
| | 150 | 28 | 83 200 | 64 000 | 2 500 | 4 300 | 5 000 | 1,80 | 6217 |
| | 180 | 41 | 133 000 | 96 500 | 3 550 | 3 600 | 4 300 | 4,25 | 6317 |
| 210 | 52 | 174 000 | 137 000 | 4 750 | 3 200 | 3 800 | 9,50 | 6417 | |
| 90 | 115 | 13 | 19 500 | 17 000 | 915 | 5 300 | 6 300 | 0,28 | 61818 |
| | 125 | 18 | 33 200 | 31 500 | 1 230 | 5 000 | 6 000 | 0,59 | 61918 |
| | 140 | 16 | 41 600 | 39 000 | 1 560 | 4 800 | 5 600 | 0,85 | 16018 |
| | 140 | 24 | 58 500 | 50 000 | 1 960 | 4 800 | 5 600 | 1,15 | 6018 |
| | 160 | 30 | 95 600 | 73 500 | 2 800 | 3 800 | 4 500 | 2,15 | 6218 |
| | 190 | 43 | 143 000 | 108 000 | 3 850 | 3 400 | 4 000 | 4,90 | 6318 |
| 225 | 54 | 186 000 | 150 000 | 5 000 | 3 000 | 3 600 | 11,5 | 6418 | |
| 95 | 120 | 13 | 19 900 | 17 600 | 930 | 5 000 | 6 000 | 0,30 | 61819 |
| | 130 | 18 | 33 800 | 33 500 | 1 430 | 4 800 | 5 600 | 0,61 | 61919 |
| | 145 | 16 | 42 300 | 41 500 | 1 630 | 4 500 | 5 300 | 0,89 | 16019 |
| | 145 | 24 | 60 500 | 54 000 | 2 080 | 4 500 | 5 300 | 1,20 | 6019 |
| | 170 | 32 | 108 000 | 81 500 | 3 000 | 3 600 | 4 300 | 2,60 | 6219 |
| | 200 | 45 | 153 000 | 118 000 | 4 150 | 3 200 | 3 800 | 5,65 | 6319 |
| 100 | 125 | 13 | 19 900 | 18 300 | 950 | 4 800 | 5 600 | 0,31 | 61820 |
| | 140 | 20 | 42 300 | 41 500 | 1 630 | 4 500 | 5 300 | 0,83 | 61920 |
| | 150 | 16 | 44 200 | 44 000 | 1 700 | 4 300 | 5 000 | 0,91 | 16020 |
| | 150 | 24 | 60 500 | 54 000 | 2 040 | 4 300 | 5 000 | 1,25 | 6020 |
| | 180 | 34 | 124 000 | 93 000 | 3 350 | 3 400 | 4 000 | 3,15 | 6220 |
| | 215 | 47 | 174 000 | 140 000 | 4 750 | 3 000 | 3 600 | 7,00 | 6320 |
| 105 | 130 | 13 | 20 800 | 19 600 | 1 000 | 4 500 | 5 300 | 0,32 | 61821 |
| | 145 | 20 | 44 200 | 44 000 | 1 700 | 4 300 | 5 000 | 0,87 | 61921 |
| | 160 | 18 | 52 000 | 51 000 | 1 860 | 4 000 | 4 800 | 1,20 | 16021 |
| | 160 | 26 | 72 800 | 65 500 | 2 400 | 4 000 | 4 800 | 1,60 | 6021 |
| | 190 | 36 | 133 000 | 104 000 | 3 650 | 3 200 | 3 800 | 3,70 | 6221 |
| | 225 | 49 | 182 000 | 153 000 | 5 100 | 2 800 | 3 400 | 8,25 | 6321 |



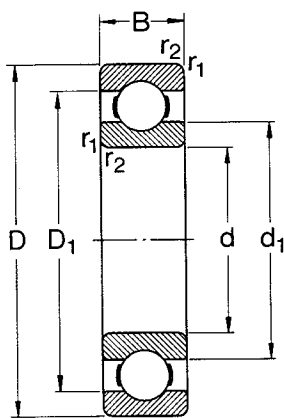
Dimensions

Abutment and fillet dimensions

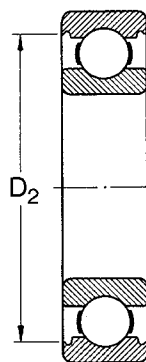
| d | d_1 ≈ | D_1 ≈ | D_2 ≈ | $r_{1,2}$ min | d_a min | D_a max | r_a max |
|-----|------------|------------|------------|------------------|--------------|--------------|--------------|
| mm | | | | mm | | | |
| 85 | 92,5 | 103 | – | 1 | 90 | 105 | 1 |
| | 96,1 | 109 | – | 1,1 | 91,5 | 113,5 | 1 |
| | 100 | 115 | – | 0,6 | 89 | 126 | 0,6 |
| | 99,4 | 117 | 120 | 1,1 | 91,5 | 123,5 | 1 |
| | 106 | 131 | 135 | 2 | 94 | 141 | 2 |
| | 114 | 152 | 156 | 3 | 98 | 167 | 2,5 |
| | 123 | 173 | 176 | 4 | 101 | 194 | 3 |
| 90 | 97,5 | 108 | – | 1 | 95 | 110 | 1 |
| | 101 | 114 | – | 1,1 | 96,5 | 118,5 | 1 |
| | 106 | 124 | – | 1 | 95 | 135 | 1 |
| | 105 | 125 | 129 | 1,5 | 98 | 132 | 1,5 |
| | 112 | 139 | 143 | 2 | 99 | 151 | 2 |
| | 121 | 160 | 164 | 3 | 103 | 177 | 2,5 |
| | 132 | 182 | – | 4 | 106 | 209 | 3 |
| 95 | 102 | 113 | – | 1 | 100 | 115 | 1 |
| | 106 | 119 | – | 1,1 | 101,5 | 123,5 | 1 |
| | 111 | 129 | – | 1 | 100 | 140 | 1 |
| | 110 | 130 | 132 | 1,5 | 103 | 137 | 1,5 |
| | 118 | 148 | 152 | 2,1 | 106 | 159 | 2 |
| | 127 | 169 | 172 | 3 | 108 | 187 | 2,5 |
| 100 | 107 | 118 | – | 1 | 105 | 120 | 1 |
| | 112 | 128 | – | 1,1 | 106,5 | 133,5 | 1 |
| | 116 | 135 | – | 1 | 105 | 145 | 1 |
| | 115 | 135 | 139 | 1,5 | 108 | 142 | 1,5 |
| | 124 | 157 | 160 | 2,1 | 111 | 169 | 2 |
| | 135 | 181 | 184 | 3 | 113 | 202 | 2,5 |
| 105 | 112 | 123 | – | 1 | 110 | 125 | 1 |
| | 117 | 133 | – | 1,1 | 111,5 | 138,5 | 1 |
| | 123 | 143 | – | 1 | 110 | 155 | 1 |
| | 122 | 144 | 147 | 2 | 114 | 151 | 2 |
| | 131 | 164 | 167 | 2,1 | 116 | 179 | 2 |
| | 141 | 189 | 193 | 3 | 118 | 212 | 2,5 |

Deep groove ball bearings single row

d 110–160 mm

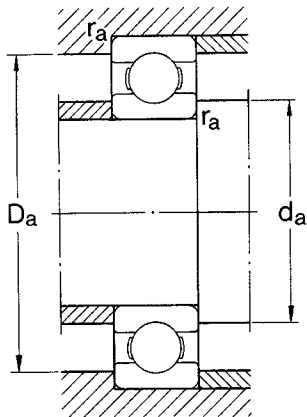


With full outer ring shoulders



With recessed outer ring shoulders

| Principal dimensions | | | Basic load ratings | | Fatigue load limit P_u | Speed ratings | | Mass | Designation |
|----------------------|-----|----|--------------------|-----------------|-----------------------------|-----------------------|-------|------|-------------|
| d | D | B | dynamic C | static C_0 | | Lubrication grease | oil | | |
| mm | | | N | | N | r/min | | kg | – |
| 110 | 140 | 16 | 28 100 | 26 000 | 1 250 | 4 300 | 5 000 | 0,60 | 61822 |
| | 150 | 20 | 43 600 | 45 000 | 1 660 | 4 000 | 4 800 | 0,90 | 61922 |
| | 170 | 19 | 57 200 | 57 000 | 2 040 | 3 800 | 4 500 | 1,45 | 16022 |
| | 170 | 28 | 81 900 | 73 500 | 2 400 | 3 800 | 4 500 | 1,95 | 6022 |
| | 200 | 38 | 143 000 | 118 000 | 4 000 | 3 000 | 3 600 | 4,35 | 6222 |
| | 240 | 50 | 203 000 | 180 000 | 5 700 | 2 600 | 3 200 | 9,55 | 6322 |
| 120 | 150 | 16 | 29 100 | 28 000 | 1 290 | 3 800 | 4 500 | 0,65 | 61824 |
| | 165 | 22 | 55 300 | 57 000 | 2 040 | 3 600 | 4 300 | 1,20 | 61924 |
| | 180 | 19 | 60 500 | 64 000 | 2 200 | 3 400 | 4 000 | 1,60 | 16024 |
| | 180 | 28 | 85 200 | 80 000 | 2 750 | 3 400 | 4 000 | 2,05 | 6024 |
| | 215 | 40 | 146 000 | 118 000 | 3 900 | 2 800 | 3 400 | 5,15 | 6224 |
| | 260 | 55 | 208 000 | 186 000 | 5 700 | 2 400 | 3 000 | 14,5 | 6324 |
| 130 | 165 | 18 | 37 700 | 43 000 | 1 660 | 3 600 | 4 300 | 0,93 | 61826 |
| | 180 | 24 | 65 000 | 67 000 | 2 280 | 3 400 | 4 000 | 1,60 | 61926 |
| | 200 | 22 | 79 300 | 81 500 | 2 700 | 3 200 | 3 800 | 2,35 | 16026 |
| | 200 | 33 | 106 000 | 100 000 | 3 350 | 3 200 | 3 800 | 3,15 | 6026 |
| | 230 | 40 | 156 000 | 132 000 | 4 150 | 2 600 | 3 200 | 5,80 | 6226 |
| | 280 | 58 | 229 000 | 216 000 | 6 300 | 2 200 | 2 800 | 18,0 | 6326 |
| 140 | 175 | 18 | 39 000 | 46 500 | 1 660 | 3 400 | 4 000 | 0,99 | 61828 |
| | 190 | 24 | 66 300 | 72 000 | 2 280 | 3 200 | 3 800 | 1,70 | 61928 |
| | 210 | 22 | 80 600 | 86 500 | 2 700 | 3 000 | 3 600 | 2,50 | 16028 |
| | 210 | 33 | 111 000 | 108 000 | 3 350 | 3 000 | 3 600 | 3,35 | 6028 |
| | 250 | 42 | 165 000 | 150 000 | 4 150 | 2 400 | 3 000 | 7,45 | 6228 |
| | 300 | 62 | 251 000 | 245 000 | 7 100 | 2 000 | 2 600 | 22,0 | 6328 |
| 150 | 190 | 20 | 48 800 | 61 000 | 1 960 | 3 000 | 3 600 | 1,40 | 61830 |
| | 210 | 28 | 88 400 | 93 000 | 2 900 | 2 800 | 3 400 | 3,05 | 61930 |
| | 225 | 24 | 92 300 | 98 000 | 3 050 | 2 600 | 3 200 | 3,15 | 16030 |
| | 225 | 35 | 125 000 | 125 000 | 3 900 | 2 600 | 3 200 | 4,80 | 6030 |
| | 270 | 45 | 174 000 | 166 000 | 4 900 | 2 000 | 2 600 | 9,40 | 6230 |
| | 320 | 65 | 276 000 | 285 000 | 7 800 | 1 900 | 2 400 | 26,0 | 6330 |
| 160 | 200 | 20 | 49 400 | 64 000 | 2 000 | 2 800 | 3 400 | 1,45 | 61832 |
| | 220 | 28 | 92 300 | 98 000 | 3 050 | 2 600 | 3 200 | 3,25 | 61932 |
| | 240 | 25 | 99 500 | 108 000 | 3 250 | 2 400 | 3 000 | 3,70 | 16032 |
| | 240 | 38 | 143 000 | 143 000 | 4 300 | 2 400 | 3 000 | 5,90 | 6032 |
| | 290 | 48 | 186 000 | 186 000 | 5 300 | 1 900 | 2 400 | 14,5 | 6232 |
| | 340 | 68 | 276 000 | 285 000 | 7 650 | 1 800 | 2 200 | 29,0 | 6332 |

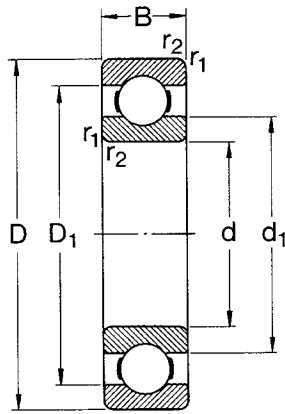


| Dimensions | | | | | Abutment and fillet dimensions | | |
|------------|----------------|----------------|----------------|-------------------------|--------------------------------|-----------------------|-----------------------|
| d | d ₁ | D ₁ | D ₂ | r _{1,2} min | d _a min | D _a max | r _a max |
| mm | | | | | mm | | |
| 110 | 119 | 132 | - | 1 | 115 | 135 | 1 |
| | 122 | 138 | - | 1,1 | 116,5 | 143,5 | 1 |
| | 130 | 151 | - | 1 | 115 | 165 | 1 |
| | 129 | 152 | 156 | 2 | 119 | 161 | 2 |
| | 138 | 174 | 177 | 2,1 | 121 | 189 | 2 |
| | 149 | 201 | 205 | 3 | 123 | 227 | 2,5 |
| 120 | 129 | 142 | - | 1 | 125 | 145 | 1 |
| | 134 | 151 | - | 1,1 | 126,5 | 158,5 | 1 |
| | 139 | 162 | - | 1 | 125 | 175 | 1 |
| | 139 | 162 | 166 | 2 | 129 | 171 | 2 |
| | 150 | 185 | 189 | 2,1 | 131 | 204 | 2 |
| | 164 | 216 | - | 3 | 133 | 247 | 2,5 |
| 130 | 140 | 156 | - | 1,1 | 136,5 | 158,5 | 1 |
| | 145 | 165 | - | 1,5 | 138 | 172 | 1,5 |
| | 153 | 177 | - | 1,1 | 136,5 | 193,5 | 1 |
| | 152 | 179 | 183 | 2 | 139 | 191 | 2 |
| | 160 | 199 | 202 | 3 | 143 | 217 | 2,5 |
| | 177 | 233 | - | 4 | 146 | 264 | 3 |
| 140 | 151 | 165 | - | 1,1 | 146,5 | 168,5 | 1 |
| | 155 | 175 | - | 1,5 | 148 | 182 | 1,5 |
| | 163 | 187 | - | 1,1 | 146,5 | 203,5 | 1 |
| | 162 | 189 | 192 | 2 | 149 | 201 | 2 |
| | 175 | 214 | - | 3 | 153 | 237 | 2,5 |
| | 190 | 250 | - | 4 | 156 | 284 | 3 |
| 150 | 163 | 178 | - | 1,1 | 156,5 | 183,5 | 1 |
| | 169 | 192 | - | 2 | 159 | 201 | 2 |
| | 174 | 200 | - | 1,1 | 156,5 | 218,5 | 1 |
| | 174 | 202 | 206 | 2,1 | 161 | 214 | 2 |
| | 192 | 229 | - | 3 | 163 | 257 | 2,5 |
| | 205 | 265 | - | 4 | 166 | 304 | 3 |
| 160 | 173 | 188 | - | 1,1 | 166,5 | 193,5 | 1 |
| | 179 | 202 | - | 2 | 169 | 211 | 2 |
| | 185 | 214 | - | 1,5 | 168 | 232 | 1,5 |
| | 185 | 216 | 219 | 2,1 | 171 | 229 | 2 |
| | 206 | 244 | - | 3 | 173 | 277 | 2,5 |
| | 217 | 282 | - | 4 | 176 | 324 | 3 |

