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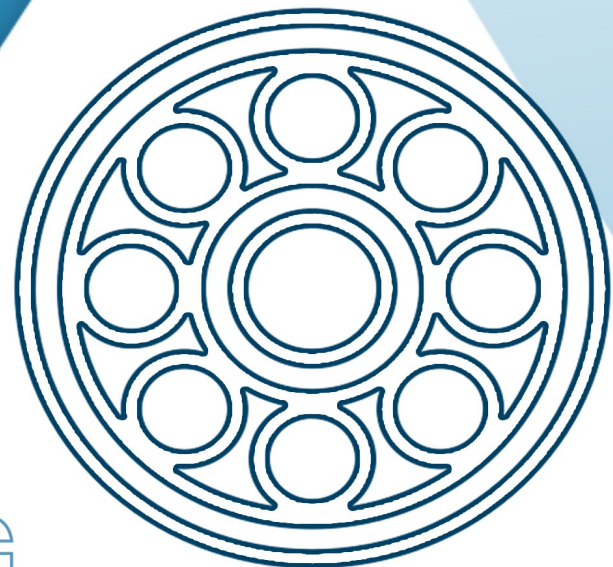


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Catalog 2021



BULL BEARING

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Ball bearing

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1 Deep groove ball bearings



Deep groove ball bearings are available in single row and double row designs.

Single row bearings are particularly suitable where:

- high and very high speeds are required
- the bearing arrangement must be operated with very low friction
- very low running noise is required, without reducing the speed, load carrying capacity and operating life of the bearing (Generation C) ▶213
- high demands are made on the sealing of the bearing, without increasing heat generation or limiting the speed (Generation C) ▶218|1.5
- the bearing position is to be designed particularly economically.

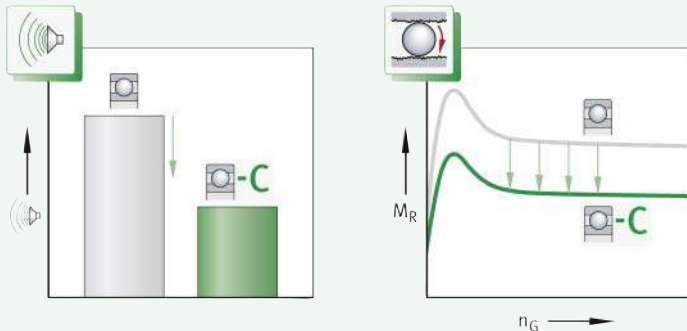
Double row bearings can be considered for bearing arrangements where:

- the load carrying capacity of single row deep groove ball bearings is no longer sufficient ▶216
- axial loads in both directions and/or tilting moments must be supported in addition to radial loads ▶216
- a high load carrying capacity is required and the design envelope available in a radial and axial direction is relatively small.

For an overview of other product-specific features, see the Matrix for bearing preselection ▶211.

1
Comparison of standard deep groove ball bearings with bearings of Generation C: running noise, frictional torque

C = bearings of Generation C
 M_R = frictional torque
 n_G = limiting speed



1.1 Bearing design

Design variants

Single row deep groove ball bearings are available as:

- standard bearings ▶213|⊕2
- bearings of Generation C ▶214|⊕3 and ▶214|⊕4
- matched bearing sets ▶215|⊕5
- corrosion-resistant bearings ▶215.

Double row deep groove ball bearings are available as:

- standard bearings ▶215|⊕6.



Single row deep groove ball bearings are also available in many other designs and sizes, as well as for specific applications, by agreement. Corrosion-resistant bearings ▶ □ TPI 64, larger catalogue bearings ▶ □ GL 1.



Proven and versatile bearings with high market shares



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Standard bearings

Single row deep groove ball bearings are self-retaining units, which are part of the group of radial ball bearings. The solid outer and inner rings have deep raceway grooves, with shoulders which are not generally interrupted by filling slots ▶ 213 | □ 2. Solid cages made from polyamide PA66 or brass, and sheet metal cages made from steel or brass, are used as standard cages ▶ 222 | □ 4. The bearings are open or sealed. Due to the manufacturing processes used, open bearings, which are also available as sealed versions, can have turned recesses in the outer and inner ring for sealing washers or sealing shields.

Single row deep groove ball bearings are particularly versatile, robust in operation, easy to maintain and very economical. Due to their significant advantages, they are the most widely used rolling bearings worldwide. As a result, Schaeffler also manufactures these bearings in a large number of sizes and designs.

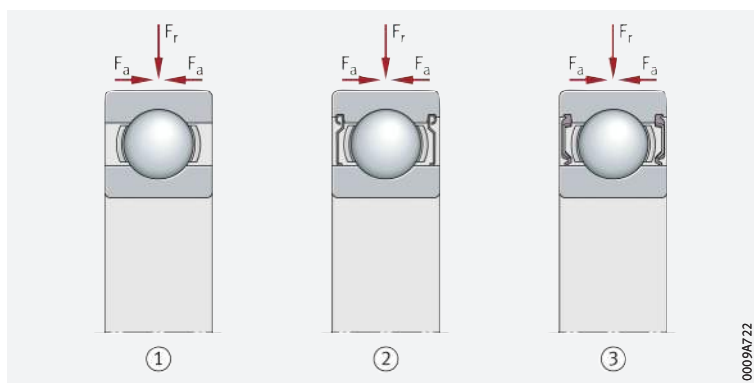


Single row deep groove ball bearings, open or sealed

F_r = radial load

F_a = axial load

- ① Open
- ② Sealing shield on both sides (non-contact)
- ③ Contact seal on both sides



0009A722

Deep groove ball bearings of Generation C

Gen. C = optimised design of standard bearings

Deep groove ball bearings of Generation C correspond in their structure to single row standard deep groove ball bearings, but are specially optimised in relation to:

- significantly quieter running
- even more effective sealing
- a further reduction in the already very low frictional torque.

Measures to reduce noise

Schaeffler has analysed the causes of noise generation in deep groove ball bearings using the most advanced methods. On the basis of the findings obtained from these analyses:

- The surface of the raceways has been improved
- The ball quality has been increased
- Osculation has been optimised
- The production tolerances have been reduced
- Deep groove ball bearings have been fitted with new riveted cages made from steel.



The result of this is a noise reduction in Generation C bearings over comparable standard deep groove ball bearings.

☞ *Gen. C = particularly high sealing effect due to new and improved seals*

☞ *Gen. C = technical and economical advantages of very low friction*



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☞ *Gen. C = a leading player among single row deep groove ball bearings*

The quality of the seal not only has a considerable influence on the rating life, but also on the efficiency of a rolling bearing. As a result, the seal must not only protect the running system reliably against contamination, the ingress of moisture and the loss of grease, but also ensure that the total frictional torque and heat generation in the bearing remain low despite the high sealing action. The new sealing shields, non-contact seals and contact seals of Generation C deep groove ball bearings (suffixes Z, BRS, HRS, ELS) demonstrate the success of Schaeffler in performing this difficult technical step effectively ▶ 214 | 3 and ▶ 214 | 4. Description of sealing shields and seals ▶ 218 | 1.5.

Electric motors, electrical machinery, washing machines, ventilators and electric tools are the preferred application areas of single row deep groove ball bearings. However, in order to facilitate further increases in the efficiency of these motors, machines and tools, the power loss occurring in the bearing arrangements must be reduced.

The above-mentioned measures for reducing noise also resulted, for example, in an approximate reduction in friction of 35%, giving the designer a range of application-specific advantages:

- lower heat generation
- a longer grease operating life
- higher possible speeds
- a longer bearing operating life
- a reduced energy consumption
- lower energy costs
- lower overall cost of the bearing position.

In summary, this means that, in addition to their technical advantages, bearing positions with deep groove ball bearings of Generation C are also considerably more economical than bearing arrangements with single row standard deep groove ball bearings. Generation C is available in series 60, 62 and 63.



Single row deep groove ball bearings, Generation C, open or with non-contact seals

- ① Open
- ② Sealing shield on both sides (suffix 2Z)
- ③ Non-contact seal on both sides (suffix 2BRS)



0009A726



Single row deep groove ball bearings, Generation C, contact seals

- ① Contact seal on both sides (suffix 2HRS)
- ② Contact seal on both sides (suffix 2ELS)



0009A72C

Bearing sets in O, X or tandem arrangements

Matched bearing sets

If the load carrying capacity of a single bearing is not sufficient, or the shaft is to be guided axially in both directions with a defined clearance, single row standard deep groove ball bearings are also available as matched bearing sets ▶ 215 | 5.