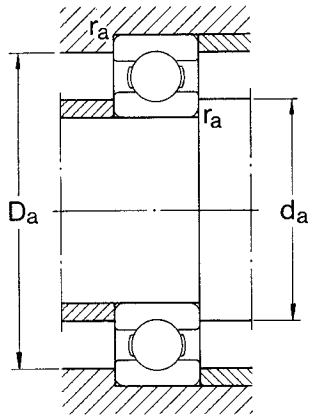
Deep groove ball bearings

single row

d 170–240 mm



| Principal dimensions | | | Basic load ratings | | Fatigue load limit P_u | Speed ratings | | Mass | Designation |
|----------------------|-----|----|--------------------|-----------------|-----------------------------|-----------------------|-------|------|--------------|
| d | D | B | dynamic C | static C_0 | | Lubrication grease | oil | | |
| mm | | | N | | N | r/min | | kg | – |
| 170 | 215 | 22 | 61 800 | 78 000 | 2 400 | 2 600 | 3 200 | 1,90 | 61834 |
| | 230 | 28 | 93 600 | 106 000 | 3 150 | 2 400 | 3 000 | 3,40 | 61934 |
| | 260 | 28 | 119 000 | 129 000 | 3 750 | 2 200 | 2 800 | 5,00 | 16034 |
| | 260 | 42 | 168 000 | 173 000 | 5 000 | 2 200 | 2 800 | 7,90 | 6034 |
| | 310 | 52 | 212 000 | 224 000 | 6 100 | 1 900 | 2 400 | 17,5 | 6234 |
| | 360 | 72 | 312 000 | 340 000 | 8 800 | 1 700 | 2 000 | 34,5 | 6334 |
| 180 | 225 | 22 | 62 400 | 81 500 | 2 450 | 2 400 | 3 000 | 2,00 | 61836 |
| | 250 | 33 | 119 000 | 134 000 | 3 900 | 2 200 | 2 800 | 5,05 | 61936 |
| | 280 | 31 | 138 000 | 146 000 | 4 150 | 2 000 | 2 600 | 6,60 | 16036 |
| | 280 | 46 | 190 000 | 200 000 | 5 600 | 2 000 | 2 600 | 10,5 | 6036 |
| | 320 | 52 | 229 000 | 240 000 | 6 400 | 1 800 | 2 200 | 18,5 | 6236 |
| | 380 | 75 | 351 000 | 405 000 | 10 400 | 1 700 | 2 000 | 42,5 | 6336 |
| 190 | 240 | 24 | 76 100 | 98 000 | 2 800 | 2 200 | 2 800 | 2,60 | 61838 |
| | 260 | 33 | 117 000 | 134 000 | 3 800 | 2 200 | 2 800 | 5,25 | 61938 |
| | 290 | 31 | 148 000 | 166 000 | 4 550 | 2 000 | 2 600 | 7,90 | 16038 |
| | 290 | 46 | 195 000 | 216 000 | 5 850 | 2 000 | 2 600 | 11,0 | 6038 |
| | 340 | 55 | 255 000 | 280 000 | 7 350 | 1 700 | 2 000 | 23,0 | 6238 |
| | 400 | 78 | 371 000 | 430 000 | 10 800 | 1 600 | 1 900 | 49,0 | 6338 |
| 200 | 250 | 24 | 76 100 | 102 000 | 2 900 | 2 200 | 2 800 | 2,70 | 61840 |
| | 280 | 38 | 148 000 | 166 000 | 4 550 | 2 000 | 2 600 | 7,40 | 61940 |
| | 310 | 34 | 168 000 | 190 000 | 5 100 | 1 900 | 2 400 | 8,85 | 16040 |
| | 310 | 51 | 216 000 | 245 000 | 6 400 | 1 900 | 2 400 | 14,0 | 6040 |
| | 360 | 58 | 270 000 | 310 000 | 7 800 | 1 700 | 2 000 | 28,0 | 6240 |
| | 420 | 80 | 377 000 | 465 000 | 11 200 | 1 500 | 1 800 | 55,5 | 6340 |
| 220 | 270 | 24 | 78 000 | 110 000 | 3 000 | 1 900 | 2 400 | 3,00 | 61844 |
| | 300 | 38 | 151 000 | 180 000 | 4 750 | 1 900 | 2 400 | 8,00 | 61944 |
| | 340 | 37 | 174 000 | 204 000 | 5 200 | 1 800 | 2 200 | 11,5 | 16044 |
| | 340 | 56 | 247 000 | 290 000 | 7 350 | 1 800 | 2 200 | 18,5 | 6044 |
| | 400 | 65 | 296 000 | 365 000 | 8 800 | 1 500 | 1 800 | 37,0 | 6244 |
| | 460 | 88 | 410 000 | 520 000 | 12 000 | 1 300 | 1 600 | 72,5 | 6344 |
| 240 | 300 | 28 | 108 000 | 150 000 | 3 800 | 1 800 | 2 200 | 4,50 | 61848 |
| | 320 | 38 | 159 000 | 200 000 | 5 100 | 1 800 | 2 200 | 8,60 | 61948 |
| | 360 | 37 | 178 000 | 220 000 | 5 300 | 1 700 | 2 000 | 14,5 | 16048 |
| | 360 | 56 | 255 000 | 315 000 | 7 800 | 1 700 | 2 000 | 19,5 | 6048 |
| | 440 | 72 | 358 000 | 475 000 | 10 800 | 1 300 | 1 600 | 51,0 | 6248 |



Dimensions

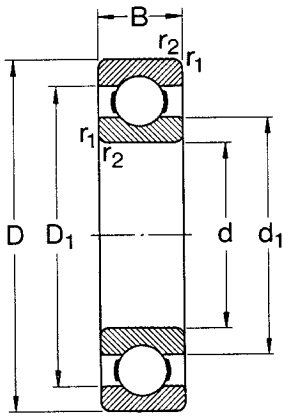
Abutment and fillet dimensions

| d | $d_1 \approx$ | $D_1 \approx$ | $r_{1,2} \text{ min}$ | $d_a \text{ min}$ | $D_a \text{ max}$ | $r_a \text{ max}$ |
|------------|---------------|---------------|-----------------------|-------------------|-------------------|-------------------|
| mm | | | mm | | | |
| 170 | 184 | 202 | 1,1 | 176,5 | 208,5 | 1 |
| | 189 | 212 | 2 | 179 | 221 | 2 |
| | 200 | 230 | 1,5 | 178 | 252 | 1,5 |
| | 198 | 233 | 2,1 | 181 | 249 | 2 |
| | 217 | 261 | 4 | 186 | 294 | 3 |
| | 229 | 300 | 4 | 186 | 344 | 3 |
| 180 | 194 | 212 | 1,1 | 186,5 | 218,5 | 1 |
| | 202 | 229 | 2 | 189 | 241 | 2 |
| | 213 | 247 | 2 | 189 | 271 | 2 |
| | 211 | 250 | 2,1 | 191 | 269 | 2 |
| | 225 | 275 | 4 | 196 | 304 | 3 |
| | 243 | 316 | 4 | 196 | 364 | 3 |
| 190 | 206 | 225 | 1,5 | 198 | 232 | 1,5 |
| | 212 | 239 | 2 | 199 | 251 | 2 |
| | 223 | 257 | 2 | 199 | 281 | 2 |
| | 221 | 260 | 2,1 | 201 | 279 | 2 |
| | 238 | 291 | 4 | 206 | 324 | 3 |
| | 258 | 332 | 5 | 210 | 380 | 4 |
| 200 | 216 | 235 | 1,5 | 208 | 242 | 1,5 |
| | 225 | 256 | 2,1 | 211 | 269 | 2 |
| | 236 | 274 | 2 | 209 | 301 | 2 |
| | 235 | 277 | 2,1 | 211 | 299 | 2 |
| | 253 | 304 | 4 | 216 | 344 | 3 |
| | 272 | 348 | 5 | 220 | 400 | 4 |
| 220 | 236 | 255 | 1,5 | 228 | 262 | 1,5 |
| | 245 | 276 | 2,1 | 231 | 289 | 2 |
| | 261 | 299 | 2,1 | 231 | 329 | 2 |
| | 257 | 304 | 3 | 233 | 327 | 2,5 |
| | 282 | 336 | 4 | 236 | 384 | 3 |
| | 300 | 381 | 5 | 240 | 440 | 4 |
| 240 | 259 | 282 | 2 | 249 | 291 | 2 |
| | 265 | 296 | 2,1 | 251 | 309 | 2 |
| | 281 | 319 | 2,1 | 251 | 349 | 2 |
| | 277 | 324 | 3 | 253 | 347 | 2,5 |
| | 308 | 373 | 4 | 256 | 424 | 3 |

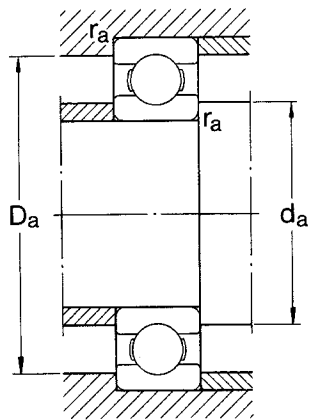
Deep groove ball bearings

single row

d 260–400 mm



| Principal dimensions | | | Basic load ratings | | Fatigue load limit P_u | Speed ratings | | Mass | Designation |
|----------------------|-----|----|--------------------|---------|-----------------------------|-----------------------|-------|------|--------------|
| d | D | B | C | C_0 | | Lubrication grease | oil | | |
| mm | | | N | N | N | r/min | | kg | – |
| 260 | 320 | 28 | 111 000 | 163 000 | 4 000 | 1 700 | 2 000 | 4,80 | 61852 |
| | 360 | 46 | 212 000 | 270 000 | 6 550 | 1 600 | 1 900 | 14,5 | 61952 |
| | 400 | 44 | 238 000 | 310 000 | 7 200 | 1 500 | 1 800 | 21,5 | 16052 |
| | 400 | 65 | 291 000 | 375 000 | 8 800 | 1 500 | 1 800 | 29,5 | 6052 |
| | 480 | 80 | 390 000 | 530 000 | 11 800 | 1 100 | 1 400 | 65,5 | 6252 |
| 280 | 350 | 33 | 138 000 | 200 000 | 4 750 | 1 600 | 1 900 | 7,40 | 61856 |
| | 380 | 46 | 216 000 | 285 000 | 6 700 | 1 500 | 1 800 | 15,5 | 61956 |
| | 420 | 44 | 242 000 | 335 000 | 7 500 | 1 400 | 1 700 | 23,0 | 16056 |
| | 420 | 65 | 302 000 | 405 000 | 9 300 | 1 400 | 1 700 | 31,0 | 6056 |
| | 500 | 80 | 423 000 | 600 000 | 12 900 | 1 100 | 1 400 | 71,0 | 6256 |
| 300 | 380 | 38 | 172 000 | 245 000 | 5 600 | 1 400 | 1 700 | 10,5 | 61860 |
| | 420 | 56 | 270 000 | 375 000 | 8 300 | 1 300 | 1 600 | 24,5 | 61960 |
| | 460 | 50 | 286 000 | 405 000 | 8 800 | 1 200 | 1 500 | 32,0 | 16060 |
| | 460 | 74 | 358 000 | 500 000 | 10 800 | 1 200 | 1 500 | 44,0 | 6060 |
| 320 | 400 | 38 | 172 000 | 255 000 | 5 700 | 1 300 | 1 600 | 11,0 | 61864 |
| | 440 | 56 | 276 000 | 400 000 | 8 650 | 1 200 | 1 500 | 25,5 | 61964 |
| | 480 | 50 | 281 000 | 405 000 | 8 650 | 1 100 | 1 400 | 34,0 | 16064 |
| | 480 | 74 | 371 000 | 540 000 | 11 400 | 1 100 | 1 400 | 46,0 | 6064 |
| 340 | 420 | 38 | 178 000 | 275 000 | 6 000 | 1 200 | 1 500 | 11,5 | 61868 |
| | 460 | 56 | 281 000 | 425 000 | 9 000 | 1 100 | 1 400 | 26,5 | 61968 |
| | 520 | 57 | 345 000 | 520 000 | 10 600 | 1 000 | 1 300 | 45,0 | 16068 |
| | 520 | 82 | 423 000 | 640 000 | 13 200 | 1 000 | 1 300 | 62,0 | 6068 |
| 360 | 440 | 38 | 182 000 | 285 000 | 6 100 | 1 100 | 1 400 | 12,0 | 61872 |
| | 480 | 56 | 291 000 | 450 000 | 9 150 | 1 100 | 1 400 | 28,0 | 61972 |
| | 540 | 57 | 351 000 | 550 000 | 11 000 | 1 000 | 1 300 | 49,0 | 16072 |
| | 540 | 82 | 462 000 | 735 000 | 11 500 | 1 000 | 1 300 | 64,5 | 6072 |
| 380 | 480 | 46 | 242 000 | 390 000 | 8 000 | 1 000 | 1 300 | 20,0 | 61876 |
| | 520 | 65 | 338 000 | 540 000 | 10 800 | 1 000 | 1 300 | 40,0 | 61976 |
| | 560 | 57 | 377 000 | 620 000 | 12 200 | 950 | 1 200 | 51,0 | 16076 |
| | 560 | 82 | 462 000 | 750 000 | 14 600 | 950 | 1 200 | 67,5 | 6076 |
| 400 | 500 | 46 | 247 000 | 405 000 | 8 150 | 1 000 | 1 300 | 20,5 | 61880 |
| | 540 | 65 | 345 000 | 570 000 | 11 200 | 950 | 1 200 | 41,5 | 61980 |
| | 600 | 90 | 520 000 | 865 000 | 16 300 | 900 | 1 100 | 87,5 | 6080 |

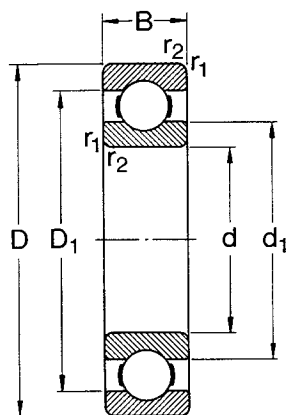


Dimensions

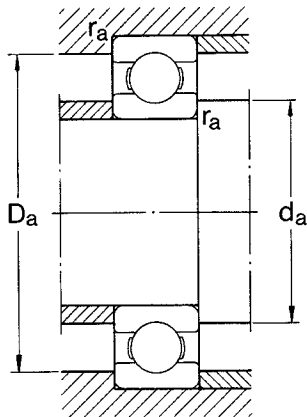
Abutment and fillet dimensions

| d | d_1 ≈ | D_1 ≈ | $r_{1,2}$ min | d_a min | D_a max | r_a max |
|------------|------------|------------|------------------|--------------|--------------|--------------|
| mm | | | mm | | | |
| 260 | 278 | 302 | 2 | 269 | 311 | 2 |
| | 291 | 330 | 2,1 | 271 | 349 | 2 |
| | 306 | 354 | 3 | 273 | 387 | 2,5 |
| | 304 | 357 | 4 | 276 | 384 | 3 |
| | 336 | 405 | 5 | 280 | 460 | 4 |
| 280 | 302 | 329 | 2 | 289 | 341 | 2 |
| | 311 | 350 | 2,1 | 291 | 369 | 2 |
| | 326 | 374 | 3 | 293 | 407 | 2,5 |
| | 324 | 376 | 4 | 296 | 404 | 3 |
| | 353 | 427 | 5 | 300 | 480 | 4 |
| 300 | 325 | 356 | 2,1 | 311 | 369 | 2 |
| | 337 | 384 | 3 | 313 | 407 | 2,5 |
| | 352 | 408 | 4 | 316 | 444 | 3 |
| | 350 | 410 | 4 | 316 | 444 | 3 |
| 320 | 345 | 376 | 2,1 | 331 | 389 | 2 |
| | 358 | 402 | 3 | 333 | 427 | 2,5 |
| | 372 | 428 | 4 | 336 | 464 | 3 |
| | 370 | 431 | 4 | 336 | 464 | 3 |
| 340 | 365 | 396 | 2,1 | 351 | 409 | 2 |
| | 378 | 422 | 3 | 353 | 447 | 2,5 |
| | 398 | 462 | 4 | 356 | 504 | 3 |
| | 396 | 462 | 5 | 360 | 500 | 4 |
| 360 | 385 | 416 | 2,1 | 371 | 429 | 2 |
| | 398 | 442 | 3 | 373 | 467 | 2,5 |
| | 418 | 482 | 4 | 376 | 524 | 3 |
| | 416 | 485 | 5 | 380 | 520 | 4 |
| 380 | 412 | 449 | 2,1 | 391 | 469 | 2 |
| | 425 | 475 | 4 | 396 | 504 | 3 |
| | 438 | 502 | 4 | 396 | 544 | 3 |
| | 436 | 502 | 5 | 400 | 540 | 4 |
| 400 | 432 | 471 | 2,1 | 411 | 489 | 2 |
| | 445 | 495 | 4 | 416 | 524 | 3 |
| | 462 | 536 | 5 | 420 | 580 | 4 |

Deep groove ball bearings
single row
d 420–710 mm



| Principal dimensions | | | Basic load ratings | | Fatigue load limit P_u | Speed ratings | | Mass | Designation |
|----------------------|-------|-----|--------------------|-----------------|-----------------------------|---------------------------|-------|------|-------------|
| d | D | B | dynamic C | static C_0 | | Lubrication grease oil | | | |
| mm | | | N | | N | r/min | | kg | – |
| 420 | 520 | 46 | 251 000 | 425 000 | 8 300 | 950 | 1 200 | 21,5 | 61884 |
| | 560 | 65 | 351 000 | 600 000 | 11 400 | 900 | 1 100 | 43,0 | 61984 |
| | 620 | 90 | 507 000 | 880 000 | 16 300 | 900 | 1 100 | 91,5 | 6084 |
| 440 | 540 | 46 | 255 000 | 440 000 | 8 500 | 900 | 1 100 | 22,5 | 61888 |
| | 600 | 74 | 410 000 | 720 000 | 13 200 | 900 | 1 100 | 60,5 | 61988 |
| | 650 | 94 | 553 000 | 965 000 | 17 600 | 850 | 1 000 | 105 | 6088 |
| 460 | 580 | 56 | 319 000 | 570 000 | 10 600 | 900 | 1 100 | 35,0 | 61892 |
| | 620 | 74 | 423 000 | 750 000 | 13 700 | 850 | 1 000 | 62,5 | 61992 |
| | 680 | 100 | 582 000 | 1 060 000 | 19 000 | 800 | 950 | 120 | 6092 |
| 480 | 600 | 56 | 325 000 | 600 000 | 10 800 | 850 | 1 000 | 36,5 | 61896 |
| | 650 | 78 | 449 000 | 815 000 | 14 600 | 800 | 950 | 74,0 | 61996 |
| | 700 | 100 | 618 000 | 1 140 000 | 20 000 | 750 | 900 | 125 | 6096 |
| 500 | 620 | 56 | 332 000 | 620 000 | 11 200 | 800 | 950 | 37,5 | 618/500 |
| | 670 | 78 | 462 000 | 865 000 | 15 000 | 750 | 900 | 77,0 | 619/500 |
| | 720 | 100 | 605 000 | 1 140 000 | 19 600 | 750 | 900 | 135 | 60/500 |
| 530 | 650 | 56 | 332 000 | 655 000 | 11 200 | 750 | 900 | 39,5 | 618/530 |
| | 710 | 82 | 488 000 | 930 000 | 15 600 | 700 | 850 | 90,5 | 619/530 |
| | 780 | 112 | 650 000 | 1 270 000 | 20 800 | 670 | 800 | 185 | 60/530 |
| 560 | 680 | 56 | 345 000 | 695 000 | 11 800 | 700 | 850 | 42,0 | 618/560 |
| | 750 | 85 | 494 000 | 980 000 | 16 300 | 670 | 800 | 105 | 619/560 |
| | 820 | 115 | 663 000 | 1 470 000 | 22 000 | 630 | 750 | 210 | 60/560 |
| 600 | 730 | 60 | 364 000 | 765 000 | 12 500 | 670 | 800 | 52,0 | 618/600 |
| | 800 | 90 | 585 000 | 1 220 000 | 19 600 | 630 | 750 | 125 | 619/600 |
| 630 | 780 | 69 | 442 000 | 965 000 | 15 300 | 630 | 750 | 73,0 | 618/630 |
| | 850 | 100 | 624 000 | 1 340 000 | 21 200 | 600 | 700 | 160 | 619/630 |
| | 920 | 128 | 819 000 | 1 760 000 | 27 000 | 560 | 670 | 285 | 60/630 |
| 670 | 820 | 69 | 442 000 | 1 000 000 | 15 600 | 560 | 670 | 77,5 | 618/670 |
| | 900 | 103 | 676 000 | 1 500 000 | 22 400 | 530 | 630 | 185 | 619/670 |
| | 980 | 136 | 904 000 | 2 040 000 | 30 000 | 500 | 600 | 345 | 60/670 |
| 710 | 870 | 74 | 475 000 | 1 100 000 | 16 600 | 530 | 630 | 93,5 | 618/710 |
| | 950 | 106 | 663 000 | 1 500 000 | 22 000 | 500 | 600 | 220 | 619/710 |
| | 1 030 | 140 | 956 000 | 2 200 000 | 31 500 | 480 | 560 | 375 | 60/710 |



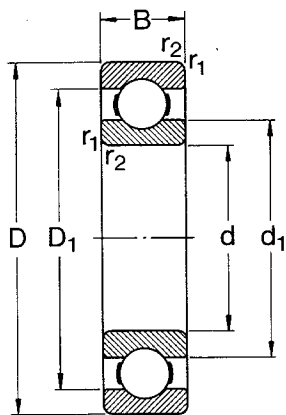
Dimensions

Abutment and fillet dimensions

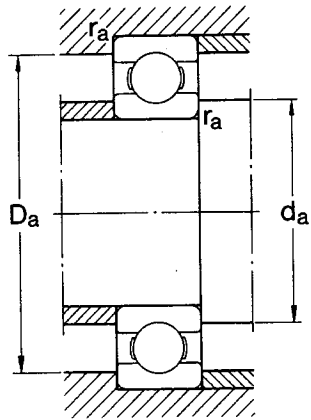
| d | d_1 ≈ | D_1 ≈ | $r_{1,2}$ min | d_a min | D_a max | r_a max |
|------------|------------|------------|------------------|--------------|--------------|--------------|
| mm | | | mm | | | |
| 420 | 452 | 491 | 2,1 | 431 | 509 | 2 |
| | 465 | 515 | 4 | 436 | 544 | 3 |
| | 482 | 558 | 5 | 440 | 600 | 4 |
| 440 | 472 | 510 | 2,1 | 451 | 529 | 2 |
| | 492 | 548 | 4 | 456 | 584 | 3 |
| | 505 | 586 | 6 | 466 | 624 | 5 |
| 460 | 498 | 542 | 3 | 473 | 567 | 2,5 |
| | 512 | 568 | 4 | 476 | 604 | 3 |
| | 528 | 614 | 6 | 486 | 654 | 5 |
| 480 | 518 | 564 | 3 | 493 | 587 | 2,5 |
| | 535 | 595 | 5 | 500 | 630 | 4 |
| | 548 | 630 | 6 | 506 | 674 | 5 |
| 500 | 538 | 582 | 3 | 513 | 607 | 2,5 |
| | 555 | 615 | 5 | 520 | 650 | 4 |
| | 568 | 650 | 6 | 526 | 694 | 5 |
| 530 | 568 | 614 | 3 | 543 | 637 | 2,5 |
| | 587 | 653 | 5 | 550 | 690 | 4 |
| | 613 | 697 | 6 | 556 | 754 | 5 |
| 560 | 598 | 644 | 3 | 573 | 667 | 2,5 |
| | 622 | 688 | 5 | 580 | 730 | 4 |
| | 648 | 732 | 6 | 586 | 794 | 5 |
| 600 | 642 | 688 | 3 | 613 | 717 | 2,5 |
| | 664 | 736 | 5 | 620 | 780 | 4 |
| 630 | 678 | 732 | 4 | 646 | 764 | 3 |
| | 702 | 778 | 6 | 656 | 824 | 5 |
| | 725 | 825 | 7,5 | 663 | 887 | 6 |
| 670 | 718 | 772 | 4 | 686 | 804 | 3 |
| | 745 | 825 | 6 | 696 | 874 | 5 |
| | 772 | 878 | 7,5 | 703 | 947 | 6 |
| 710 | 761 | 819 | 4 | 726 | 854 | 3 |
| | 790 | 870 | 6 | 736 | 924 | 5 |
| | 813 | 927 | 7,5 | 743 | 997 | 6 |

Deep groove ball bearings single row

d 750–1 060 mm



| Principal dimensions | | | Basic load ratings | | Fatigue load limit P_u | Speed ratings | | Mass | Designation |
|----------------------|-------|-----|--------------------|-----------------|-----------------------------|---------------------------|-----|------|-----------------|
| d | D | B | dynamic C | static C_0 | | Lubrication grease oil | | | |
| mm | | | N | | N | r/min | | kg | – |
| 750 | 920 | 78 | 527 000 | 1 250 000 | 18 300 | 500 | 600 | 110 | 618/750 |
| | 1 000 | 112 | 761 000 | 1 800 000 | 25 500 | 480 | 560 | 255 | 619/750 |
| 800 | 980 | 82 | 559 000 | 1 370 000 | 19 300 | 450 | 530 | 130 | 618/800 |
| 850 | 1 030 | 82 | 559 000 | 1 430 000 | 19 600 | 430 | 500 | 140 | 618/850 |
| 900 | 1 090 | 85 | 618 000 | 1 600 000 | 21 600 | 380 | 450 | 160 | 618/900 |
| 1 000 | 1 220 | 100 | 637 000 | 1 800 000 | 22 800 | 340 | 400 | 245 | 618/1000 |
| 1 060 | 1 280 | 100 | 728 000 | 2 120 000 | 26 500 | 300 | 360 | 260 | 618/1060 |



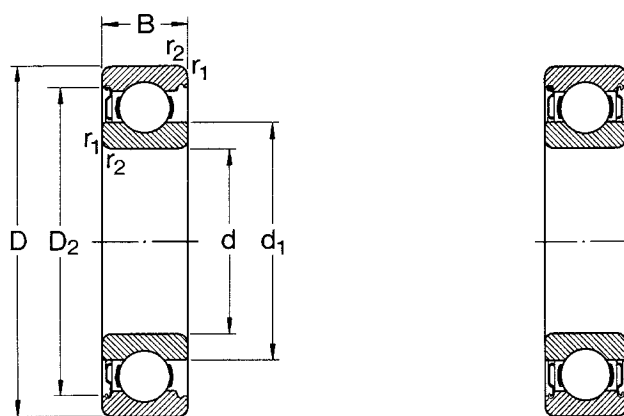
Dimensions

Abutment and fillet dimensions

| d | d_1 | D_1 | $r_{1,2 \min}$ | $d_{a \min}$ | $D_{a \max}$ | $r_{a \max}$ |
|--------------|------------|------------|----------------|--------------|--------------|--------------|
| mm | | | mm | | | |
| 750 | 804 835 | 866 915 | 5 6 | 770 776 | 900 974 | 4 5 |
| 800 | 857 | 923 | 5 | 820 | 960 | 4 |
| 850 | 907 | 973 | 5 | 870 | 1 010 | 4 |
| 900 | 961 | 1 030 | 5 | 920 | 1 070 | 4 |
| 1 000 | 1 076 | 1 145 | 6 | 1 026 | 1 194 | 5 |
| 1 060 | 1 132 | 1 209 | 6 | 1 086 | 1 254 | 5 |

Deep groove ball bearings single row, with shield(s)

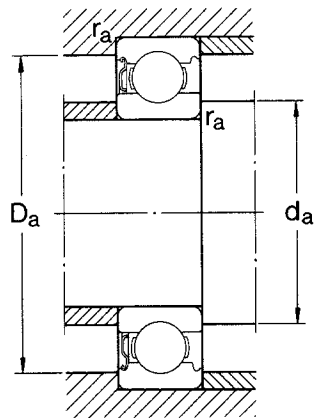
d 3–20 mm



With one Z shield

With two Z shields

| Principal dimensions | | | Basic load ratings | | Fatigue load limit P_u | Speed ratings | | Mass | Designations | |
|----------------------|----|----|--------------------|-------|-----------------------------|--------------------|--------|--------|--------------------------|-----------------|
| d | D | B | C | C_0 | | Lubrication grease | oil | | Bearings with one shield | two shields |
| mm | | | N | | N | r/min | | kg | – | |
| 3 | 10 | 4 | 488 | 146 | 6 | 60 000 | 70 000 | 0,0015 | 623-Z | 623-2Z |
| | | | | | | | | | | |
| 4 | 13 | 5 | 975 | 305 | 14 | 48 000 | 56 000 | 0,0031 | 624-Z | 624-2Z |
| | 16 | 5 | 1 110 | 380 | 16 | 43 000 | 50 000 | 0,0054 | 634-Z | 634-2Z |
| 5 | 16 | 5 | 1 110 | 380 | 16 | 43 000 | 50 000 | 0,0050 | 625-Z | 625-2Z |
| | 19 | 6 | 1 720 | 620 | 26 | 36 000 | 43 000 | 0,0090 | 635-Z | 635-2Z |
| 6 | 19 | 6 | 1 720 | 620 | 26 | 36 000 | 43 000 | 0,0084 | 626-Z | 626-2Z |
| | | | | | | | | | | |
| 7 | 19 | 6 | 1 720 | 620 | 26 | 38 000 | 45 000 | 0,0075 | 607-Z | 607-2Z |
| | 22 | 7 | 3 250 | 1 370 | 57 | 32 000 | 38 000 | 0,013 | 627-Z | 627-2Z |
| 8 | 22 | 7 | 3 250 | 1 370 | 57 | 36 000 | 43 000 | 0,012 | 608-Z | 608-2Z |
| | | | | | | | | | | |
| 9 | 24 | 7 | 3 710 | 1 660 | 71 | 32 000 | 38 000 | 0,014 | 609-Z | 609-2Z |
| | 26 | 8 | 4 620 | 1 960 | 83 | 28 000 | 34 000 | 0,020 | 629-Z | 629-2Z |
| 10 | 26 | 8 | 4 620 | 1 960 | 83 | 30 000 | 36 000 | 0,019 | 6000-Z | 6000-2Z |
| | 30 | 9 | 5 070 | 2 360 | 100 | 24 000 | 30 000 | 0,032 | 6200-Z | 6200-2Z |
| | 35 | 11 | 8 060 | 3 400 | 143 | 20 000 | 26 000 | 0,053 | 6300-Z | 6300-2Z |
| 12 | 28 | 8 | 5 070 | 2 360 | 100 | 26 000 | 32 000 | 0,022 | 6001-Z | 6001-2Z |
| | 32 | 10 | 6 890 | 3 100 | 132 | 22 000 | 28 000 | 0,037 | 6201-Z | 6201-2Z |
| | 37 | 12 | 9 750 | 4 150 | 176 | 19 000 | 24 000 | 0,060 | 6301-Z | 6301-2Z |
| 15 | 32 | 8 | 5 590 | 2 850 | 120 | 22 000 | 28 000 | 0,025 | 16002-Z | 16002-2Z |
| | 32 | 9 | 5 590 | 2 850 | 120 | 22 000 | 28 000 | 0,030 | 6002-Z | 6002-2Z |
| | 35 | 11 | 7 800 | 3 750 | 160 | 19 000 | 24 000 | 0,045 | 6202-Z | 6202-2Z |
| | 42 | 13 | 11 400 | 5 400 | 228 | 17 000 | 20 000 | 0,082 | 6302-Z | 6302-2Z |
| 17 | 35 | 8 | 6 050 | 3 250 | 137 | 19 000 | 24 000 | 0,032 | – | 16003-2Z |
| | 35 | 10 | 6 050 | 3 250 | 137 | 19 000 | 24 000 | 0,039 | 6003-Z | 6003-2Z |
| | 40 | 12 | 9 560 | 4 750 | 200 | 17 000 | 20 000 | 0,065 | 6203-Z | 6203-2Z |
| | 47 | 14 | 13 500 | 6 550 | 275 | 16 000 | 19 000 | 0,12 | 6303-Z | 6303-2Z |
| 20 | 42 | 12 | 9 360 | 5 000 | 212 | 17 000 | 20 000 | 0,069 | 6004-Z | 6004-2Z |
| | 47 | 14 | 12 700 | 6 550 | 280 | 15 000 | 18 000 | 0,11 | 6204-Z | 6204-2Z |
| | 52 | 15 | 15 900 | 7 800 | 335 | 13 000 | 16 000 | 0,14 | 6304-Z | 6304-2Z |