As the arrangement of the bearing pairs is specific to the application, Schaeffler supplies bearing sets by agreement.



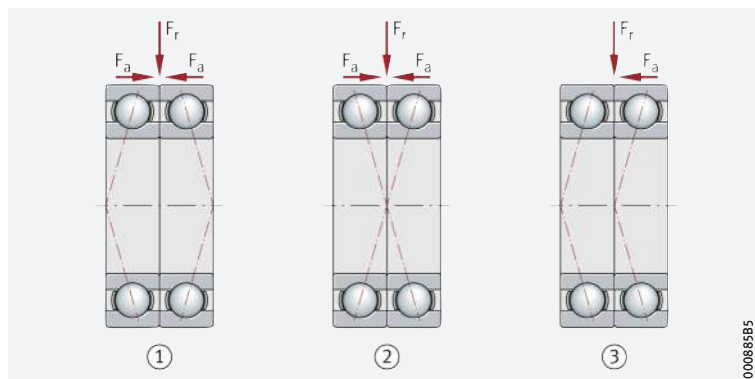
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Matched bearing sets

F_r = radial load

F_a = axial load

- ① Set in O arrangement
- ② Set in X arrangement
- ③ Set in tandem arrangement



Wide product range

Corrosion-resistant bearings

Corrosion-resistant bearings are suitable where particular requirements for corrosion protection are present. Schaeffler supplies deep groove ball bearings of this type in open and sealed designs.



The load carrying capacity for bearings made from corrosion-resistant steel is slightly lower than for bearings made from rolling bearing steel.



The range of these bearings and housings is described in detail in Technical Product Information TPI 64 ▶ TPI 64.

Double row deep groove ball bearings



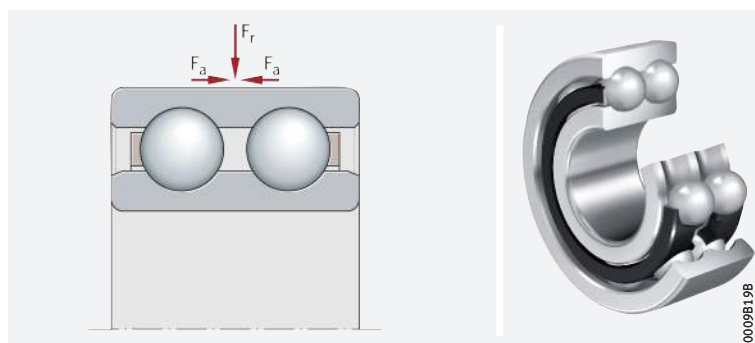
Double row deep groove ball bearings of series 42 and 43 correspond in their structure and function to single row deep groove ball bearings arranged in pairs ▶ 215 | 6. They have deep raceway grooves in the bearing rings and a narrow oscillation between the raceway grooves and balls. However, they are slightly narrower than two single row deep groove ball bearings of the series 62 and 63 with the same bore and outside diameter.

6

Double row deep groove ball bearing, open

F_r = radial load

F_a = axial load



1.2 Load carrying capacity

☞ Suitable for predominantly radial loads

☞ Larger bearing cross-sections permit higher loads



Single row deep groove ball bearings, comparison of cross-section and load carrying capacity (radial load carrying capacity C_r) for bearings with $d = 40\text{ mm}$

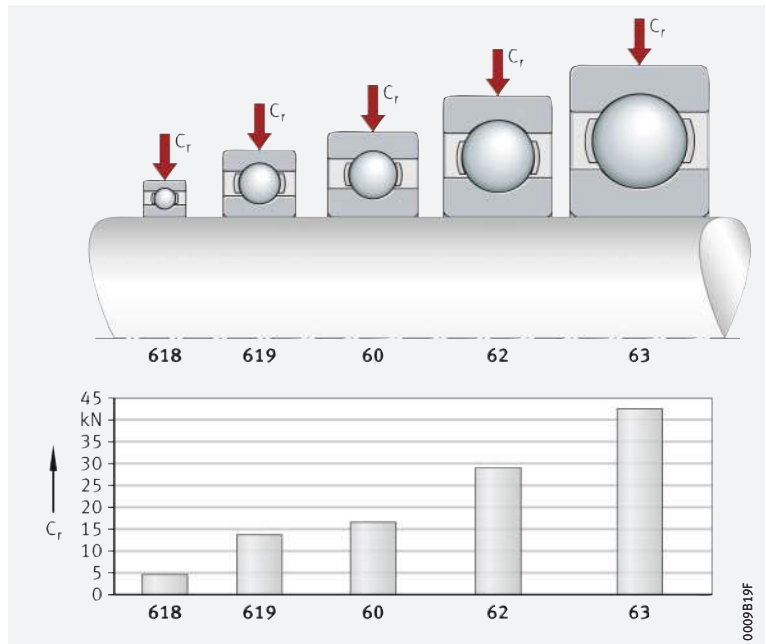
C_r = basic dynamic load rating



Single row deep groove ball bearings – radial load carrying capacity

The balls are in contact with the raceways at one point only. Under purely radial load, the contact points between the rolling elements and raceways lie at the centre of the raceway. As a result, the connection between the contact points passes through the radial plane, i.e. the optimum load direction is a purely radial load ➤ 213 | ☞ 2.

The load carrying capacity is dependent on the bearing series. As a result, deep groove ball bearings of series 618 and 619, with their smaller bearing cross-sections, cannot support loads as high as series 60, 62 and 63 – with identical dimensions relative to bore diameter d – with their larger cross-sections ➤ 216 | ☞ 7.



Single row deep groove ball bearings – axial load carrying capacity

☞ Capable of supporting axial loads in both directions

Due to the deep raceway grooves in the bearing rings and the narrow osculation between the raceway grooves and balls, single row deep groove ball bearings can support axial loads in both directions ➤ 213 | ☞ 2.

The axial load carrying capacity is dependent, for example, on the bearing size, the internal construction and the operating clearance.

If the axial load is too high, however, this can increase the running noise and considerably reduce the operating life of the bearings.



If there is any uncertainty regarding the axial load carrying capacity of the bearings, please consult Schaeffler.

☞ Considerably higher load carrying capacity than single row bearings

☞ Also suitable for tilting moment loads

Double row deep groove ball bearings

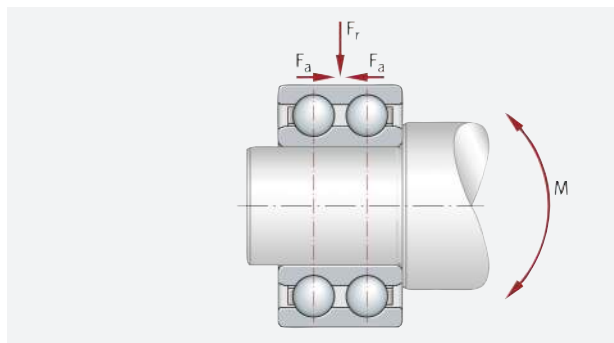
Due to the larger number of rolling elements, double row deep groove ball bearings can be subjected to greater loads than single row deep groove ball bearings with an identical ball set. They can replace two single row deep groove ball bearings if a smaller design envelope width is required.

Double row deep groove ball bearings can also support tilting moment loads in addition to radial and axial loads ➤ 217 | ☞ 8. They are therefore suitable for particularly short shafts that are supported by only one bearing.



8
Unilateral bearing arrangement of a shaft with a double row deep groove ball bearing (flying bearing arrangement)

- F_r = radial load
- F_a = axial load
- M = tilting moment load



1.3 Compensation of angular misalignments

The adjustment angle is dependent on the magnitude of the load

Single row deep groove ball bearings – permissible adjustment angle

Single row deep groove ball bearings are only suitable for compensating static angular misalignments to a very limited extent. As a result, the bearing positions must be well aligned. Misalignments shorten the operating life, as they place an additional strain on the bearing. In order to keep these loads at a low level, only small adjustment angles are permissible – dependent on the load – for deep groove ball bearings ▶ 217 | 1.

1
Permissible adjustment angles

Series	Adjustment angle for	
	low loads	high loads
62, 622, 63, 623, 64	5' to 10'	8' to 16'
618, 619, 160, 60	2' to 6'	5' to 10'

Double row deep groove ball bearings

! Due to their internal construction, double row deep groove ball bearings do not have an angular adjustment facility. When using these bearings, therefore, misalignments are not permissible.