Dimensions **Abutment and fillet dimensions**

d d_1 D_2 $r_{1,2}$ d_a D_a r_a
 \approx \approx min min min max max

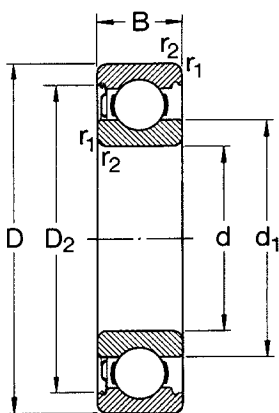
mm

mm

| | | | | | | |
|----|------------------------------|------------------------------|------------------------|----------------------|----------------------|------------------------|
| 3 | 5,2 | 8,2 | 0,15 | 4,2 | 8,8 | 0,1 |
| 4 | 6,7 8,4 | 11,2 13,3 | 0,2 0,3 | 5,6 6 | 11,4 14 | 0,2 0,3 |
| 5 | 8,4 10,7 | 13,3 16,5 | 0,3 0,3 | 7 7 | 14 17 | 0,3 0,3 |
| 6 | 10,7 | 16,5 | 0,3 | 8 | 17 | 0,3 |
| 7 | 10,7 11,8 | 16,5 19 | 0,3 0,3 | 9 9 | 17 20 | 0,3 0,3 |
| 8 | 11,8 | 19 | 0,3 | 10 | 20 | 0,3 |
| 9 | 14,2 14,4 | 21,2 22,6 | 0,3 0,3 | 11 11 | 22 24 | 0,3 0,3 |
| 10 | 14,4 16,7 17,5 | 22,6 24,8 28,7 | 0,3 0,6 0,6 | 12 14 14 | 24 26 31 | 0,3 0,6 0,6 |
| 12 | 16,7 18,2 19,5 | 24,8 27,4 31,5 | 0,3 0,6 1 | 14 16 17 | 26 28 32 | 0,3 0,6 1 |
| 15 | 20,2 20,2 21,5 23,7 | 28,2 28,2 30,4 36,3 | 0,3 0,3 0,6 1 | 17 17 19 20 | 30 30 31 37 | 0,3 0,3 0,6 1 |
| 17 | 22,7 22,7 24,2 26,5 | 31,2 31,2 35 39,6 | 0,3 0,3 0,6 1 | 19 19 21 22 | 33 33 36 42 | 0,3 0,3 0,6 1 |
| 20 | 27,2 28,5 30,3 | 37,2 40,6 44,8 | 0,6 1 1,1 | 24 25 26,5 | 38 42 45,5 | 0,6 1 1 |

Deep groove ball bearings single row, with shield(s)

d 25–70 mm



With one Z shield
bearings with
 $D \leq 110$ mm



bearings with
 $D > 110$ mm

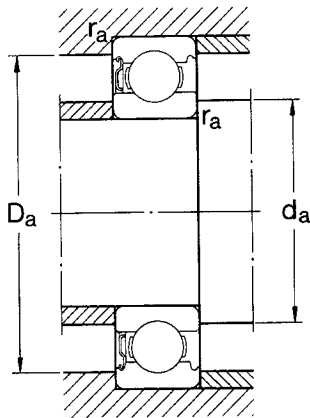


With two Z shields
bearings with
 $D \leq 110$ mm



bearings with
 $D > 110$ mm

| Principal dimensions | | | Basic load ratings | | Fatigue load limit P_u | Speed ratings | | Mass | Designations | |
|----------------------|-----|----|--------------------|-----------------|-----------------------------|-----------------------|--------|-------|-----------------------------|----------------|
| d | D | B | dynamic C | static C_0 | | Lubrication grease | oil | | Bearings with one shield | two shields |
| mm | | | N | N | N | r/min | | kg | – | |
| 25 | 47 | 12 | 11 200 | 6 550 | 275 | 15 000 | 18 000 | 0,080 | 6005-Z | 6005-2Z |
| | 52 | 15 | 14 000 | 7 800 | 335 | 12 000 | 15 000 | 0,13 | 6205-Z | 6205-2Z |
| | 62 | 17 | 22 500 | 11 600 | 490 | 11 000 | 14 000 | 0,23 | 6305-Z | 6305-2Z |
| 30 | 55 | 13 | 13 300 | 8 300 | 355 | 12 000 | 15 000 | 0,12 | 6006-Z | 6006-2Z |
| | 62 | 16 | 19 500 | 11 200 | 475 | 10 000 | 13 000 | 0,20 | 6206-Z | 6206-2Z |
| | 72 | 19 | 28 100 | 16 000 | 670 | 9 000 | 11 000 | 0,35 | 6306-Z | 6306-2Z |
| 35 | 62 | 14 | 15 900 | 10 200 | 440 | 10 000 | 13 000 | 0,16 | 6007-Z | 6007-2Z |
| | 72 | 17 | 25 500 | 15 300 | 655 | 9 000 | 11 000 | 0,29 | 6207-Z | 6207-2Z |
| | 80 | 21 | 33 200 | 19 000 | 815 | 8 500 | 10 000 | 0,46 | 6307-Z | 6307-2Z |
| 40 | 68 | 15 | 16 800 | 11 600 | 490 | 9 500 | 12 000 | 0,19 | 6008-Z | 6008-2Z |
| | 80 | 18 | 30 700 | 19 000 | 800 | 8 500 | 10 000 | 0,37 | 6208-Z | 6208-2Z |
| | 90 | 23 | 41 000 | 24 000 | 1 020 | 7 500 | 9 000 | 0,63 | 6308-Z | 6308-2Z |
| 45 | 75 | 16 | 20 800 | 14 600 | 640 | 9 000 | 11 000 | 0,25 | 6009-Z | 6009-2Z |
| | 85 | 19 | 33 200 | 21 600 | 915 | 7 500 | 9 000 | 0,41 | 6209-Z | 6209-2Z |
| | 100 | 25 | 52 700 | 31 500 | 1 340 | 6 700 | 8 000 | 0,83 | 6309-Z | 6309-2Z |
| 50 | 80 | 16 | 21 600 | 16 000 | 710 | 8 500 | 10 000 | 0,26 | 6010-Z | 6010-2Z |
| | 90 | 20 | 35 100 | 23 200 | 980 | 7 000 | 8 500 | 0,46 | 6210-Z | 6210-2Z |
| | 110 | 27 | 61 800 | 38 000 | 1 600 | 6 300 | 7 500 | 1,05 | 6310-Z | 6310-2Z |
| 55 | 90 | 18 | 28 100 | 21 200 | 900 | 7 500 | 9 000 | 0,39 | 6011-Z | 6011-2Z |
| | 100 | 21 | 43 600 | 29 000 | 1 250 | 6 300 | 7 500 | 0,61 | 6211-Z | 6211-2Z |
| | 120 | 29 | 71 500 | 45 000 | 1 900 | 5 600 | 6 700 | 1,35 | 6311-Z | 6311-2Z |
| 60 | 95 | 18 | 29 600 | 23 200 | 980 | 6 700 | 8 000 | 0,42 | 6012-Z | 6012-2Z |
| | 110 | 22 | 52 700 | 36 000 | 1 530 | 6 000 | 7 000 | 0,78 | 6212-Z | 6212-2Z |
| | 130 | 31 | 81 900 | 52 000 | 2 200 | 5 000 | 6 000 | 1,70 | 6312-Z | 6312-2Z |
| 65 | 100 | 18 | 30 700 | 25 000 | 1 060 | 6 300 | 7 500 | 0,44 | 6013-Z | 6013-2Z |
| | 120 | 23 | 55 900 | 40 500 | 1 730 | 5 300 | 6 300 | 0,99 | 6213-Z | 6213-2Z |
| | 140 | 33 | 92 300 | 60 000 | 2 500 | 4 800 | 5 600 | 2,10 | 6313-Z | 6313-2Z |
| 70 | 110 | 20 | 37 700 | 31 000 | 1 320 | 6 000 | 7 000 | 0,60 | 6014-Z | 6014-2Z |
| | 125 | 24 | 60 500 | 45 000 | 1 900 | 5 000 | 6 000 | 1,10 | 6214-Z | 6214-2Z |
| | 150 | 35 | 104 000 | 68 000 | 2 750 | 4 500 | 5 300 | 2,50 | 6314-Z | 6314-2Z |



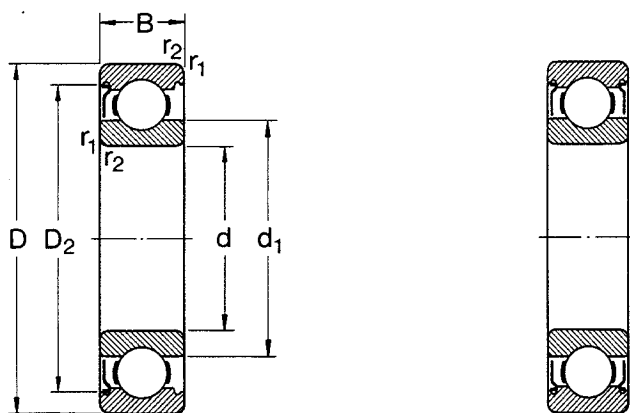
Dimensions

Abutment and fillet dimensions

| d | d_1 ≈ | D_2 ≈ | $r_{1,2}$ min | d_a min | D_a max | r_a max |
|----|------------|------------|------------------|--------------|--------------|--------------|
| mm | | | mm | | | |
| 25 | 32 | 42,2 | 0,6 | 29 | 43 | 0,6 |
| | 34 | 46,3 | 1 | 30 | 47 | 1 |
| | 36,6 | 52,7 | 1,1 | 31,5 | 55,5 | 1 |
| 30 | 38,2 | 49 | 1 | 35 | 50 | 1 |
| | 40,3 | 54,1 | 1 | 35 | 57 | 1 |
| | 44,6 | 61,9 | 1,1 | 36,5 | 65,5 | 1 |
| 35 | 43,7 | 55,7 | 1 | 40 | 57 | 1 |
| | 46,9 | 62,7 | 1,1 | 41,5 | 65,5 | 1 |
| | 49,5 | 69,2 | 1,5 | 43 | 72 | 1,5 |
| 40 | 49,2 | 61,1 | 1 | 45 | 63 | 1 |
| | 52,6 | 69,8 | 1,1 | 46,5 | 73,5 | 1 |
| | 56,1 | 77,7 | 1,5 | 48 | 82 | 1,5 |
| 45 | 54,7 | 67,8 | 1 | 50 | 70 | 1 |
| | 57,6 | 75,2 | 1,1 | 51,5 | 78,5 | 1 |
| | 62,1 | 86,7 | 1,5 | 53 | 92 | 1,5 |
| 50 | 59,7 | 72,8 | 1 | 55 | 75 | 1 |
| | 62,5 | 81,7 | 1,1 | 56,5 | 83,5 | 1 |
| | 68,7 | 95,2 | 2 | 59 | 101 | 2 |
| 55 | 66,3 | 81,5 | 1,1 | 61,5 | 83,5 | 1 |
| | 69 | 89,4 | 1,5 | 63 | 92 | 1,5 |
| | 75,3 | 104 | 2 | 64 | 111 | 2 |
| 60 | 71,3 | 86,5 | 1,1 | 66,5 | 88,5 | 1 |
| | 75,5 | 97 | 1,5 | 68 | 102 | 1,5 |
| | 81,8 | 113 | 2,1 | 71 | 119 | 2 |
| 65 | 76,3 | 91,5 | 1,1 | 71,5 | 93,5 | 1 |
| | 83,3 | 106 | 1,5 | 73 | 112 | 1,5 |
| | 88,3 | 122 | 2,1 | 76 | 129 | 2 |
| 70 | 82,8 | 99,9 | 1,1 | 76,5 | 103,5 | 1 |
| | 87 | 111 | 1,5 | 78 | 117 | 1,5 |
| | 94,9 | 130 | 2,1 | 81 | 139 | 2 |

Deep groove ball bearings single row, with shield(s)

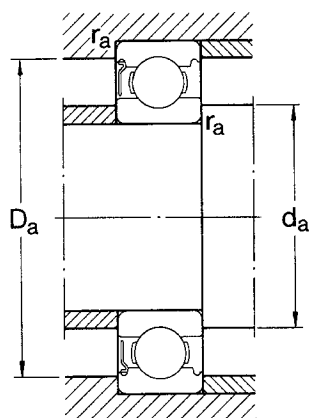
d 75–160 mm



With one Z shield

With two Z shields

| Principal dimensions | | | Basic load ratings | | Fatigue load limit P_u | Speed ratings | | Mass | Designations | |
|----------------------|-----|----|--------------------|-----------------|-----------------------------|-----------------------|-------|------|-----------------------------|-------------|
| d | D | B | dynamic C | static C_0 | | Lubrication grease | oil | | Bearings with one shield | two shields |
| mm | | | N | | N | r/min | | kg | – | |
| 75 | 115 | 20 | 39 700 | 33 500 | 1 430 | 5 600 | 6 700 | 0,64 | 6015-Z | 6015-2Z |
| | 130 | 25 | 66 300 | 49 000 | 2 040 | 4 800 | 5 600 | 1,20 | 6215-Z | 6215-2Z |
| | 160 | 37 | 114 000 | 76 500 | 3 000 | 4 300 | 5 000 | 3,00 | 6315-Z | 6315-2Z |
| 80 | 125 | 22 | 47 500 | 40 000 | 1 660 | 5 300 | 6 300 | 0,85 | 6016-Z | 6016-2Z |
| | 140 | 26 | 70 200 | 55 000 | 2 200 | 4 500 | 5 300 | 1,40 | 6216-Z | 6216-2Z |
| | 170 | 39 | 124 000 | 86 500 | 3 250 | 3 800 | 4 500 | 3,60 | 6316-Z | 6316-2Z |
| 85 | 130 | 22 | 49 400 | 43 000 | 1 760 | 5 000 | 6 000 | 0,89 | 6017-Z | 6017-2Z |
| | 150 | 28 | 83 200 | 64 000 | 2 500 | 4 300 | 5 000 | 1,80 | 6217-Z | 6217-2Z |
| | 180 | 41 | 133 000 | 96 500 | 3 550 | 3 600 | 4 300 | 4,25 | 6317-Z | 6317-2Z |
| 90 | 140 | 24 | 58 500 | 50 000 | 1 960 | 4 800 | 5 600 | 1,15 | 6018-Z | 6018-2Z |
| | 160 | 30 | 95 600 | 73 500 | 2 800 | 3 800 | 4 500 | 2,15 | 6218-Z | 6218-2Z |
| | 190 | 43 | 143 000 | 108 000 | 3 800 | 3 400 | 4 000 | 4,90 | 6318-Z | 6318-2Z |
| 95 | 145 | 24 | 60 500 | 54 000 | 2 080 | 4 500 | 5 300 | 1,20 | 6019-Z | 6019-2Z |
| | 170 | 32 | 108 000 | 81 500 | 3 000 | 3 600 | 4 300 | 2,60 | 6219-Z | 6219-2Z |
| | 200 | 45 | 153 000 | 118 000 | 4 150 | 3 200 | 3 800 | 5,65 | 6319-Z | 6319-2Z |
| 100 | 150 | 24 | 60 500 | 54 000 | 2 040 | 4 300 | 5 000 | 1,25 | 6020-Z | 6020-2Z |
| | 180 | 34 | 124 000 | 93 000 | 3 350 | 3 400 | 4 000 | 3,15 | 6220-Z | 6220-2Z |
| | 215 | 47 | 174 000 | 140 000 | 4 750 | 3 000 | 3 600 | 7,00 | 6320-Z | 6320-2Z |
| 105 | 160 | 26 | 72 800 | 65 500 | 2 400 | 4 000 | 4 800 | 1,60 | 6021-Z | 6021-2Z |
| | 190 | 36 | 133 000 | 104 000 | 3 650 | 3 200 | 3 800 | 3,70 | 6221-Z | 6221-2Z |
| | 225 | 49 | 182 000 | 153 000 | 5 100 | 2 800 | 3 400 | 8,25 | 6321-Z | 6321-2Z |
| 110 | 170 | 28 | 81 900 | 73 500 | 2 600 | 3 800 | 4 500 | 1,95 | 6022-Z | 6022-2Z |
| | 200 | 38 | 143 000 | 118 000 | 4 000 | 3 000 | 3 600 | 4,35 | 6222-Z | 6222-2Z |
| | 240 | 50 | 203 000 | 180 000 | 5 700 | 2 600 | 3 200 | 9,55 | 6322-Z | – |
| 120 | 180 | 28 | 85 200 | 80 000 | 2 750 | 3 400 | 4 000 | 2,05 | 6024-Z | 6024-2Z |
| | 215 | 40 | 146 000 | 118 000 | 3 900 | 2 800 | 3 400 | 5,15 | 6224-Z | 6224-2Z |
| 130 | 200 | 33 | 106 000 | 100 000 | 3 350 | 3 200 | 3 800 | 3,15 | 6026-Z | 6026-2Z |
| | 230 | 40 | 156 000 | 132 000 | 4 150 | 2 600 | 3 200 | 5,80 | 6226-Z | 6226-2Z |
| 140 | 210 | 33 | 111 000 | 108 000 | 3 450 | 3 000 | 3 600 | 3,35 | 6028-Z | 6028-2Z |
| 150 | 225 | 35 | 125 000 | 125 000 | 3 900 | 2 600 | 3 200 | 4,80 | 6030-Z | 6030-2Z |
| 160 | 240 | 38 | 143 000 | 143 000 | 4 300 | 2 400 | 3 000 | 5,90 | 6032-Z | 6032-2Z |



Dimensions

Abutment and fillet dimensions

d d₁ D₂ r_{1,2} d_a D_a r_a
 ≈ ≈
 min min max

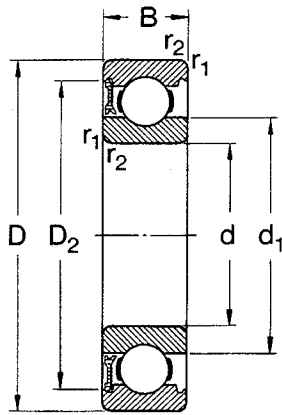
mm

mm

| | | | | | | |
|------------|------|-----|-----|------|-------|-----|
| 75 | 87,8 | 105 | 1,1 | 81,5 | 108,5 | 1 |
| | 92 | 117 | 1,5 | 83 | 122 | 1,5 |
| | 101 | 139 | 2,1 | 86 | 149 | 2 |
| 80 | 94,4 | 115 | 1,1 | 86,5 | 118,5 | 1 |
| | 101 | 127 | 2 | 89 | 131 | 2 |
| | 108 | 147 | 2,1 | 91 | 159 | 2 |
| 85 | 99,4 | 120 | 1,1 | 91,5 | 123,5 | 1 |
| | 106 | 135 | 2 | 94 | 141 | 2 |
| | 114 | 156 | 3 | 98 | 167 | 2,5 |
| 90 | 105 | 129 | 1,5 | 98 | 132 | 1,5 |
| | 112 | 143 | 2 | 99 | 151 | 2 |
| | 121 | 164 | 3 | 103 | 177 | 2,5 |
| 95 | 110 | 132 | 1,5 | 103 | 137 | 1,5 |
| | 118 | 152 | 2 | 106 | 159 | 2 |
| | 127 | 172 | 3 | 108 | 187 | 2,5 |
| 100 | 115 | 139 | 1,5 | 108 | 142 | 1,5 |
| | 124 | 160 | 2,1 | 111 | 169 | 2 |
| | 135 | 184 | 3 | 113 | 202 | 2,5 |
| 105 | 122 | 147 | 2 | 114 | 151 | 2 |
| | 131 | 167 | 2,1 | 116 | 179 | 2 |
| | 141 | 193 | 3 | 118 | 212 | 2,5 |
| 110 | 129 | 156 | 2 | 119 | 161 | 2 |
| | 138 | 177 | 2,1 | 121 | 189 | 2 |
| | 149 | 205 | 3 | 123 | 227 | 2,5 |
| 120 | 139 | 166 | 2 | 129 | 171 | 2 |
| | 150 | 189 | 2,1 | 131 | 204 | 2 |
| 130 | 152 | 183 | 2 | 139 | 191 | 2 |
| | 160 | 202 | 3 | 143 | 217 | 2,5 |
| 140 | 162 | 192 | 2 | 149 | 201 | 2 |
| 150 | 174 | 206 | 2,1 | 161 | 214 | 2 |
| 160 | 185 | 219 | 2,1 | 171 | 229 | 2 |

Deep groove ball bearings single row, with low-friction seal(s)

d 6–25 mm

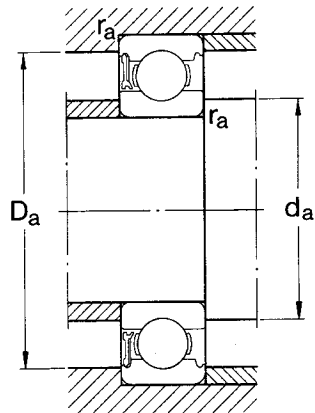


With one RZ seal



With two RZ seals

| Principal dimensions | | | Basic load ratings | | Fatigue load limit P_u | Speed ratings | | Mass | Designations | |
|----------------------|----|----|--------------------|-----------------|-----------------------------|-----------------------|--------|--------|---------------------------|------------------|
| d | D | B | dynamic C | static C_0 | | Lubrication grease | oil | | Bearings with one seal | two seals |
| mm | | | N | | N | r/min | | kg | – | |
| 6 | 19 | 6 | 1 720 | 620 | 26 | 36 000 | 43 000 | 0,0084 | 626-RZ | 626-2RZ |
| 7 | 22 | 7 | 3 250 | 1 370 | 57 | 32 000 | 38 000 | 0,012 | 627-RZ | 627-2RZ |
| 8 | 22 | 7 | 3 250 | 1 370 | 57 | 32 000 | 38 000 | 0,012 | 608-RZ | 608-2RZ |
| 9 | 24 | 7 | 3 710 | 1 660 | 71 | 32 000 | 38 000 | 0,014 | 609-RZ | 609-2RZ |
| | 26 | 8 | 4 620 | 1 960 | 83 | 28 000 | 34 000 | 0,020 | 629-RZ | 629-2RZ |
| 10 | 19 | 5 | 1 380 | 585 | 25 | 36 000 | 43 000 | 0,0055 | 61800-RZ | 61800-2RZ |
| | 22 | 6 | 1 950 | 750 | 32 | 34 000 | 40 000 | 0,010 | 61900-RZ | 61900-2RZ |
| | 26 | 8 | 4 620 | 2 000 | 85 | 30 000 | 36 000 | 0,019 | 6000-RZ | 6000-2RZ |
| | 30 | 9 | 5 070 | 2 360 | 100 | 24 000 | 30 000 | 0,032 | 6200-RZ | 6200-2RZ |
| 12 | 21 | 5 | 1 430 | 670 | 28 | 32 000 | 38 000 | 0,0063 | 61801-RZ | 61801-2RZ |
| | 24 | 6 | 2 250 | 980 | 43 | 30 000 | 36 000 | 0,011 | 61901-RZ | 61901-2RZ |
| | 28 | 8 | 5 070 | 2 360 | 100 | 26 000 | 32 000 | 0,022 | 6001-RZ | 6001-2RZ |
| | 32 | 10 | 6 890 | 3 100 | 132 | 22 000 | 28 000 | 0,037 | 6201-RZ | 6201-2RZ |
| 15 | 24 | 5 | 1 560 | 800 | 34 | 28 000 | 34 000 | 0,0074 | 61802-RZ | 61802-2RZ |
| | 28 | 7 | 4 030 | 2 040 | 85 | 24 000 | 30 000 | 0,016 | 61902-RZ | 61902-2RZ |
| | 32 | 9 | 5 590 | 2 850 | 120 | 22 000 | 28 000 | 0,030 | 6002-RZ | 6002-2RZ |
| | 35 | 11 | 7 800 | 3 750 | 160 | 19 000 | 24 000 | 0,045 | 6202-RZ | 6202-2RZ |
| 17 | 26 | 5 | 1 680 | 930 | 39 | 24 000 | 30 000 | 0,0082 | 61803-RZ | 61803-2RZ |
| | 30 | 7 | 4 360 | 2 320 | 98 | 22 000 | 28 000 | 0,018 | 61903-RZ | 61903-2RZ |
| | 35 | 10 | 6 050 | 3 250 | 137 | 19 000 | 24 000 | 0,039 | 6003-RZ | 6003-2RZ |
| | 40 | 12 | 9 560 | 4 750 | 200 | 17 000 | 20 000 | 0,065 | 6203-RZ | 6203-2RZ |
| 20 | 32 | 7 | 2 700 | 1 500 | 63 | 19 000 | 24 000 | 0,018 | 61804-RZ | 61804-2RZ |
| | 37 | 9 | 6 370 | 3 650 | 156 | 18 000 | 22 000 | 0,038 | 61904-RZ | 61904-2RZ |
| | 42 | 12 | 9 360 | 5 000 | 212 | 17 000 | 20 000 | 0,069 | 6004-RZ | 6004-2RZ |
| | 47 | 14 | 12 700 | 6 550 | 280 | 15 000 | 18 000 | 0,11 | 6204-RZ | 6204-2RZ |
| 25 | 37 | 7 | 4 360 | 2 600 | 125 | 17 000 | 20 000 | 0,022 | 61805-RZ | 61805-2RZ |
| | 42 | 9 | 6 630 | 4 000 | 176 | 16 000 | 19 000 | 0,045 | 61905-RZ | 61905-2RZ |
| | 47 | 12 | 11 200 | 6 550 | 275 | 15 000 | 18 000 | 0,080 | 6005-RZ | 6005-2RZ |
| | 52 | 15 | 14 000 | 7 800 | 335 | 12 000 | 15 000 | 0,13 | 6205-RZ | 6205-2RZ |



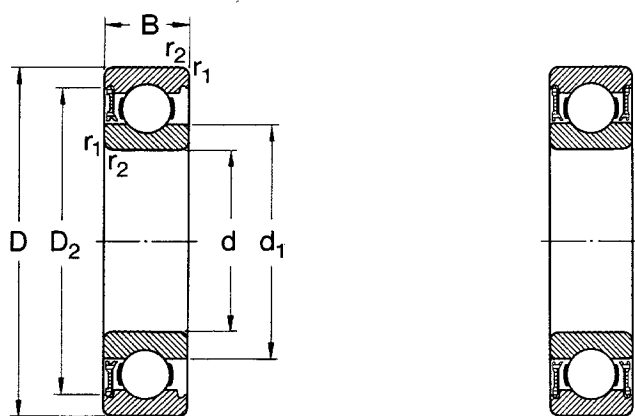
Dimensions **Abutment and fillet dimensions**

d d_1 D_2 $r_{1,2}$ $d_{a \text{ min}}$ $D_{a \text{ max}}$ $r_{a \text{ max}}$

mm

| d | d_1 | D_2 | $r_{1,2}$ | $d_{a \text{ min}}$ | $D_{a \text{ max}}$ | $r_{a \text{ max}}$ |
|-----|-------|-------|-----------|---------------------|---------------------|---------------------|
| mm | | | | | | |
| 6 | 10,7 | 16,5 | 0,3 | 8 | 17 | 0,3 |
| 7 | 11,8 | 19 | 0,3 | 9 | 20 | 0,3 |
| 8 | 11,8 | 19 | 0,3 | 10 | 20 | 0,3 |
| 9 | 14,2 | 21,2 | 0,3 | 11 | 22 | 0,3 |
| | 14,4 | 22,6 | 0,3 | 11 | 24 | 0,3 |
| 10 | 12,6 | 17,3 | 0,3 | 12 | 17,5 | 0,3 |
| | 13 | 19 | 0,3 | 12 | 20 | 0,3 |
| | 14,4 | 22,6 | 0,3 | 12 | 24 | 0,3 |
| | 16,7 | 24,8 | 0,6 | 14 | 26 | 0,6 |
| 12 | 15 | 19,1 | 0,3 | 14 | 19 | 0,3 |
| | 15,5 | 21,4 | 0,3 | 14 | 22 | 0,3 |
| | 16,7 | 24,8 | 0,3 | 14 | 26 | 0,3 |
| | 18,2 | 27,4 | 0,6 | 16 | 28 | 0,6 |
| 15 | 17,9 | 22,1 | 0,3 | 17 | 22,5 | 0,3 |
| | 18,4 | 25,8 | 0,3 | 17 | 26 | 0,3 |
| | 20,2 | 28,2 | 0,3 | 17 | 30 | 0,3 |
| | 21,5 | 30,4 | 0,6 | 19 | 31 | 0,6 |
| 17 | 20,2 | 24,1 | 0,3 | 19 | 24,5 | 0,3 |
| | 20,4 | 27,8 | 0,3 | 19 | 28 | 0,3 |
| | 22,7 | 31,2 | 0,3 | 19 | 33 | 0,3 |
| | 24,2 | 35 | 0,6 | 21 | 36 | 0,6 |
| 20 | 24 | 29,5 | 0,3 | 22 | 30 | 0,3 |
| | 25,6 | 32,8 | 0,3 | 22 | 35 | 0,3 |
| | 27,2 | 37,2 | 0,6 | 24 | 38 | 0,6 |
| | 28,5 | 40,6 | 1 | 25 | 42 | 1 |
| 25 | 28,5 | 34,3 | 0,3 | 27 | 35 | 0,3 |
| | 30,2 | 37,8 | 0,3 | 27 | 40 | 0,3 |
| | 32 | 42,2 | 0,6 | 29 | 43 | 0,6 |
| | 34 | 46,3 | 1 | 30 | 47 | 1 |

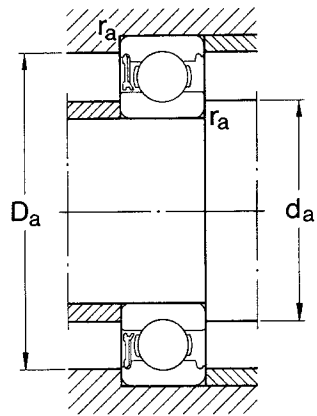
Deep groove ball bearings
single row, with low-friction seal(s)
d 30–100 mm



With one RZ seal

With two RZ seals

| Principal dimensions | | | Basic load ratings | | Fatigue load limit P_u | Speed ratings | | Mass | Designations | |
|----------------------|-----|----|--------------------|--------|-----------------------------|--------------------|--------|-------|------------------------|------------------|
| d | D | B | C | C_0 | | Lubrication grease | oil | | Bearings with one seal | two seals |
| mm | | | N | | N | r/min | | kg | – | |
| 30 | 42 | 7 | 4 490 | 2 900 | 146 | 15 000 | 18 000 | 0,027 | 61806-RZ | 61806-2RZ |
| | 47 | 9 | 7 280 | 4 550 | 212 | 14 000 | 17 000 | 0,051 | 61906-RZ | 61906-2RZ |
| | 55 | 13 | 13 300 | 8 300 | 355 | 12 000 | 15 000 | 0,12 | 6006-RZ | 6006-2RZ |
| | 62 | 16 | 19 500 | 11 200 | 475 | 10 000 | 13 000 | 0,20 | 6206-RZ | 6206-2RZ |
| 35 | 47 | 7 | 4 750 | 3 200 | 166 | 13 000 | 16 000 | 0,030 | 61807-RZ | 61807-2RZ |
| | 55 | 10 | 9 560 | 6 200 | 290 | 11 000 | 14 000 | 0,080 | 61907-RZ | 61907-2RZ |
| 40 | 52 | 7 | 4 940 | 3 450 | 186 | 11 000 | 14 000 | 0,034 | 61808-RZ | 61808-2RZ |
| | 62 | 12 | 13 800 | 9 300 | 425 | 10 000 | 13 000 | 0,12 | 61908-RZ | 61908-2RZ |
| 45 | 58 | 7 | 6 050 | 4 300 | 228 | 9 500 | 12 000 | 0,040 | 61809-RZ | 61809-2RZ |
| | 68 | 12 | 14 000 | 9 800 | 465 | 9 000 | 11 000 | 0,14 | 61909-RZ | 61909-2RZ |
| 50 | 65 | 7 | 6 240 | 4 750 | 250 | 9 000 | 11 000 | 0,052 | 61810-RZ | 61810-2RZ |
| | 72 | 12 | 14 600 | 10 400 | 500 | 8 500 | 10 000 | 0,14 | 61910-RZ | 61910-2RZ |
| 55 | 72 | 9 | 8 840 | 6 800 | 360 | 8 500 | 10 000 | 0,083 | 61811-RZ | 61811-2RZ |
| | 80 | 13 | 15 900 | 11 400 | 560 | 8 000 | 9 500 | 0,19 | 61911-RZ | 61911-2RZ |
| 60 | 78 | 10 | 8 710 | 6 700 | 365 | 7 500 | 9 000 | 0,11 | 61812-RZ | 61812-2RZ |
| | 85 | 13 | 16 500 | 12 000 | 600 | 7 500 | 9 000 | 0,20 | 61912-RZ | 61912-2RZ |
| 65 | 85 | 10 | 11 900 | 9 650 | 510 | 7 000 | 8 500 | 0,13 | 61813-RZ | 61813-2RZ |
| | 90 | 13 | 17 400 | 13 400 | 680 | 6 700 | 8 000 | 0,22 | 61913-RZ | 61913-2RZ |
| 70 | 90 | 10 | 12 100 | 10 000 | 540 | 6 700 | 8 000 | 0,14 | 61814-RZ | 61814-2RZ |
| | 100 | 16 | 23 800 | 18 300 | 900 | 6 300 | 7 500 | 0,35 | 61914-RZ | 61914-2RZ |
| 75 | 95 | 10 | 12 500 | 10 800 | 585 | 6 300 | 7 500 | 0,15 | 61815-RZ | 61815-2RZ |
| | 105 | 16 | 24 200 | 19 300 | 965 | 6 000 | 7 000 | 0,37 | 61915-RZ | 61915-2RZ |
| 80 | 100 | 10 | 12 700 | 11 200 | 610 | 6 000 | 7 000 | 0,15 | 61816-RZ | 61816-2RZ |
| | 110 | 16 | 25 100 | 20 400 | 1 020 | 5 600 | 6 700 | 0,40 | 61916-RZ | 61916-2RZ |
| 85 | 110 | 13 | 19 500 | 16 600 | 880 | 5 300 | 6 300 | 0,27 | 61817-RZ | 61817-2RZ |
| 90 | 115 | 13 | 19 500 | 17 000 | 915 | 5 300 | 6 300 | 0,28 | 61818-RZ | 61818-2RZ |
| 95 | 120 | 13 | 19 900 | 17 600 | 930 | 5 000 | 6 000 | 0,30 | 61819-RZ | 61819-2RZ |
| 100 | 125 | 13 | 19 900 | 18 300 | 950 | 4 800 | 5 600 | 0,30 | 61820-RZ | 61820-2RZ |