1.4 Lubrication

Greased bearings are maintenance-free

Deep groove ball bearings sealed on both sides are lubricated with a high quality lithium soap grease with a mineral oil base, which has good anti-corrosion characteristics. The grease filling is measured so that it is sufficient for the entire life of the bearing. As a result, these bearings are generally maintenance-free.

! Do not wash greased bearings out prior to mounting. If mounting is carried out using thermal tools, the bearings should not be heated to a temperature in excess of +80 °C, taking account of the grease filling and seal material. If higher heating temperatures are required, it must be ensured that the permissible upper temperature limits for grease and seals are not exceeded. Schaeffler recommends the use of induction heating devices for heating purposes ▶ 231.

Oil or grease lubrication is possible

Open bearings and bearings with seals on one side are not greased as standard. They must be lubricated with oil or grease. Lubrication is carried out via the end faces of the bearings.

Compatibility with plastic cages

When using bearings with plastic cages, compatibility between the lubricant and the cage material must be ensured if synthetic oils, lubricating greases with a synthetic oil base or lubricants containing a high proportion of EP additives are used.

Observe oil change intervals

Aged oil and additives in the oil can impair the operating life of plastics at high temperatures. As a result, stipulated oil change intervals must be strictly observed.

☞ *Open bearings are greased*

Double row deep groove ball bearings

As standard, the bearings are lubricated with a high quality lithium soap grease with a mineral oil base and are maintenance-free for most applications.

1.5 Sealing

☞ *The bearings are available in open and sealed designs*

☞ *Provide seals in the adjacent construction*

☞ *For bearing assemblies with high speeds and lower requirements for sealing*

☞ *Z sealing shields for standard bearings and for bearings of Gen. C*


☞ *RZ seals for standard bearings of series 618 and 619*

☞ *BRS seals for bearings of Gen. C*

☞ *For lower speeds and higher requirements for sealing action*

☞ *RSR seals, for standard bearings*


Single row deep groove ball bearings


Single row deep groove ball bearings are available in open designs, as well as with seals on one or both sides ▶ 213 |  2. In the case of sealed bearings, either non-contact or contact seals are used.


In the case of unsealed bearings, sealing of the bearing position must be carried out by the adjacent construction. The sealing system should reliably prevent:


- moisture and contaminants from entering the bearing
- the egress of lubricant from the bearing.

Single row bearings with non-contact seals and sealing shields – standard bearings and Generation C

Non-contact seals are particularly suitable for applications with high speeds and high requirements for low inherent heat generation ▶ 219 |  2. They are free from friction, except for a small amount of lubricant friction in the sealing gap. As a rule, non-contact seals do not undergo wear and therefore have an unlimited operating life. Deep groove ball bearings with non-contact seals on one or both sides have the suffixes RZ and 2RZ, or BRS and 2BRS; the suffixes Z and 2Z indicate seals on one or both sides with sealing shields.


Z sealing shields are made from sheet steel. They sit securely in the outer ring and form a narrow, non-contact seal gap relative to the surface of the inner ring ▶ 219 |  2. This sealing arrangement is particularly suitable for applications with a rotating inner ring, high to very high speeds and low contamination impact.

RZ seals are rubberised sealing washers with a sheet steel reinforcement, which sit securely in the outer ring and form a narrow, non-contact seal gap relative to the surface of the inner ring ▶ 219 |  2.

BRS seals are rubberised sealing washers with a sheet steel reinforcement, which sit securely in the outer ring and form a narrow, non-contact seal gap relative to the surface of the inner ring ▶ 219 |  2. The seal is securely anchored in the outer ring. A recess incorporated in the inner ring forms a labyrinth in conjunction with the seal lip, which is filled with grease. The frictional behaviour of this seal is comparable with that of the Z sealing shield, however, the protection against ingress of dust and egress of lubricant is higher.

Single row bearings with non-contact seals – standard bearings and Generation C

As these seals are in contact with a defined contact pressure against their sliding surface, they provide very good sealing action against the egress of lubricant and ingress of moisture and dust. Attention must, however, be paid to the loss of energy resulting from friction at the sealing contact. Furthermore, in bearings with contact seals, the bearing speed is restricted by the permissible sliding velocity at the seal lip, i.e. the speed suitability of these bearings is lower than for open bearings or bearings with non-contact seals.

RSR seals are elastomer lip seals with a sheet steel reinforcement ▶ 219 |  2. One seal lip is in radial contact with the inner ring.



HRS and ELS seals for bearings of Gen. C

HRS and ELS seals are securely anchored in a recess in the outer ring. The sealing material is vulcanised onto a sheet steel reinforcement ► 219 | 2. The sealing washer, together with the inner ring, forms an axial sealing system. In addition, the outer non-contact lip forms a protective labyrinth with the inner ring. An additional increase in the sealing action is also provided by the film of grease between the two seal lips. With this sealing arrangement, higher speeds can be achieved than with conventional RSR seals, as the frictional torque and thus the heat generation in the bearing is lower.



Generation C deep groove ball bearings with contact seals are supplied with HRS seals as standard. ELS seals are available for these bearings by agreement.










2
Seal characteristics – standard bearings and Generation C

- +++ = excellent
- ++ = very good
- + = good
- 0 = satisfactory
- = unsatisfactory



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Suffix	Type of seal	Seal characteristic				
		low-friction running	high speeds	sealing integrity against ingress of water	sealing integrity against ingress of dust	sealing integrity against loss of grease
-	 open (without seals)	+++	+++	-	-	-
Z, 2Z	 non-contact (sheet metal), for standard bearings and Gen. C	++	+++	0	0	0
RZ, 2RZ	 non-contact (elastomer), for standard bearings	++	+++	0	0	0
BRS, 2BRS	 non-contact (elastomer), for Gen. C	++	+++	0	+	+
HRS, 2HRS	 contact (elastomer), for Gen. C	0	+	++	++	++
RSR, 2RSR	 contact (elastomer), for standard bearings	0	+	+	++	++
ELS, 2ELS	 contact (elastomer), for Gen. C	+	++	++	+++	+++


☞ *The bearings are of an open design*

Double row deep groove ball bearings

Double row deep groove ball bearings are not sealed. As a result, sealing of the bearing position must be carried out by the adjacent construction ▶ 218 | 1.5.

1.6 Speeds

☞ *Limiting speeds and reference speeds in the product tables*

Two speeds are generally indicated in the product tables ▶ 232 | :

- the kinematic limiting speed n_G
- the thermal speed rating $n_{\theta r}$.

Limiting speeds



The limiting speed n_G is the kinematically permissible speed of the bearing. Even under favourable mounting and operating conditions, this value should not be exceeded without prior consultation with Schaeffler ▶ 64.

The values given in the product tables are valid for oil lubrication in the case of bearings without seals or shields and for grease lubrication where bearings are supplied greased and with seals or shields.

☞ *Values for grease lubrication*

For grease lubrication, 85% of the value stated in the product tables is permissible in each case.

Reference speeds

☞ *$n_{\theta r}$ is used to calculate n_{θ}*

The thermal speed rating $n_{\theta r}$ is not an application-oriented speed limit, but is a calculated ancillary value for determining the thermally safe operating speed n_{θ} ▶ 64.

☞ *Bearings with contact seals*

For bearings with contact seals, no reference speeds are defined in accordance with DIN ISO 15312:2004. As a result, only the limiting speed n_G is given in the product tables for these bearings.

Speeds for bearing sets



For matched bearing pairs in an O, X or tandem arrangement, the speed must be limited to approx. 80% of the individual bearings. More accurate speed data for a specific application can be requested from Schaeffler.

1.7 Noise

The Schaeffler Noise Index (SGI) has been developed as a new feature for comparing the noise level of different bearing types and series. As a result, a noise evaluation of rolling bearings can now be carried out for the first time.

Schaeffler Noise Index

The SGI value is based on the maximum permissible noise level of a bearing in accordance with internal standards, which is calculated on the basis of ISO 15242. In order that different bearing types and series can be compared, the SGI value is plotted against the basic static load rating C_0 .

This permits direct comparisons between bearings with the same load carrying capacity. The upper limit value is given in each of the diagrams. This means that the average noise level of the bearings is lower than illustrated in the diagram.



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! The Schaeffler Noise Index is an additional performance characteristic in the selection of bearings for noise-sensitive applications. The specific suitability of a bearing for an application in terms of installation space, load carrying capacity or speed limit for example, must be checked independently of this.

👁️ The Noise Index is currently available for the main series. Additional series will be updated and introduced in subsequent publications.

Further information:

■ **medias** ➤ <https://medias.schaeffler.com>.

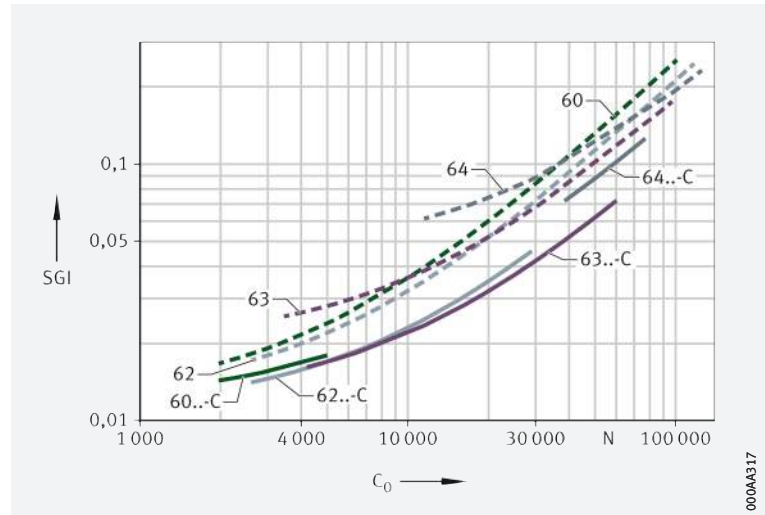


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Schaeffler Noise Index
for deep groove ball bearings

SGI = Schaeffler Noise Index
 C_0 = basic static load rating



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1.8 Temperature range

👉 Limiting values

The operating temperature of the bearings is limited by:

- the dimensional stability of the bearing rings and rolling elements
- the cage
- the lubricant
- the seals.

Possible operating temperatures of single row deep groove ball bearings ➤ 221 | 3.

3
Permissible temperature ranges

Operating temperature	Open deep groove ball bearings		Sealed deep groove ball bearings	
	with brass or sheet steel cage	with polyamide cage PA66	with seals BRS, 2BRS, ELS, 2ELS, HRS, 2HRS, RSR, 2RSR, RZ, 2RZ	with gap seals Z, 2Z
🌡️	$D \leq 90$ mm, -30 °C to $+120$ °C ¹⁾	-30 °C to $+120$ °C	-30 °C to $+110$ °C, limited by the lubricant, cage material and seal material	-30 °C to $+120$ °C, limited by the lubricant, cage material and seal material
	90 mm $< D \leq 240$ mm, -30 °C to $+150$ °C ¹⁾			
	$D > 240$ mm, -30 °C to $+200$ °C ¹⁾			

¹⁾ By agreement, dimensionally stabilised for higher temperatures.



In the event of anticipated temperatures which lie outside the stated values, please contact Schaeffler.

1.9 Cages

Single row bearings: sheet steel or solid brass cages are used as standard

Standard cages for single row deep groove ball bearings are made from sheet steel or brass ▶ 222 | 4. Other cage designs are available ▶ 225 | 8. With such cages, however, suitability for high speeds and temperatures as well as the basic load ratings may differ from the values for the bearings with standard cages.

4
Cage, cage suffix, bore code for single row deep groove ball bearings

Bearing series	Sheet steel cage	Sheet brass cage	Solid brass cage
	Bore code		
60	up to 34	–	from 36
62	up to 30	–	from 32
63	up to 26, 30	–	28, from 32
64	up to 14	–	from 15
160	up to 52	–	from 56
618	up to 08, 26, 30 to 56	09 to 24, 28	from 60
619	up to 18, 21, 32 to 48	–	26
622	up to 12	–	–
623	up to 10	–	–

Double row bearings

Double row deep groove ball bearings have cages made from glass fibre reinforced polyamide PA66.



For high continuous temperatures and applications with difficult operating conditions, bearings with brass or sheet steel cages should be used. If there is any uncertainty regarding cage suitability, please consult Schaeffler.

Riveted sheet metal cages used as standard

Cages for bearings of Generation C

In bearings of Generation C, a noise-optimised, riveted sheet steel cage is used as the standard cage. This cage design does not have a cage suffix in the bearing designation.



The bearings are also available with cages made from glass fibre reinforced polyamide PA66 by agreement.




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1.10 Internal clearance


 The standard is CN

Radial internal clearance

Deep groove ball bearings of basic design and bearings of Generation C are manufactured as standard with radial internal clearance CN (normal) ▶ 223 |  5. CN is not stated in the designation.


The bearings are also available with the smaller internal clearance C2 and with the larger internal clearance C3 and C4.

 CM also available for smaller bore diameters

Deep groove ball bearings with a bore diameter $10 \leq d \leq 50$ are also available with the more closely tolerated bearing internal clearance CM (specifically for use in electric motors) ▶ 223 |  6.




The values for radial internal clearance (not CM) correspond to DIN 620-4:2004 (ISO 5753-1:2009). They are valid for bearings which are free from load and measurement forces (without elastic deformation).

 5
Radial internal clearance of deep groove ball bearings – standard bearings and Gen. C



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Nominal bore diameter d		Radial internal clearance							
mm		C2 (Group 2)		CN (Group N)		C3 (Group 3)		C4 (Group 4)	
over	incl.	μm		μm		μm		μm	
		min.	max.	min.	max.	min.	max.	min.	max.
1,5	6	0	7	2	13	8	23	–	–
6	10	0	7	2	13	8	23	14	29
10	18	0	9	3	18	11	25	18	33
18	24	0	10	5	20	13	28	20	36
24	30	1	11	5	20	13	28	23	41
30	40	1	11	6	20	15	33	28	46
40	50	1	11	6	23	18	36	30	51
50	65	1	15	8	28	23	43	38	61
65	80	1	15	10	30	25	51	46	71
80	100	1	18	12	36	30	58	53	84
100	120	2	20	15	41	36	66	61	97
120	140	2	23	18	48	41	81	71	114
140	160	2	23	18	53	46	91	81	130
160	180	2	25	20	61	53	102	91	147
180	200	2	30	25	71	63	117	107	163
200	225	2	35	25	85	75	140	125	195
225	250	2	40	30	95	85	160	145	225
250	280	2	45	35	105	90	170	155	245

 6
Radial internal clearance CM

Nominal bore diameter d		Radial internal clearance CM	
mm		μm	
over	incl.	min.	max.
10		4	11
18		5	12
24		5	12
30		9	17
40		9	17

1.11 Dimensions, tolerances

Dimension standards



The main dimensions of single row deep groove ball bearings correspond to DIN 625-1:2011. Nominal dimensions of single row deep groove ball bearings ▶ 232 |

The main dimensions of double row deep groove ball bearings correspond to DIN 625-3:2011. Nominal dimensions of double row deep groove ball bearings ▶ 276 |

Chamfer dimensions



The limiting dimensions for chamfer dimensions correspond to DIN 620-6:2004. Overview and limiting values ▶ 135 | 7.11. Nominal value of chamfer dimension ▶ 232 |

Tolerances for standard bearings



The tolerances for the dimensional and running accuracy of single and double row standard bearings correspond to tolerance class Normal in accordance with ISO 492:2014. Bearings with a higher accuracy are available by agreement. Tolerance values in accordance with ISO 492 ▶ 122 | 8.



The width tolerance of matched bearings deviates from the values in the above-mentioned standard ▶ 224 | 7.



Width tolerance of bearing rings in matched bearings

Tolerance symbols ▶ 122 |

U = upper limit deviation

L = lower limit deviation

Nominal bore diameter d mm		Width deviation $t_{\Delta Bs}$ μm	
over	incl.	U	L
–	18	0	–250
18	50	0	–300
50	80	0	–450
80	120	0	–550
120	180	0	–750
180	250	0	–950
250	315	0	–1050

Tolerances for bearings of Generation C



The dimensional and running tolerances correspond to tolerance class 6 in accordance with ISO 492:2014. Bearings with a higher accuracy are available by agreement. Tolerance values in accordance with ISO 492 ▶ 124 | 11.



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1.12 Suffixes

For a description of the suffixes used in this chapter ▶ 225 | 8, ▶ 225 | 9 and **medias** interchange ▶ <https://www.schaeffler.de/std/1D52>.