Dimensions

Abutment and fillet dimensions

d d₁ D₂ r_{1,2} d_a D_a r_a
 ≈ ≈ min min max max max

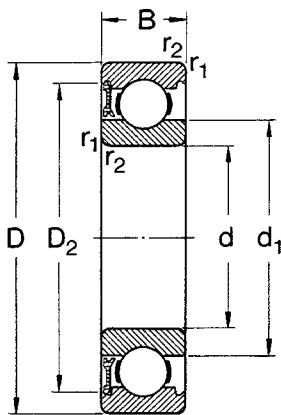
mm

mm

| | | | | | | |
|------------|------|------|-----|------|-----|-----|
| 30 | 33,7 | 39,5 | 0,3 | 32 | 40 | 0,3 |
| | 35,2 | 42,8 | 0,3 | 32 | 45 | 0,3 |
| | 38,2 | 49 | 1 | 35 | 50 | 1 |
| | 40,3 | 54,1 | 1 | 35 | 57 | 1 |
| 35 | 38,7 | 44,5 | 0,3 | 37 | 45 | 0,3 |
| | 41,6 | 49,9 | 0,6 | 39 | 51 | 0,6 |
| 40 | 43,7 | 49,6 | 0,3 | 42 | 50 | 0,3 |
| | 47 | 56,6 | 0,6 | 44 | 58 | 0,6 |
| 45 | 48,7 | 55,8 | 0,3 | 47 | 56 | 0,3 |
| | 52,3 | 62,1 | 0,6 | 49 | 64 | 0,6 |
| 50 | 54,7 | 61,8 | 0,3 | 52 | 63 | 0,3 |
| | 56,8 | 66,6 | 0,6 | 54 | 68 | 0,6 |
| 55 | 60,2 | 68,4 | 0,3 | 57 | 70 | 0,3 |
| | 63 | 73,4 | 1 | 60 | 75 | 1 |
| 60 | 65,6 | 74,4 | 0,3 | 62 | 76 | 0,3 |
| | 68 | 78,4 | 1 | 65 | 80 | 1 |
| 65 | 71,1 | 80,9 | 0,6 | 68,5 | 81 | 0,6 |
| | 73 | 83,4 | 1 | 70 | 85 | 1 |
| 70 | 76,1 | 85,9 | 0,6 | 73,5 | 86 | 0,6 |
| | 79,6 | 92,3 | 1 | 75 | 95 | 1 |
| 75 | 81,1 | 90,9 | 0,6 | 78,5 | 91 | 0,6 |
| | 84,6 | 97,3 | 1 | 80 | 100 | 1 |
| 80 | 86,1 | 95,9 | 0,6 | 83,5 | 96 | 0,6 |
| | 89,6 | 103 | 1 | 85 | 105 | 1 |
| 85 | 92,5 | 105 | 1 | 90 | 105 | 1 |
| 90 | 97,5 | 110 | 1 | 95 | 110 | 1 |
| 95 | 102 | 115 | 1 | 100 | 115 | 1 |
| 100 | 107 | 120 | 1 | 105 | 120 | 1 |

**Deep groove ball bearings
single row, with low-friction seal(s)**

d 105–140 mm

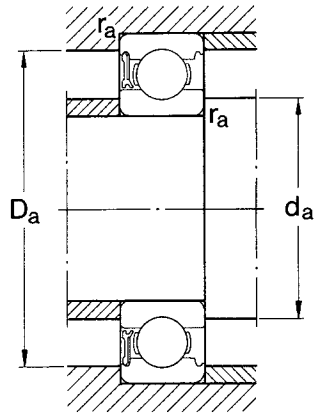


With one RZ seal



With two RZ seals

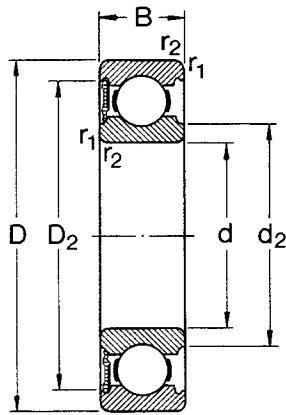
| Principal dimensions | | | Basic load ratings | | Fatigue load limit P_u | Speed ratings | | Mass | Designations | |
|----------------------|-----|----|--------------------|-----------------|-----------------------------|-----------------------|-------|------|---------------------------|----------------------------------|
| d | D | B | dynamic C | static C_0 | | Lubrication grease | oil | | Bearings with one seal | two seals |
| mm | | | N | | N | r/min | | kg | – | |
| 105 | 130 | 13 | 20 800 | 19 600 | 1 000 | 4 500 | 5 300 | 0,32 | | 61821-RZ 61821-2RZ |
| 110 | 140 | 16 | 28 100 | 26 000 | 1 250 | 4 300 | 5 000 | 0,60 | | 61822-RZ 61822-2RZ |
| 120 | 150 | 16 | 29 100 | 28 000 | 1 290 | 3 800 | 4 500 | 0,65 | | 61824-RZ 61824-2RZ |
| 130 | 165 | 18 | 37 700 | 43 000 | 1 600 | 3 600 | 4 300 | 0,93 | | 61826-RZ 61826-2RZ |
| 140 | 175 | 18 | 39 000 | 46 500 | 1 660 | 3 400 | 4 000 | 0,99 | | 61828-RZ 61828-2RZ |



| Dimensions | | | | Abutment and fillet dimensions | | |
|------------|---------------|---------------|-----------------------|--------------------------------|-------------------|-------------------|
| d | $d_1 \approx$ | $D_2 \approx$ | $r_{1,2} \text{ min}$ | $d_a \text{ min}$ | $D_a \text{ max}$ | $r_a \text{ max}$ |
| mm | | | | mm | | |
| 105 | 112 | 125 | 1 | 110 | 125 | 1 |
| 110 | 119 | 135 | 1 | 115 | 135 | 1 |
| 120 | 129 | 143 | 1 | 125 | 145 | 1 |
| 130 | 140 | 158 | 1,1 | 136,5 | 158,5 | 1 |
| 140 | 151 | 167 | 1,1 | 146,5 | 168,5 | 1 |

Deep groove ball bearings single row, with seal(s)

d 6–15 mm

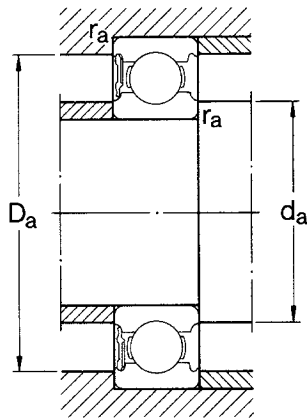


With one RS1 seal



With two RS1 seals

| Principal dimensions | | | Basic load ratings | | Fatigue load limit P_u | Speed rating | Mass | Designations | |
|----------------------|----|----|--------------------|-----------------|-----------------------------|--------------|--------|---------------------------|-------------------|
| d | D | B | dynamic C | static C_0 | | | | Bearings with one seal | two seals |
| mm | | | N | N | N | r/min | kg | – | |
| 6 | 19 | 6 | 1 720 | 620 | 26 | 22 000 | 0,0084 | 626-RS1 | 626-2RS1 |
| 7 | 19 | 6 | 1 720 | 620 | 26 | 22 000 | 0,0075 | 607-RS1 | 607-2RS1 |
| | 22 | 7 | 3 250 | 1 370 | 57 | 20 000 | 0,012 | 627-RS1 | 627-2RS1 |
| 8 | 22 | 7 | 3 250 | 1 370 | 57 | 20 000 | 0,012 | 608-RS1 | 608-2RS1 |
| | 22 | 11 | 3 250 | 1 370 | 57 | 20 000 | 0,016 | – | 630/8-2RS1 |
| 9 | 24 | 7 | 3 710 | 1 660 | 71 | 19 000 | 0,014 | 609-RS1 | 609-2RS1 |
| | 26 | 8 | 4 620 | 1 960 | 83 | 18 000 | 0,020 | 629-RS1 | 629-2RS1 |
| 10 | 19 | 5 | 1 380 | 585 | 25 | 20 000 | 0,0055 | 61800-RS1 | 61800-2RS1 |
| | 22 | 6 | 1 950 | 750 | 32 | 19 000 | 0,010 | 61900-RS1 | 61900-2RS1 |
| | 26 | 8 | 4 620 | 1 960 | 83 | 19 000 | 0,019 | 6000-RS1 | 6000-2RS1 |
| | 26 | 12 | 4 620 | 1 960 | 83 | 19 000 | 0,025 | – | 63000-2RS1 |
| | 30 | 9 | 5 070 | 2 360 | 100 | 17 000 | 0,032 | 6200-RS1 | 6200-2RS1 |
| | 30 | 14 | 5 070 | 2 360 | 100 | 17 000 | 0,040 | – | 62200-2RS1 |
| | 35 | 11 | 8 060 | 3 400 | 143 | 15 000 | 0,053 | 6300-RS1 | 6300-2RS1 |
| 12 | 21 | 5 | 1 430 | 670 | 28 | 19 000 | 0,0063 | 61801-RS1 | 61801-2RS1 |
| | 24 | 6 | 2 250 | 980 | 43 | 18 000 | 0,011 | 61901-RS1 | 61901-2RS1 |
| | 28 | 8 | 5 070 | 2 360 | 100 | 17 000 | 0,022 | 6001-RS1 | 6001-2RS1 |
| | 28 | 12 | 5 070 | 2 360 | 100 | 17 000 | 0,029 | – | 63001-2RS1 |
| | 32 | 10 | 6 890 | 3 100 | 132 | 15 000 | 0,037 | 6201-RS1 | 6201-2RS1 |
| | 32 | 14 | 6 890 | 3 100 | 132 | 15 000 | 0,045 | – | 62201-2RS1 |
| | 37 | 12 | 9 750 | 4 150 | 176 | 14 000 | 0,060 | 6301-RS1 | 6301-2RS1 |
| 15 | 24 | 5 | 1 560 | 800 | 34 | 17 000 | 0,0074 | 61802-RS1 | 61802-2RS1 |
| | 28 | 7 | 4 030 | 2 040 | 85 | 16 000 | 0,016 | 61902-RS1 | 61902-2RS1 |
| | 32 | 9 | 5 590 | 2 850 | 120 | 14 000 | 0,030 | 6002-RS1 | 6002-2RS1 |
| | 32 | 13 | 5 590 | 2 850 | 120 | 14 000 | 0,039 | – | 63002-2RS1 |
| | 35 | 11 | 7 800 | 3 750 | 160 | 13 000 | 0,045 | 6202-RS1 | 6202-2RS1 |
| | 35 | 14 | 7 800 | 3 750 | 160 | 13 000 | 0,054 | – | 62202-2RS1 |
| | 42 | 13 | 11 400 | 5 400 | 228 | 12 000 | 0,082 | 6302-RS1 | 6302-2RS1 |
| | 42 | 17 | 11 400 | 5 400 | 228 | 12 000 | 0,11 | – | 62302-2RS1 |

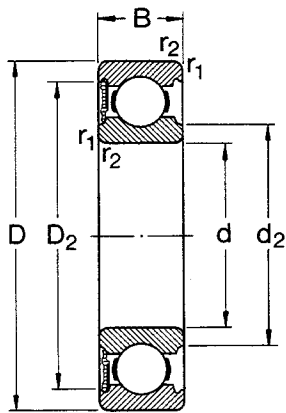


Dimensions

Abutment and fillet dimensions

| d | d ₂ ≈ | D ₂ ≈ | r _{1,2} min | d _a min | d _a max | D _a max | r _a max |
|----|---------------------|---------------------|-------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| mm | | | | mm | | | |
| 6 | 9,3 | 16,5 | 0,3 | 8 | 9 | 17 | 0,3 |
| 7 | 9,3 | 16,5 | 0,3 | 9 | 9 | 17 | 0,3 |
| | 10,3 | 19 | 0,3 | 9 | 10 | 20 | 0,3 |
| 8 | 10,3 | 19 | 0,3 | 10 | 10 | 20 | 0,3 |
| | 10,3 | 19 | 0,3 | 10 | 10 | 20 | 0,3 |
| 9 | 12,6 | 21,2 | 0,3 | 11 | 12,5 | 22 | 0,3 |
| | 12,6 | 22,6 | 0,3 | 11 | 12,5 | 24 | 0,3 |
| 10 | 11,8 | 17,3 | 0,3 | 11,5 | 11,5 | 17 | 0,3 |
| | 12 | 19 | 0,3 | 12 | 12 | 20 | 0,3 |
| | 12,6 | 22,6 | 0,3 | 12 | 12,5 | 24 | 0,3 |
| | 12,6 | 22,6 | 0,3 | 12 | 12,5 | 24 | 0,3 |
| | 14,8 | 24,8 | 0,6 | 14 | 14,5 | 26 | 0,6 |
| | 14,8 | 24,8 | 0,6 | 14 | 14,5 | 26 | 0,6 |
| | 15,6 | 28,7 | 0,6 | 14 | 15 | 31 | 0,6 |
| | 15,6 | 28,7 | 0,6 | 14 | 15 | 31 | 0,6 |
| 12 | 14,1 | 19,1 | 0,3 | 14 | 14 | 19,5 | 0,3 |
| | 14,2 | 21,4 | 0,3 | 14 | 14 | 22 | 0,3 |
| | 14,8 | 24,8 | 0,3 | 14 | 14,5 | 26 | 0,3 |
| | 14,8 | 24,8 | 0,3 | 14 | 14,5 | 26 | 0,3 |
| | 16,1 | 27,4 | 0,6 | 16 | 16 | 28 | 0,6 |
| | 16,1 | 27,4 | 0,6 | 16 | 16 | 28 | 0,6 |
| | 17,3 | 31,5 | 1 | 17 | 17 | 32 | 1 |
| | 17,3 | 31,5 | 1 | 17 | 17 | 32 | 1 |
| 15 | 17 | 22,1 | 0,3 | 17 | 17 | 22,5 | 0,3 |
| | 17,4 | 25,8 | 0,3 | 17 | 17 | 26 | 0,3 |
| | 18,2 | 28,2 | 0,3 | 17 | 18 | 30 | 0,3 |
| | 18,2 | 28,2 | 0,3 | 17 | 18 | 30 | 0,3 |
| | 19,2 | 30,4 | 0,6 | 19 | 19 | 31 | 0,6 |
| | 19,2 | 30,4 | 0,6 | 19 | 19 | 31 | 0,6 |
| | 21 | 36,3 | 1 | 20 | 20,5 | 37 | 1 |
| | 21 | 36,3 | 1 | 20 | 20,5 | 37 | 1 |