Further special designs of deep groove ball bearings are available by agreement.



8
Suffixes and corresponding descriptions, single row deep groove ball bearings



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Suffix	Description of suffix	
C	Deep groove ball bearing, Generation C	Standard
M	Solid brass cage, ball-guided	
MA	Solid brass cage, guided on outer ring rib	Available by agreement
MB	Solid brass cage, guided on inner ring rib	
C2	Radial internal clearance C2 (smaller than normal)	Available by agreement
C3	Radial internal clearance C3 (larger than normal)	
C4	Radial internal clearance C4 (larger than C3)	
CM	Radial internal clearance more closely toleranced than normal	
2BRS	Non-contact seal on both sides (labyrinth seal)	Standard for Generation C
2HRS	Contact seal on both sides (lip seal)	Standard for Generation C
2RSR	Contact seal on both sides (lip seal)	Standard
2RZ	Non-contact seal on both sides (rubberised gap seal)	Standard
2Z	Non-contact sealing shield on both sides (sheet metal gap seal)	Standard
BRS	Non-contact seal on one side (labyrinth seal)	Available by agreement
ELS	Contact seal on one side (lip seal)	Available by agreement for Generation C
2ELS	Contact seal on both sides (lip seal)	Available by agreement for Generation C
RSR	Contact seal on one side (lip seal)	Available by agreement
RZ	Non-contact seal on one side (rubberised gap seal)	Available by agreement
TVH	Solid cage made from glass fibre reinforced polyamide PA66	Available by agreement
Y	Sheet brass cage	Available by agreement
Z	Non-contact sealing shield on one side (sheet metal gap seal)	Available by agreement
S0	Dimensionally stabilised bearing for operating temperatures up to +150 °C	Available by agreement
S1	Dimensionally stabilised bearing for operating temperatures up to +200 °C	Available by agreement
S2	Dimensionally stabilised bearing for operating temperatures up to +250 °C	Available by agreement



9
Suffixes and corresponding descriptions, double row deep groove ball bearings

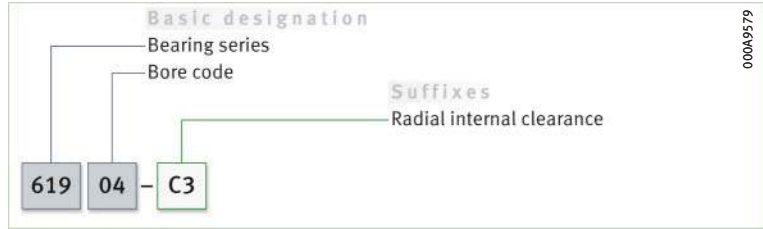
Suffix	Description of suffix	
B	Modified internal construction	Standard
TVH	Solid cage made from glass fibre reinforced polyamide PA66	Standard

1.13 Structure of bearing designation

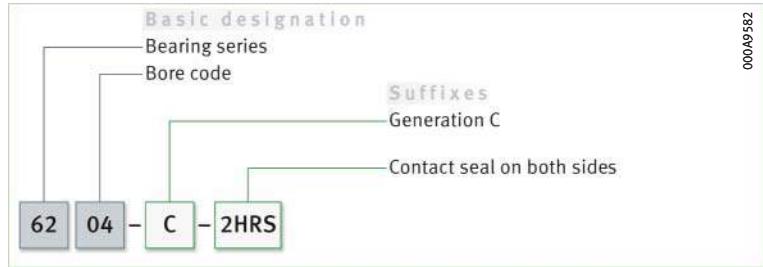
Examples of composition of bearing designation

The designation of bearings follows a set model. Examples ▶ 226|10, ▶ 226|11 and ▶ 226|12. The composition of designations is subject to DIN 623-1 ▶ 102|10.

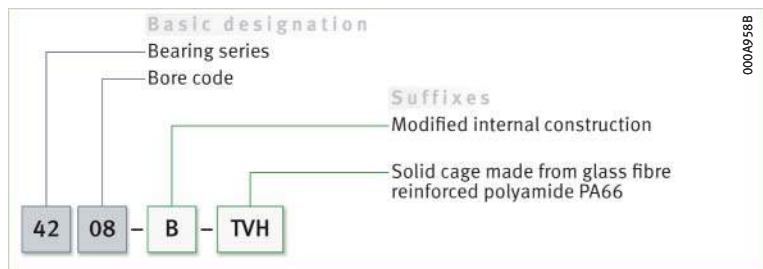
10
Single row deep groove ball bearing, open: designation structure



11
Single row deep groove ball bearing, sealed, Generation C: designation structure



12
Double row deep groove ball bearing, open: designation structure



1.14 Dimensioning

Equivalent dynamic bearing load

$P = F_r$ under purely radial load of constant magnitude and direction

P is a substitute force for combined load and various load cases

$F_a/F_r \leq e$ or $F_a/F_r > e$

The basic rating life equation $L = (C_r/P)^P$ used in the dimensioning of bearings under dynamic load assumes a load of constant magnitude and direction. In radial bearings, this is a purely radial load F_r . If this condition is met, the bearing load F_r is used in the rating life equation for P ($P = F_r$). If this condition is not met, a constant radial force must first be determined for the rating life calculation that (in relation to the rating life) represents an equivalent load. This force is known as the equivalent dynamic bearing load P .

The calculation of P is dependent on the load ratio F_a/F_r and the calculation factor e ▶ 227|1 and ▶ 227|2.



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f1
Equivalent dynamic load

$$\frac{F_a}{F_r} \leq e \Rightarrow P = F_r$$

f2
Equivalent dynamic load

$$\frac{F_a}{F_r} > e \Rightarrow P = X \cdot F_r + Y \cdot F_a$$

Legend

P	N	Equivalent dynamic bearing load
F_r	N	Radial load
F_a	N	Axial load
e, X, Y	-	Factors ▶ 227 10.



The values in accordance with ▶ 227 | 10 are valid for normal fits (shaft manufactured to j5 or k5, housing bore manufactured to J6). If the calculation values lie between the stated values (e.g. in the case of 0,4), then read off the table values for 0,3 and 0,5 and determine the intermediate values using linear interpolation.

10
Factors e, X and Y

$\frac{f_0 \cdot F_a}{C_{0r}}$	Factor for radial internal clearance CN		
	e	X	Y
0,3	0,22	0,56	2
0,5	0,24	0,56	1,8
0,9	0,28	0,56	1,58
1,6	0,32	0,56	1,4
3	0,36	0,56	1,2
6	0,43	0,56	1

Legend

C_{0r}	N	Basic static load rating ▶ 232 10
f_0	-	Factor ▶ 232 10
F_a	N	Axial load.

Equivalent static bearing load

For deep groove ball bearings under static load ▶ 227 | f3 and ▶ 227 | f4. The calculation of P_0 is dependent on the load ratio F_{0a}/F_{0r} and the factor 0,8.

f3
Equivalent static load

$$\frac{F_{0a}}{F_{0r}} \leq 0,8 \Rightarrow P_0 = F_{0r}$$

f4
Equivalent static load

$$\frac{F_{0a}}{F_{0r}} > 0,8 \Rightarrow P_0 = 0,6 \cdot F_{0r} + 0,5 \cdot F_{0a}$$

Legend

P_0	N	Equivalent static bearing load
F_{0r}, F_{0a}	N	Largest radial or axial load present (maximum load).

Static load safety factor

In addition to the basic rating life L_{10h} , it is also always necessary to check the static load safety factor S_0 ▶ 227 | f5.

f5
Static load safety factor

$$S_0 = \frac{C_0}{P_0}$$

Legend

S_0	-	Static load safety factor
C_0	N	Basic static load rating
P_0	N	Equivalent static bearing load.



1.15 Minimum load

In order to prevent damage due to slippage, a minimum radial load of $P > C_{0r}/100$ is required

In order that no slippage occurs between the contact partners, the deep groove ball bearings must be constantly subjected to a sufficiently high load. Based on experience, a minimum radial load of the order of $P > C_{0r}/100$ is thus necessary. In most cases, however, the radial load is already higher than the requisite minimum load due to the weight of the supported parts and the external forces.



If the minimum radial load is lower than indicated above, please consult Schaeffler.

1.16 Design of bearing arrangements

Support bearing rings over their entire circumference and width

In order to allow full utilisation of the load carrying capacity of the bearings and thus also achieve the requisite rating life, the bearing rings must be rigidly and uniformly supported by means of contact surfaces over their entire circumference and over the entire width of the raceway. The seating and contact surfaces should not be interrupted by grooves, holes or other recesses. The accuracy of mating parts must meet specific requirements [▶ 229 | 11](#) to [▶ 230 | 13](#).

For secure radial location, tight fits are necessary

Radial location of bearings – fit recommendations

In addition to supporting the rings adequately, the bearings must also be securely located in a radial direction, to prevent creep of the bearing rings on the mating parts under load. This is generally achieved by means of tight fits between the bearing rings and the mating parts. If the rings are not secured adequately or correctly, this can cause severe damage to the bearings and adjacent machine parts. Influencing factors, such as the conditions of rotation, magnitude of the load, internal clearance, temperature conditions, design of the mating parts and the mounting and dismounting options must be taken into consideration in the selection of fits.



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If shock type loads occur, tight fits (transition fit or interference fit) are required to prevent the rings from coming loose at any point. Clearance, transition or interference fits [▶ 150 | 6](#) and [▶ 158 | 7](#).



The following information provided in Technical principles must be taken into consideration in the design of bearing arrangements:

- conditions of rotation [▶ 145](#)
- tolerance classes for cylindrical shaft seats (radial bearings) [▶ 147 | 2](#)
- shaft fits [▶ 150 | 6](#)
- tolerance classes for bearing seats in housings (radial bearings) [▶ 148 | 4](#)
- housing fits [▶ 158 | 7](#).

The bearings must also be securely located in an axial direction

Axial location of bearings – location methods

As a tight fit alone is not normally sufficient to also locate the bearing rings securely on the shaft and in the housing bore in an axial direction, this must usually be achieved by means of an additional axial location or retention method. The axial location of the bearing rings must be matched to the type of bearing arrangement. Shaft and housing shoulders, housing covers, nuts, spacer rings and retaining rings etc., are fundamentally suitable.

*Example:
single row deep groove
ball bearing,
bearing arrangement
in an electric motor*

Axial adjustment by means of spring element to reduce noise

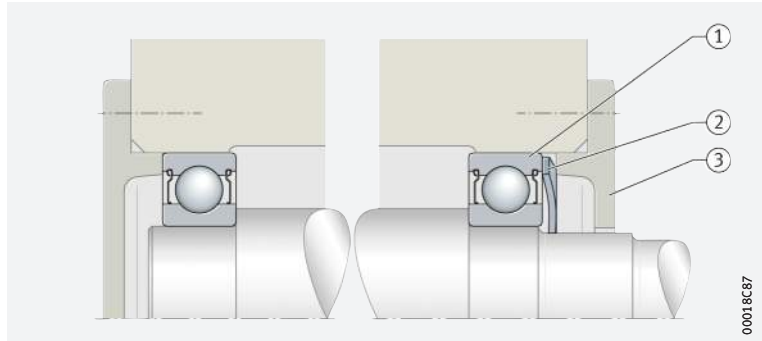
If the bearing arrangement is to run particularly quietly, this can be achieved economically with commonly available spring elements ▶ 229 | 13. The bearings in the figure must only support guidance forces in an axial direction. The inner rings have a tight fit on the shaft and are abutted on the shaft shoulders. The outer rings are mounted with a sliding seat. A spring washer is fitted between the outer ring of the right hand bearing and the cover collar. The bearings are thus axially adjusted by the tensioned springs. This achieves particularly smooth running.



13

Bearing arrangement axially adjusted with a spring washer

- ① Deep groove ball bearing
- ② Spring washer
- ③ Cover



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For bearings with tolerance class Normal, a minimum of IT6 should be provided for the shaft seat and a minimum of IT7 for the housing seat

Dimensional, geometrical and running accuracy of the bearing seats

The accuracy of the cylindrical bearing seat on the shaft and in the housing should correspond to the accuracy of the bearing used. For deep groove ball bearings with the tolerance class Normal, the shaft seat should correspond to a minimum of standard tolerance grade IT6 and the housing seat to a minimum of IT7; with tolerance class 6, the shaft seat should correspond to a minimum of IT5 and the housing seat to a minimum of IT6. Guide values for the geometrical and positional tolerances of bearing seating surfaces ▶ 229 | 11, tolerances t_1 to t_3 in accordance with ▶ 168 | 11. Numerical values for IT grades ▶ 230 | 12.

11

Guide values for the geometrical and positional tolerances of bearing seating surfaces

Bearing tolerance class		Bearing seating surface	Standard tolerance grades to ISO 286-1 (IT grades)			
to ISO 492	to DIN 620		Diameter tolerance	Roundness tolerance	Parallelism tolerance	Total axial runout tolerance of abutment shoulder
				t_1	t_2	t_3
Normal	PN (P0)	Shaft	IT6 (IT5)	Circumferential load	Circumferential load	IT4
				IT4/2	IT4/2	
		Housing	IT7 (IT6)	Circumferential load	Circumferential load	IT5
				IT5/2	IT5/2	
6	P6	Shaft	IT5	Circumferential load	Circumferential load	IT3
				IT3/2	IT3/2	
		Housing	IT6	Circumferential load	Circumferential load	IT4
				IT4/2	IT4/2	



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12
Numerical values
for ISO standard tolerances
(IT grades) to ISO 286-1:2010

IT grade	Nominal dimension in mm							
	over	3	6	10	18	30	50	80
	incl.	3	6	10	18	30	50	80
Values in μm								
IT3	2	2,5	2,5	3	4	4	5	6
IT4	3	4	4	5	6	7	8	10
IT5	4	5	6	8	9	11	13	15
IT6	6	8	9	11	13	16	19	22
IT7	10	12	15	18	21	25	30	35

continued ▼

12
Numerical values
for ISO standard tolerances
(IT grades) to ISO 286-1:2010

IT grade	Nominal dimension in mm							
	over 120	180	250	315	400	500	630	800
	incl. 180	250	315	400	500	630	800	1000
Values in μm								
IT3	8	10	12	13	15	16	18	21
IT4	12	14	16	18	20	22	25	28
IT5	18	20	23	25	27	32	36	40
IT6	25	29	32	36	40	44	50	56
IT7	40	46	52	57	63	70	80	90

continued ▲

☞ *Ra must not be too high*

Roughness of cylindrical bearing seating surfaces

The roughness of the bearing seats must be matched to the tolerance class of the bearings. The mean roughness value Ra must not be too high, in order to maintain the interference loss within limits. The shafts must be ground, while the bores must be precision turned. Guide values as a function of the IT grade of bearing seating surfaces ▶ 230 | 13.

13
Roughness values
for cylindrical bearing seating
surfaces – guide values

Nominal diameter of the bearing seat d (D) mm		Recommended mean roughness value for ground bearing seats Ramax μm			
		Diameter tolerance (IT grade)			
over	incl.	IT7	IT6	IT5	IT4
–	80	1,6	0,8	0,4	0,2
80	500	1,6	1,6	0,8	0,4
500	1 250	3,2 ¹⁾	1,6	1,6	0,8

¹⁾ For the mounting of bearings using the hydraulic method, a value Ra = 1,6 μm must not be exceeded.

☞ *The contact surfaces for the rings must be of sufficient height*

Mounting dimensions for the contact surfaces of bearing rings

The mounting dimensions of the shaft and housing shoulders, and spacer rings etc., must ensure that the contact surfaces for the bearing rings are of sufficient height. However, they must also reliably prevent rotating parts of the bearing from grazing stationary parts. Proven mounting dimensions for the radii and diameters of the abutment shoulders are given in the product tables. These dimensions are limiting dimensions (maximum or minimum dimensions); the actual values should not be higher or lower than specified.



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1.17 Mounting and dismounting



The mounting and dismounting options for deep groove ball bearings, by thermal, hydraulic or mechanical methods, must be taken into consideration in the design of the bearing position.



☞ *Ensure that the bearings are not damaged during mounting.*

Deep groove ball bearings are not separable. In the mounting of non-separable bearings, the mounting forces must always be applied to the bearing ring with a tight fit.

☞ *Rolling bearings must be handled with great care*

Schaeffler Mounting Handbook

Rolling bearings are well-proven precision machine elements for the design of economical and reliable bearing arrangements, which offer high operational security. In order that these products can function correctly and achieve the envisaged operating life without detrimental effect, they must be handled with care.