Deep groove ball bearings
single row, with seal(s)
d 17–30 mm

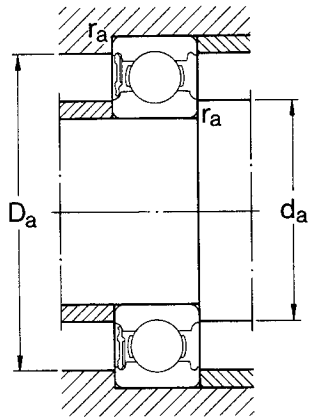


With one RS1 seal



With two RS1 seals

| Principal dimensions | | | Basic load ratings | | Fatigue load limit P_u | Speed rating | Mass | Designations | |
|----------------------|----|----|--------------------|--------|-----------------------------|--------------|--------|------------------------|------------|
| d | D | B | C | C_0 | | | | Bearings with one seal | two seals |
| mm | | | N | | N | r/min | kg | – | |
| 17 | 26 | 5 | 1 680 | 930 | 39 | 16 000 | 0,0082 | 61803-RS1 | 61803-2RS1 |
| | 30 | 7 | 4 360 | 2 320 | 98 | 14 000 | 0,018 | 61903-RS1 | 61903-2RS1 |
| | 35 | 10 | 6 050 | 3 250 | 137 | 13 000 | 0,039 | 6003-RS1 | 6003-2RS1 |
| | 35 | 14 | 6 050 | 3 250 | 137 | 13 000 | 0,052 | – | 63003-2RS1 |
| | 40 | 12 | 9 560 | 4 750 | 200 | 12 000 | 0,065 | 6203-RS1 | 6203-2RS1 |
| | 40 | 16 | 9 560 | 4 750 | 200 | 12 000 | 0,083 | – | 62203-2RS1 |
| | 47 | 14 | 13 500 | 6 550 | 275 | 11 000 | 0,12 | 6303-RS1 | 6303-2RS1 |
| | 47 | 19 | 13 500 | 6 550 | 275 | 11 000 | 0,15 | – | 62303-2RS1 |
| 20 | 32 | 7 | 2 700 | 1 500 | 63 | 13 000 | 0,018 | 61804-RS1 | 61804-2RS1 |
| | 37 | 9 | 6 370 | 3 650 | 156 | 12 000 | 0,038 | 61904-RS1 | 61904-2RS1 |
| | 42 | 12 | 9 360 | 5 000 | 212 | 11 000 | 0,069 | 6004-RS1 | 6004-2RS1 |
| | 42 | 16 | 9 360 | 5 000 | 212 | 11 000 | 0,086 | – | 63004-2RS1 |
| | 47 | 14 | 12 700 | 6 550 | 280 | 10 000 | 0,11 | 6204-RS1 | 6204-2RS1 |
| | 47 | 18 | 12 700 | 6 550 | 280 | 10 000 | 0,13 | – | 62204-2RS1 |
| | 52 | 15 | 15 900 | 7 800 | 335 | 9 500 | 0,14 | 6304-RS1 | 6304-2RS1 |
| | 52 | 21 | 15 900 | 7 800 | 335 | 9 500 | 0,20 | – | 62304-2RS1 |
| 25 | 37 | 7 | 4 360 | 2 600 | 125 | 11 000 | 0,022 | 61805-RS1 | 61805-2RS1 |
| | 42 | 9 | 6 630 | 4 000 | 176 | 10 000 | 0,045 | 61905-RS1 | 61905-2RS1 |
| | 47 | 12 | 11 200 | 6 550 | 275 | 9 500 | 0,080 | 6005-RS1 | 6005-2RS1 |
| | 47 | 16 | 11 200 | 6 550 | 275 | 9 500 | 0,10 | – | 63005-2RS1 |
| | 52 | 15 | 14 000 | 7 800 | 335 | 8 500 | 0,13 | 6205-RS1 | 6205-2RS1 |
| | 52 | 18 | 14 000 | 7 800 | 335 | 8 500 | 0,15 | – | 62205-2RS1 |
| | 62 | 17 | 22 500 | 11 600 | 490 | 7 500 | 0,23 | 6305-RS1 | 6305-2RS1 |
| | 62 | 24 | 22 500 | 11 600 | 490 | 7 500 | 0,32 | – | 62305-2RS1 |
| 30 | 42 | 7 | 4 490 | 2 900 | 146 | 9 500 | 0,027 | 61806-RS1 | 61806-2RS1 |
| | 47 | 9 | 7 280 | 4 550 | 212 | 8 500 | 0,051 | 61906-RS1 | 61906-2RS1 |
| | 55 | 13 | 13 300 | 8 300 | 355 | 8 000 | 0,12 | 6006-RS1 | 6006-2RS1 |
| | 55 | 19 | 13 300 | 8 300 | 355 | 8 000 | 0,16 | – | 63006-2RS1 |
| | 62 | 16 | 19 500 | 11 200 | 475 | 7 500 | 0,20 | 6206-RS1 | 6206-2RS1 |
| | 62 | 20 | 19 500 | 11 200 | 475 | 7 500 | 0,24 | – | 62206-2RS1 |
| | 72 | 19 | 28 100 | 16 000 | 670 | 6 300 | 0,35 | 6306-RS1 | 6306-2RS1 |
| | 72 | 27 | 28 100 | 16 000 | 670 | 6 300 | 0,48 | – | 62306-2RS1 |



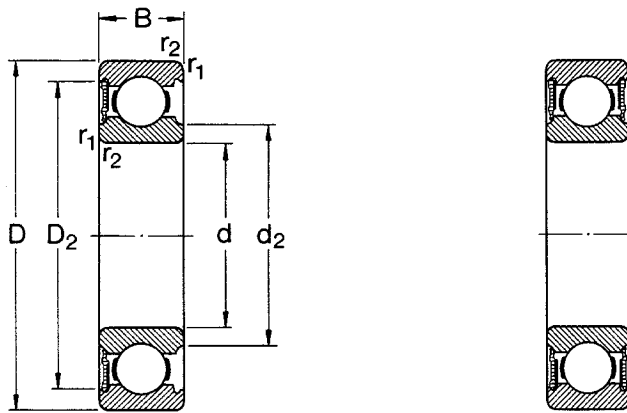
Dimensions

Abutment and fillet dimensions

| d | d_2 | D_2 | $r_{1,2}$ min | d_a min | d_a max | D_a max | r_a max |
|-----------|-------|-------|------------------|--------------|--------------|--------------|--------------|
| mm | | | | mm | | | |
| 17 | 19,3 | 24,1 | 0,3 | 19 | 19 | 24,5 | 0,3 |
| | 19,4 | 27,8 | 0,3 | 19 | 19 | 28 | 0,3 |
| | 20,4 | 31,2 | 0,3 | 19 | 20 | 33 | 0,3 |
| | 20,4 | 31,2 | 0,3 | 19 | 20 | 33 | 0,3 |
| | 21,6 | 35 | 0,6 | 21 | 21 | 36 | 0,6 |
| | 21,6 | 35 | 0,6 | 21 | 21 | 36 | 0,6 |
| | 23,9 | 39,6 | 1 | 22 | 23,5 | 42 | 1 |
| | 23,9 | 39,6 | 1 | 22 | 23,5 | 42 | 1 |
| 20 | 22,6 | 29,5 | 0,3 | 22 | 22 | 30 | 0,3 |
| | 24,2 | 32,8 | 0,3 | 22 | 24 | 35 | 0,3 |
| | 24,6 | 37,2 | 0,6 | 24 | 24,5 | 38 | 0,6 |
| | 24,6 | 37,2 | 0,6 | 24 | 24,5 | 38 | 0,6 |
| | 26 | 40,6 | 1 | 25 | 25,5 | 42 | 1 |
| | 26 | 40,6 | 1 | 25 | 25,5 | 42 | 1 |
| | 27,1 | 44,8 | 1,1 | 26,5 | 27 | 45,5 | 1 |
| | 27,1 | 44,8 | 1,1 | 26,5 | 27 | 45,5 | 1 |
| 25 | 27,4 | 34,3 | 0,3 | 27 | 27 | 35 | 0,3 |
| | 29,2 | 37,8 | 0,3 | 27 | 29 | 40 | 0,3 |
| | 29,4 | 42,2 | 0,6 | 29 | 29 | 43 | 0,6 |
| | 29,4 | 42,2 | 0,6 | 29 | 29 | 43 | 0,6 |
| | 31,4 | 46,3 | 1 | 30 | 31 | 47 | 1 |
| | 31,4 | 46,3 | 1 | 30 | 31 | 47 | 1 |
| | 33,9 | 52,7 | 1,1 | 31,5 | 33,5 | 55,5 | 1 |
| | 33,9 | 52,7 | 1,1 | 31,5 | 33,5 | 55,5 | 1 |
| 30 | 32,6 | 39,5 | 0,3 | 32 | 32,5 | 40 | 0,3 |
| | 34,2 | 42,8 | 0,3 | 32 | 34 | 45 | 0,3 |
| | 35,6 | 49 | 1 | 35 | 35,5 | 50 | 1 |
| | 35,6 | 49 | 1 | 35 | 35,5 | 50 | 1 |
| | 37,6 | 54,1 | 1 | 35 | 37 | 57 | 1 |
| | 37,6 | 54,1 | 1 | 35 | 37 | 57 | 1 |
| | 41,7 | 61,9 | 1,1 | 36,5 | 41,5 | 65,5 | 1 |
| | 41,7 | 61,9 | 1,1 | 36,5 | 41,5 | 65,5 | 1 |

Deep groove ball bearings single row, with seal(s)

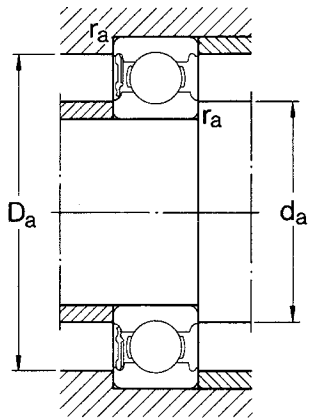
d 35–50 mm



With one RS1 seal

With two RS1 seals

| Principal dimensions | | | Basic load ratings dynamic static | | Fatigue load limit P_u | Speed rating | Mass | Designations Bearings with one seal two seals | |
|----------------------|-----|----|--------------------------------------|--------|-----------------------------|--------------|-------|--|------------|
| d | D | B | C | C_0 | | | | | |
| mm | | | N | | N | r/min | kg | – | |
| 35 | 47 | 7 | 4 750 | 3 200 | 166 | 8 000 | 0,030 | 61807-RS1 | 61807-2RS1 |
| | 55 | 10 | 9 560 | 6 200 | 290 | 7 500 | 0,080 | 61907-RS1 | 61907-2RS1 |
| | 62 | 14 | 15 900 | 10 200 | 440 | 7 000 | 0,16 | 6007-RS1 | 6007-2RS1 |
| | 62 | 20 | 15 900 | 10 200 | 440 | 7 000 | 0,21 | – | 63007-2RS1 |
| | 72 | 17 | 25 500 | 15 300 | 655 | 6 300 | 0,29 | 6207-RS1 | 6207-2RS1 |
| | 72 | 23 | 25 500 | 15 300 | 655 | 6 300 | 0,37 | – | 62207-2RS1 |
| | 80 | 21 | 33 200 | 19 000 | 815 | 6 000 | 0,46 | 6307-RS1 | 6307-2RS1 |
| | 80 | 31 | 33 200 | 19 000 | 815 | 6 000 | 0,66 | – | 62307-2RS1 |
| 40 | 52 | 7 | 4 940 | 3 450 | 186 | 7 500 | 0,034 | 61808-RS1 | 61808-2RS1 |
| | 62 | 12 | 13 800 | 9 300 | 425 | 6 700 | 0,12 | 61908-RS1 | 61908-2RS1 |
| | 68 | 15 | 16 800 | 11 600 | 490 | 6 300 | 0,19 | 6008-RS1 | 6008-2RS1 |
| | 68 | 21 | 16 800 | 11 600 | 490 | 6 300 | 0,26 | – | 63008-2RS1 |
| | 80 | 18 | 30 700 | 19 000 | 800 | 5 600 | 0,37 | 6208-RS1 | 6208-2RS1 |
| | 80 | 23 | 30 700 | 19 000 | 800 | 5 600 | 0,44 | – | 62208-2RS1 |
| | 90 | 23 | 41 000 | 24 000 | 1 020 | 5 000 | 0,63 | 6308-RS1 | 6308-2RS1 |
| | 90 | 33 | 41 000 | 24 000 | 1 020 | 5 000 | 0,89 | – | 62308-2RS1 |
| 45 | 58 | 7 | 6 050 | 4 300 | 228 | 6 700 | 0,040 | 61809-RS1 | 61809-2RS1 |
| | 68 | 12 | 14 000 | 9 800 | 465 | 6 000 | 0,14 | 61909-RS1 | 61909-2RS1 |
| | 75 | 16 | 20 800 | 14 600 | 640 | 5 600 | 0,25 | 6009-RS1 | 6009-2RS1 |
| | 75 | 23 | 20 800 | 14 600 | 640 | 5 600 | 0,34 | – | 63009-2RS1 |
| | 85 | 19 | 33 200 | 21 600 | 915 | 5 000 | 0,41 | 6209-RS1 | 6209-2RS1 |
| | 85 | 23 | 33 200 | 21 600 | 915 | 5 000 | 0,48 | – | 62209-2RS1 |
| | 100 | 25 | 52 700 | 31 500 | 1 340 | 4 500 | 0,83 | 6309-RS1 | 6309-2RS1 |
| | 100 | 36 | 52 700 | 31 500 | 1 340 | 4 500 | 1,15 | – | 62309-2RS1 |
| 50 | 65 | 7 | 6 240 | 4 750 | 250 | 6 000 | 0,052 | 61810-RS1 | 61810-2RS1 |
| | 72 | 12 | 14 600 | 10 400 | 500 | 5 600 | 0,14 | 61910-RS1 | 61910-2RS1 |
| | 80 | 16 | 21 600 | 16 000 | 710 | 5 000 | 0,26 | 6010-RS1 | 6010-2RS1 |
| | 80 | 23 | 21 600 | 16 000 | 710 | 5 000 | 0,37 | – | 63010-2RS1 |
| | 90 | 20 | 35 100 | 23 200 | 980 | 4 800 | 0,46 | 6210-RS1 | 6210-2RS1 |
| | 90 | 23 | 35 100 | 23 200 | 980 | 4 800 | 0,52 | – | 62210-2RS1 |
| | 110 | 27 | 61 800 | 38 000 | 1 600 | 4 300 | 1,05 | 6310-RS1 | 6310-2RS1 |
| | 110 | 40 | 61 800 | 38 000 | 1 600 | 4 300 | 1,55 | – | 62310-2RS1 |



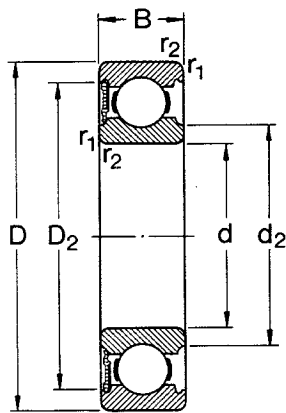
Dimensions

Abutment and fillet dimensions

| d | d_2 ≈ | D_2 ≈ | $r_{1,2}$ min | d_a min | d_a max | D_a max | r_a max |
|----|------------|------------|------------------|--------------|--------------|--------------|--------------|
| mm | | | | mm | | | |
| 35 | 37,6 | 44,5 | 0,3 | 37 | 37,5 | 45 | 0,3 |
| | 40,2 | 49,9 | 0,6 | 39 | 40 | 51 | 0,6 |
| | 41 | 55,7 | 1 | 40 | 40,5 | 57 | 1 |
| | 41 | 55,7 | 1 | 40 | 40,5 | 57 | 1 |
| | 44 | 62,7 | 1,1 | 41,5 | 43,5 | 65,5 | 1 |
| | 44 | 62,7 | 1,1 | 41,5 | 43,5 | 65,5 | 1 |
| | 44,6 | 69,2 | 1,5 | 43 | 44 | 72 | 1,5 |
| | 44,6 | 69,2 | 1,5 | 43 | 44 | 72 | 1,5 |
| 40 | 42,6 | 49,6 | 0,3 | 42 | 42,5 | 50 | 0,3 |
| | 45,5 | 56,6 | 0,6 | 44 | 45,5 | 58 | 0,6 |
| | 46,4 | 61,1 | 1 | 45 | 46 | 63 | 1 |
| | 46,4 | 61,1 | 1 | 45 | 46 | 63 | 1 |
| | 50 | 69,8 | 1,1 | 46,5 | 49,5 | 73,5 | 1 |
| | 50 | 69,8 | 1,1 | 46,5 | 49,5 | 73,5 | 1 |
| | 51 | 77,7 | 1,5 | 48 | 50,5 | 82 | 1,5 |
| | 51 | 77,7 | 1,5 | 48 | 50,5 | 82 | 1,5 |
| 45 | 47,4 | 55,8 | 0,3 | 47 | 47 | 56 | 0,3 |
| | 51 | 62,1 | 0,6 | 49 | 51 | 64 | 0,6 |
| | 51,8 | 67,8 | 1 | 50 | 51 | 70 | 1 |
| | 51,8 | 67,8 | 1 | 50 | 51 | 70 | 1 |
| | 54,5 | 75,2 | 1,1 | 51,5 | 54 | 78,5 | 1 |
| | 54,5 | 75,2 | 1,1 | 51,5 | 54 | 78,5 | 1 |
| | 57 | 86,7 | 1,5 | 53 | 56,5 | 92 | 1,5 |
| | 57 | 86,7 | 1,5 | 53 | 56,5 | 92 | 1,5 |
| 50 | 53,3 | 61,8 | 0,3 | 52 | 53 | 63 | 0,3 |
| | 55,5 | 66,6 | 0,6 | 54 | 55 | 68 | 0,6 |
| | 56,8 | 72,8 | 1 | 55 | 56 | 75 | 1 |
| | 56,8 | 72,8 | 1 | 55 | 56 | 75 | 1 |
| | 58,8 | 81,7 | 1,1 | 56,5 | 58 | 83,5 | 1 |
| | 58,8 | 81,7 | 1,1 | 56,5 | 58 | 83,5 | 1 |
| | 63,4 | 95,2 | 2 | 59 | 63 | 101 | 2 |
| | 63,4 | 95,2 | 2 | 59 | 63 | 101 | 2 |