The Schaeffler Mounting Handbook MH 1 gives comprehensive information about the correct storage, mounting, dismounting and maintenance of rotary rolling bearings ► <https://www.schaeffler.de/std/1D53>. It also provides information which should be observed by the designer, in relation to the mounting, dismounting and maintenance of bearings, in the original design of the bearing position. This book is available from Schaeffler on request.

1.18 Legal notice regarding data freshness

☞ *The further development of products may also result in technical changes to catalogue products*

Of central interest to Schaeffler is the further development and optimisation of its products and the satisfaction of its customers. In order that you, as the customer, can keep yourself optimally informed about the progress that is being made here and with regard to the current technical status of the products, we publish any product changes which differ from the printed version in our electronic product catalogue.



We therefore reserve the right to make changes to the data and illustrations in this catalogue. This catalogue reflects the status at the time of printing. More recent publications released by us (as printed or digital media) will automatically precede this catalogue if they involve the same subject. Therefore, please always use our electronic product catalogue to check whether more up-to-date information or modification notices exist for your desired product.

Link to electronic product catalogue



The following link will take you to the Schaeffler electronic product catalogue: ► <https://medias.schaeffler.com>.

1.19 Further information



In addition to the data in this chapter, the following chapters in Technical principles must also be observed in the design of bearing arrangements:

- Determining the bearing size ► 34
- Rigidity ► 54
- Friction and increases in temperature ► 56
- Speeds ► 64
- Bearing data ► 97
- Lubrication ► 70
- Sealing ► 182
- Design of bearing arrangements ► 139
- Mounting and dismounting ► 191.

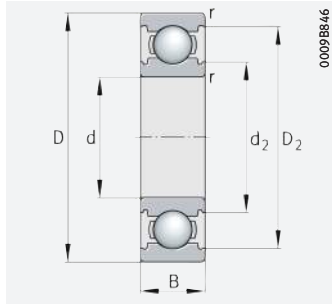


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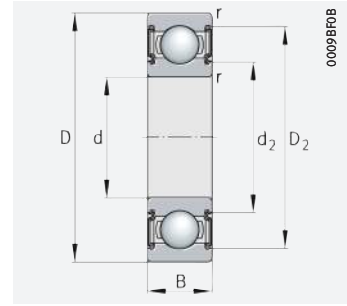


Deep groove ball bearings

Single row



Generation C, open



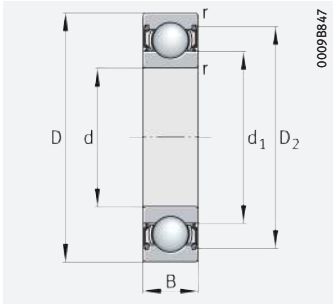
With seal 2BRS, 2HRS, 2Z

d = 2 – 9 mm

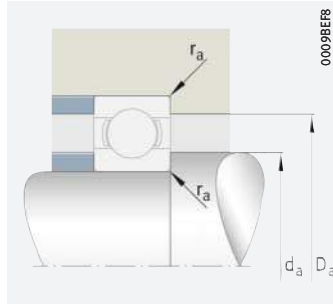
Main dimensions			Basic load ratings		Fatigue limit load	Limiting speed	Speed rating	Factor	Mass	Designation
d	D	B	dyn. C _r N	stat. C _{0r} N	C _{ur} N	n _G min ⁻¹	n _{0r} min ⁻¹	f ₀	m ≈ kg	▶ 225 1.12 ▶ 226 1.13
2	5	2,3	180	49,5	1,26	137 000	114 000	12,9	0,001	682-2Z
	6	3	350	99	2,6	112 000	107 000	11,5	0,002	692-2Z
	7	3,5	410	128	7,3	102 000	89 000	12,7	0,001	602-2Z
3	7	3	330	112	2,9	103 000	79 000	14	0,001	683-2Z
	8	4	590	180	4,65	87 000	83 000	11,9	0,001	693-2Z
	10	4	670	218	11,1	84 000	80 000	12,3	0,002	623-2Z
4	9	4	680	225	5,8	81 000	71 000	12,7	0,002	684-2Z
	12	4	1 020	345	19,7	69 000	59 000	12,3	0,002	604-2Z
	13	5	1 380	485	24,6	61 000	53 000	12,2	0,003	624-2Z
	16	5	1 840	670	40,5	53 000	42 000	12,4	0,006	634-2Z
5	11	5	760	280	7,3	71 000	61 000	–	0,002	685-2Z
	14	5	1 410	510	29	58 000	49 000	12,9	0,004	605-2Z
	16	5	1 560	600	28,5	55 000	43 500	13,2	0,005	625-2Z
	19	6	2 600	1 050	53	45 000	34 000	13	0,009	635-2Z
6	13	5	1 150	440	11,4	61 000	49 000	13,8	0,003	686-2Z
	17	6	2 090	740	42	49 000	43 500	12,2	0,006	606-2Z
	19	6	2 600	1 050	53	45 000	35 000	13	0,008	626-2Z
7	14	5	1 250	510	13,2	58 000	43 500	14,2	0,003	687-2Z
	19	6	2 800	1 060	65	44 500	37 500	12,4	0,008	607-2Z
	22	7	3 500	1 360	69	40 500	35 000	12,3	0,014	627-2Z
8	16	5	1 330	590	15,2	53 000	37 000	14,8	0,004	688-2Z
	22	7	3 500	1 370	69	40 000	34 500	12,4	0,012	608-2Z
	24	8	3 550	1 410	89	38 500	34 500	12,8	0,018	628-2Z
9	17	5	1 410	660	17,1	51 000	33 500	15	0,005	689-2Z
	24	7	3 900	1 640	83	38 000	30 000	13	0,016	609-2Z
	26	8	5 000	1 970	133	44 500	29 500	12,4	0,019	629-C
	26	8	5 000	1 970	133	38 000	29 500	12,4	0,02	629-C-2BRS
	26	8	5 000	1 970	133	30 000	–	12,4	0,02	629-C-2HRS
	26	8	5 000	1 970	133	38 000	29 500	12,4	0,02	629-C-2Z



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With seal 2Z



Mounting dimensions



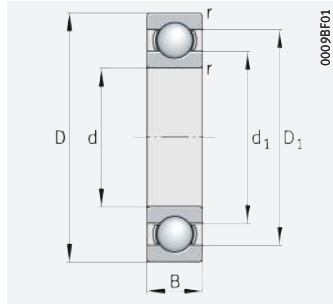
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Dimensions						Mounting dimensions		
d	r	D ₁	D ₂	d ₁	d ₂	d _a	D _a	r _a
	min.	≈	≈	≈		min.	max.	max.
2	0,08	–	4,4	2,7	–	2,52	4,48	0,08
	0,15	–	5,4	3	–	2,8	5,2	0,15
	0,15	–	6,2	–	3,2	2,8	6,2	0,15
3	0,1	–	6,4	–	3,9	3,6	6,4	0,1
	0,15	–	7,3	4,4	–	3,8	7,2	0,15
	0,15	–	8,3	–	4,7	4,4	8,6	0,2
4	0,1	–	8,1	5,2	–	4,6	8,77	0,1
	0,2	–	9,9	–	5,6	5,4	10,6	0,2
	0,2	–	11,4	–	6,3	5,8	11,2	0,2
	0,3	–	13,5	–	7,5	6,4	13,6	0,3
5	0,15	–	9,9	–	6,2	5,8	10,2	0,15
	0,2	–	12,2	–	6,9	6,4	12,6	0,2
	0,3	–	13,5	–	7,5	7,4	13,6	0,3
	0,3	–	16,7	–	9	7,4	16,6	0,3
6	0,15	–	11,8	7,9	–	6,8	12,2	0,15
	0,3	–	14,7	9	–	8	15	0,3
	0,3	–	16,7	–	9	8,4	16,6	0,3
7	0,15	–	12,7	–	8,5	7,8	13,2	0,15
	0,3	–	16,7	–	9,4	9	17	0,3
	0,3	–	19,3	–	11	9,4	19,6	0,3
8	0,2	–	14,2	–	9,7	9,4	14,6	0,2
	0,3	–	19,3	–	11	10	20	0,3
	0,3	–	20,1	–	12,7	10,4	21,6	0,3
9	0,2	–	15,2	–	10,7	10,4	15,6	0,2
	0,3	–	20,1	–	12,2	11	22	0,3
	0,3	–	23,3	–	13,6	11,4	23,6	0,3
	0,3	–	23,4	–	13,4	11,4	23,6	0,3
	0,3	–	21,4	–	13,6	11,4	23,6	0,3
	0,3	–	21,4	–	13,6	11,4	23,6	0,3