**Deep groove ball bearings
single row, with seal(s)**

d 55–75 mm

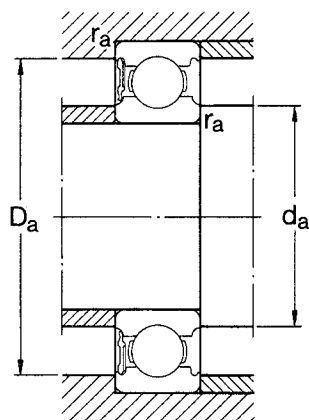


With one RS1 seal



With two RS1 seals

| Principal dimensions | | | Basic load ratings | | Fatigue load limit P_u | Speed rating | Mass | Designations | |
|----------------------|-----|----|--------------------|-----------------|-----------------------------|--------------|-------|---------------------------|-------------------|
| d | D | B | dynamic C | static C_0 | | | | Bearings with one seal | two seals |
| mm | | | N | N | N | r/min | kg | – | |
| 55 | 72 | 9 | 8 840 | 6 800 | 360 | 5 300 | 0,083 | 61811-RS1 | 61811-2RS1 |
| | 80 | 13 | 15 900 | 11 400 | 560 | 5 000 | 0,19 | 61911-RS1 | 61911-2RS1 |
| | 90 | 18 | 28 100 | 21 200 | 900 | 4 500 | 0,39 | 6011-RS1 | 6011-2RS1 |
| | 100 | 21 | 43 600 | 29 000 | 1 250 | 4 300 | 0,61 | 6211-RS1 | 6211-2RS1 |
| | 100 | 25 | 43 600 | 29 000 | 1 250 | 4 300 | 0,70 | – | 62211-2RS1 |
| | 120 | 29 | 71 500 | 45 000 | 1 900 | 3 800 | 1,35 | 6311-RS1 | 6311-2RS1 |
| | 120 | 43 | 71 500 | 45 000 | 1 900 | 3 800 | 1,95 | – | 62311-2RS1 |
| 60 | 78 | 10 | 8 710 | 6 700 | 365 | 4 800 | 0,11 | 61812-RS1 | 61812-2RS1 |
| | 85 | 13 | 16 500 | 12 000 | 600 | 4 500 | 0,20 | 61912-RS1 | 61912-2RS1 |
| | 95 | 18 | 29 600 | 23 200 | 980 | 4 300 | 0,42 | 6012-RS1 | 6012-2RS1 |
| | 110 | 22 | 52 700 | 36 000 | 1 530 | 4 000 | 0,78 | 6212-RS1 | 6212-2RS1 |
| | 110 | 28 | 52 700 | 36 000 | 1 530 | 4 000 | 0,97 | – | 62212-2RS1 |
| | 130 | 31 | 81 900 | 52 000 | 2 200 | 3 400 | 1,70 | 6312-RS1 | 6312-2RS1 |
| | 130 | 46 | 81 900 | 52 000 | 2 200 | 3 400 | 2,50 | – | 62312-2RS1 |
| 65 | 85 | 10 | 11 900 | 9 650 | 510 | 4 500 | 0,13 | 61813-RS1 | 61813-2RS1 |
| | 90 | 13 | 17 400 | 13 400 | 680 | 4 300 | 0,22 | 61913-RS1 | 61913-2RS1 |
| | 100 | 18 | 30 700 | 25 000 | 1 060 | 4 000 | 0,44 | 6013-RS1 | 6013-2RS1 |
| | 120 | 23 | 55 900 | 40 500 | 1 730 | 3 600 | 0,99 | 6213-RS1 | 6213-2RS1 |
| | 120 | 31 | 55 900 | 40 500 | 1 730 | 3 600 | 1,25 | – | 62213-2RS1 |
| | 140 | 33 | 92 300 | 60 000 | 2 500 | 3 200 | 2,10 | 6313-RS1 | 6313-2RS1 |
| | 140 | 48 | 92 300 | 60 000 | 2 500 | 3 200 | 3,00 | – | 62313-2RS1 |
| 70 | 90 | 10 | 12 100 | 10 000 | 540 | 4 300 | 0,14 | 61814-RS1 | 61814-2RS1 |
| | 100 | 16 | 23 800 | 18 300 | 900 | 4 000 | 0,35 | 61914-RS1 | 61914-2RS1 |
| | 110 | 20 | 37 700 | 31 000 | 1 320 | 3 600 | 0,60 | 6014-RS1 | 6014-2RS1 |
| | 125 | 24 | 60 500 | 45 000 | 1 900 | 3 400 | 1,10 | 6214-RS1 | 6214-2RS1 |
| | 125 | 31 | 60 500 | 45 000 | 1 900 | 3 400 | 1,30 | – | 62214-2RS1 |
| | 150 | 35 | 104 000 | 68 000 | 2 750 | 3 000 | 2,50 | 6314-RS1 | 6314-2RS1 |
| | 150 | 51 | 104 000 | 68 000 | 2 750 | 3 000 | 3,55 | – | 62314-2RS1 |
| 75 | 95 | 10 | 12 500 | 10 800 | 585 | 4 000 | 0,15 | 61815-RS1 | 61815-2RS1 |
| | 105 | 16 | 24 200 | 19 300 | 965 | 3 600 | 0,37 | 61915-RS1 | 61915-2RS1 |
| | 115 | 20 | 39 700 | 33 500 | 1 430 | 3 400 | 0,64 | 6015-RS1 | 6015-2RS1 |
| | 130 | 25 | 66 300 | 49 000 | 2 040 | 3 200 | 1,20 | 6215-RS1 | 6215-2RS1 |
| | 160 | 37 | 114 000 | 76 500 | 3 000 | 2 800 | 3,00 | 6315-RS1 | 6315-2RS1 |

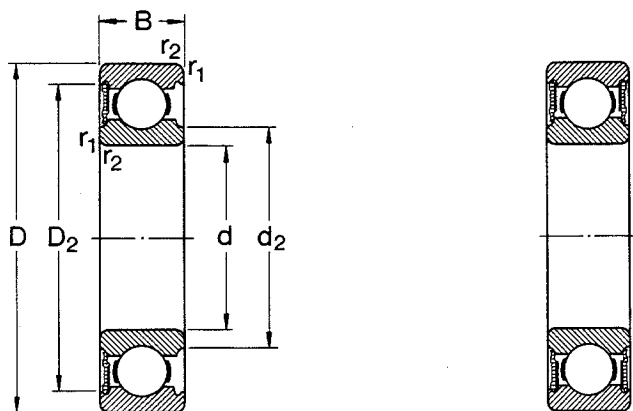


Dimensions

Abutment and fillet dimensions

| d | d ₂ ≈ | D ₂ ≈ | r _{1,2} min | d _a min | d _a max | D _a max | r _a max |
|-----------|---------------------|---------------------|-------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| mm | | | | mm | | | |
| 55 | 58,8 | 68,4 | 0,3 | 57 | 58,5 | 70 | 0,3 |
| | 61,7 | 73,4 | 1 | 60 | 61 | 75 | 1 |
| | 62,5 | 81,5 | 1,1 | 61,5 | 62 | 83,5 | 1 |
| | 65,5 | 89,4 | 1,5 | 63 | 65 | 92 | 1,5 |
| | 65,5 | 89,4 | 1,5 | 63 | 65 | 92 | 1,5 |
| | 69,8 | 104 | 2 | 64 | 69 | 111 | 2 |
| 69,8 | 104 | 2 | 64 | 69 | 111 | 2 | |
| 60 | 63,6 | 74,4 | 0,3 | 62 | 63,5 | 76 | 0,3 |
| | 66,7 | 78,4 | 1 | 65 | 66 | 80 | 1 |
| | 67,5 | 86,5 | 1,1 | 66,5 | 67 | 88,5 | 1 |
| | 72 | 97 | 1,5 | 68 | 71 | 102 | 1,5 |
| | 72 | 97 | 1,5 | 68 | 71 | 102 | 1,5 |
| | 76,4 | 113 | 2,1 | 71 | 76 | 119 | 2 |
| 76,4 | 113 | 2,1 | 71 | 76 | 119 | 2 | |
| 65 | 69,1 | 80,9 | 0,6 | 68,5 | 68,5 | 81 | 0,6 |
| | 71,7 | 83,4 | 1 | 70 | 71 | 85 | 1 |
| | 72,5 | 91,5 | 1,1 | 71,5 | 72 | 93,5 | 1 |
| | 79,8 | 106 | 1,5 | 73 | 79 | 112 | 1,5 |
| | 79,8 | 106 | 1,5 | 73 | 79 | 112 | 1,5 |
| | 81,4 | 122 | 2,1 | 76 | 81 | 129 | 2 |
| 81,4 | 122 | 2,1 | 76 | 81 | 129 | 2 | |
| 70 | 74,1 | 85,9 | 0,6 | 73,5 | 74 | 86 | 0,6 |
| | 77,7 | 92,3 | 1 | 75 | 77 | 95 | 1 |
| | 78,3 | 99,9 | 1,1 | 76,5 | 78 | 103,5 | 1 |
| | 83,5 | 111 | 1,5 | 78 | 83 | 117 | 1,5 |
| | 83,5 | 111 | 1,5 | 78 | 83 | 117 | 1,5 |
| | 88 | 130 | 2,1 | 81 | 87 | 139 | 2 |
| 88 | 130 | 2,1 | 81 | 87 | 139 | 2 | |
| 75 | 79,1 | 90,9 | 0,6 | 79 | 79 | 91 | 0,6 |
| | 82,7 | 97,3 | 1 | 80 | 82 | 100 | 1 |
| | 83,3 | 105 | 1,1 | 81,5 | 83 | 108,5 | 1 |
| | 87,7 | 117 | 1,5 | 83 | 87 | 122 | 1,5 |
| | 94,5 | 139 | 2,1 | 86 | 94 | 149 | 2 |

Deep groove ball bearings
single row, with seal(s)
d 80–140 mm



With one RS1 seal

With two RS1 seals

| Principal dimensions | | | Basic load ratings | | Fatigue load limit P_u | Speed rating | Mass | Designations | |
|----------------------|-----|----|--------------------|---------|-----------------------------|--------------|------|------------------------|------------|
| d | D | B | C | C_0 | | | | Bearings with one seal | two seals |
| mm | | | N | | N | r/min | kg | - | |
| 80 | 100 | 10 | 12 700 | 11 200 | 610 | 3 600 | 0,15 | 61816-RS1 | 61816-2RS1 |
| | 110 | 16 | 25 100 | 20 400 | 1 020 | 3 400 | 0,40 | 61916-RS1 | 61916-2RS1 |
| | 125 | 22 | 47 500 | 40 000 | 1 660 | 3 200 | 0,85 | 6016-RS1 | 6016-2RS1 |
| | 140 | 26 | 70 200 | 55 000 | 2 200 | 3 000 | 1,40 | 6216-RS1 | 6216-2RS1 |
| | 170 | 39 | 124 000 | 86 500 | 3 250 | 2 600 | 3,60 | 6316-RS1 | 6316-2RS1 |
| 85 | 110 | 13 | 19 500 | 16 600 | 880 | 3 400 | 0,27 | 61817-RS1 | 61817-2RS1 |
| | 130 | 22 | 49 400 | 43 000 | 1 760 | 3 000 | 0,89 | 6017-RS1 | 6017-2RS1 |
| | 150 | 28 | 83 200 | 64 000 | 2 500 | 2 800 | 1,80 | 6217-RS1 | 6217-2RS1 |
| | 180 | 41 | 133 000 | 96 500 | 3 550 | 2 400 | 4,25 | 6317-RS1 | 6317-2RS1 |
| 90 | 115 | 13 | 19 500 | 17 000 | 915 | 3 200 | 0,28 | 61818-RS1 | 61818-2RS1 |
| | 140 | 24 | 58 500 | 50 000 | 1 960 | 2 800 | 1,15 | 6018-RS1 | 6018-2RS1 |
| | 160 | 30 | 95 600 | 73 500 | 2 800 | 2 600 | 2,15 | 6218-RS1 | 6218-2RS1 |
| | 190 | 43 | 143 000 | 108 000 | 3 800 | 2 400 | 4,90 | 6318-RS1 | 6318-2RS1 |
| 95 | 120 | 13 | 19 900 | 17 600 | 930 | 3 000 | 0,30 | 61819-RS1 | 61819-2RS1 |
| | 145 | 24 | 60 500 | 54 000 | 2 080 | 2 800 | 1,20 | 6019-RS1 | 6019-2RS1 |
| | 170 | 32 | 108 000 | 81 500 | 3 000 | 2 400 | 2,60 | 6219-RS1 | 6219-2RS1 |
| 100 | 125 | 13 | 19 900 | 18 300 | 950 | 3 000 | 0,31 | 61820-RS1 | 61820-2RS1 |
| | 150 | 24 | 60 500 | 54 000 | 2 040 | 2 600 | 1,25 | 6020-RS1 | 6020-2RS1 |
| | 180 | 34 | 124 000 | 93 000 | 3 350 | 2 400 | 3,15 | 6220-RS1 | 6220-2RS1 |
| 105 | 130 | 13 | 20 800 | 19 600 | 1 000 | 2 800 | 0,32 | 61821-RS1 | 61821-2RS1 |
| | 160 | 26 | 72 800 | 65 500 | 2 400 | 2 400 | 1,60 | 6021-RS1 | 6021-2RS1 |
| | 190 | 36 | 133 000 | 104 000 | 3 650 | 2 200 | 3,70 | 6221-RS1 | 6221-2RS1 |
| 110 | 140 | 16 | 28 100 | 26 000 | 1 250 | 2 600 | 0,60 | 61822-RS1 | 61822-2RS1 |
| | 170 | 28 | 81 900 | 73 500 | 2 600 | 2 400 | 1,95 | 6022-RS1 | 6022-2RS1 |
| | 200 | 38 | 143 000 | 118 000 | 4 000 | 2 000 | 4,35 | 6222-RS1 | 6222-2RS1 |
| 120 | 150 | 16 | 29 100 | 28 000 | 1 290 | 2 400 | 0,65 | 61824-RS1 | 61824-2RS1 |
| | 180 | 28 | 85 200 | 80 000 | 2 750 | 2 200 | 2,05 | 6024-RS1 | 6024-2RS1 |
| | 215 | 40 | 146 000 | 118 000 | 3 900 | 1 900 | 5,15 | 6224-RS1 | 6224-2RS1 |
| 130 | 165 | 18 | 37 700 | 43 000 | 1 600 | 2 200 | 0,93 | 61826-RS1 | 61826-2RS1 |
| | 200 | 33 | 106 000 | 100 000 | 3 350 | 2 000 | 3,15 | 6026-RS1 | 6026-2RS1 |
| 140 | 175 | 18 | 39 000 | 46 500 | 1 660 | 2 000 | 0,99 | 61828-RS1 | 61828-2RS1 |
| | 210 | 33 | 111 000 | 108 000 | 3 450 | 1 800 | 3,35 | 6028-RS1 | 6028-2RS1 |