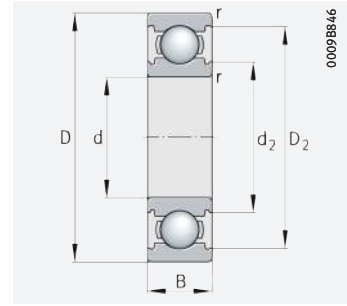


Deep groove ball bearings

Single row



Open



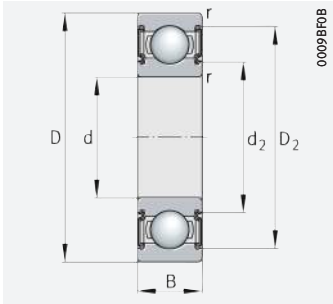
Generation C, open

d = 10 – 10 mm

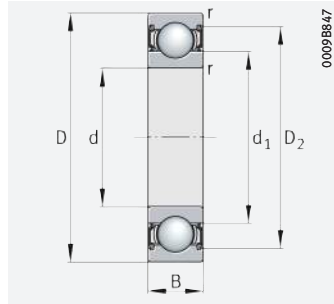
Main dimensions			Basic load ratings		Fatigue limit load	Limiting speed	Speed rating	Factor	Mass	Designation
d	D	B	dyn. C _r N	stat. C _{0r} N	C _{ur} N	n _G min ⁻¹	n _{thr} min ⁻¹	f ₀	m ≈ kg	▶ 225 1.12 ▶ 226 1.13
10	19	5	1 820	840	56	54 000	27 500	14,8	0,005	61800
	19	5	1 820	840	56	21 100	–	14,8	0,006	61800-2RSR
	19	5	1 820	840	56	46 000	27 500	14,8	0,006	61800-2Z
	22	6	2 850	1 270	65	48 000	27 000	14	0,01	61900
	22	6	2 850	1 270	65	19 200	–	14	0,012	61900-2RSR
	22	6	2 850	1 270	65	41 000	27 000	14	0,01	61900-2Z
	26	8	5 000	1 970	133	44 500	30 000	12,4	0,017	6000-C
	26	8	5 000	1 970	133	38 000	30 000	12,4	0,02	6000-C-2BRS
	26	8	5 000	1 970	133	30 000	–	12,4	0,018	6000-C-2HRS
	26	8	5 000	1 970	133	38 000	30 000	12,4	0,02	6000-C-2Z
	30	9	6 600	2 600	177	40 500	26 000	12	0,03	6200-C
	30	9	6 600	2 600	177	34 500	26 000	12	0,033	6200-C-2BRS
	30	9	6 600	2 600	177	27 000	–	12	0,032	6200-C-2HRS
	30	9	6 600	2 600	177	34 500	26 000	12	0,032	6200-C-2Z
	30	14	6 200	2 600	194	16 700	–	12	0,044	62200-2RSR
	35	11	8 600	3 450	174	31 000	21 100	11,3	0,055	6300
	35	11	8 600	3 450	174	9 500	–	11,3	0,057	6300-2RSR
	35	11	8 600	3 450	174	26 500	21 100	11,3	0,057	6300-2Z
35	17	8 500	3 450	265	14 900	–	11,3	0,06	62300-2RSR	



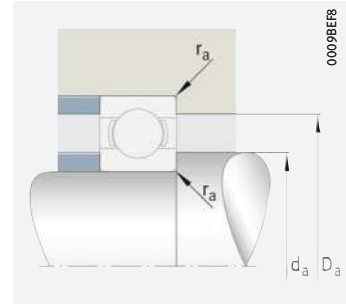
Kalasanati.com



With seal 2BRS, 2HRS, 2RSR, 2Z



With seal 2RSR



Mounting dimensions

Dimensions						Mounting dimensions		
d	r	D ₁	D ₂	d ₁	d ₂	d _a	D _a	r _a
	min.	≈	≈	≈		min.	max.	max.
10	0,3	16,3	–	12,7	–	12	17	0,3
	0,3	–	17,2	–	11,8	12	17	0,3
	0,3	–	17,2	–	11,8	12	17	0,3
	0,3	18,2	–	13,9	–	12	20	0,3
	0,3	–	19,4	–	13,2	12	20	0,3
	0,3	–	19,4	–	13,2	12	20	0,3
	0,3	–	23,3	–	13,6	12	24	0,3
	0,3	–	23,4	–	13,4	12	24	0,3
	0,3	–	23,4	–	13,4	12	24	0,3
	0,3	–	23,4	–	13,6	12	24	0,3
	0,6	–	25,8	–	14,9	14,2	25,8	0,6
	0,6	–	26	–	14,9	14,2	26	0,6
	0,6	–	25	–	15	14,2	25,8	0,6
	0,6	–	26	–	14,9	14,2	25,8	0,6
	0,6	–	25,8	16	–	14,2	25,8	0,6
	0,6	27	–	18,1	–	14,2	30,8	0,6
	0,6	–	28,6	18,1	–	14,2	30,8	0,6
	0,6	–	28,6	18,1	–	14,2	30,8	0,6
0,6	–	29,5	–	15,4	14,2	30,8	0,6	

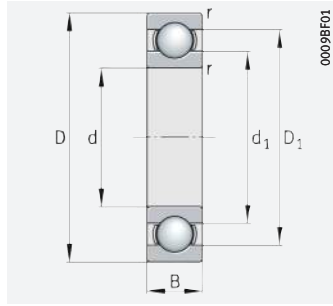


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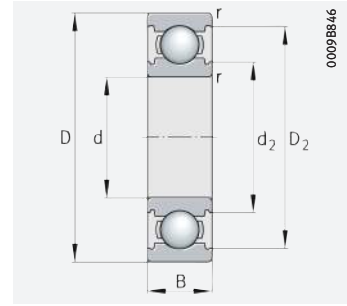


Deep groove ball bearings

Single row



Open



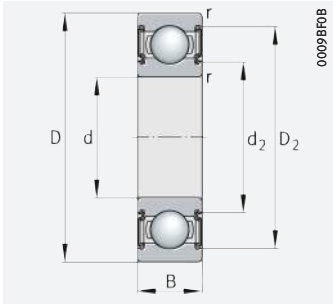
Generation C, open

d = 12 – 12 mm

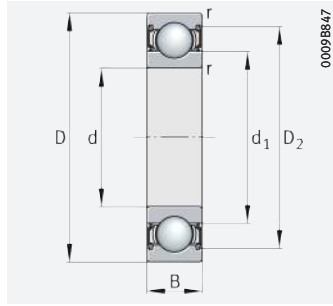
Main dimensions			Basic load ratings		Fatigue limit load C_{ur} N	Limiting speed n_G min ⁻¹	Speed rating $n_{\theta r}$ min ⁻¹	Factor f_0	Mass m ≈ kg	Designation ▶ 225 1.12 ▶ 226 1.13
d	D	B	dyn. C_r N	stat. C_{0r} N						
12	21	5	1890	910	46	42 500	23 500	13,4	0,007	61801
	21	5	1890	910	46	18 100	–	13,4	0,007	61801-2RSR
	21	5	1890	910	46	42 500	23 500	13,4	0,006	61801-2Z
	24	6	3 050	1 460	75	45 000	23 300	14,5	0,012	61901
	24	6	3 050	1 460	75	16 700	–	14,5	0,012	61901-2RSR
	24	6	3 050	1 460	75	38 000	23 300	14,5	0,012	61901-2Z
	28	8	5 500	2 370	158	42 500	26 000	13,1	0,02	6001-C
	28	8	5 500	2 370	158	36 000	26 000	13,1	0,02	6001-C-2BRS
	28	8	5 500	2 370	158	26 000	–	13,1	0,02	6001-C-2HRS
	28	8	5 500	2 370	158	36 000	26 000	13,1	0,02	6001-C-2Z
	32	10	7 600	3 100	208	37 000	24 600	12,3	0,037	6201-C
	32	10	7 600	3 100	208	31 500	24 600	12,3	0,039	6201-C-2BRS
	32	10	7 600	3 100	208	23 400	–	12,3	0,039	6201-C-2HRS
	32	10	7 600	3 100	208	31 500	24 600	12,3	0,039	6201-C-2Z
	32	14	7 200	3 100	236	14 600	–	12,3	0,049	62201-2RSR
	37	17	10 300	4 200	320	13 900	–	11,1	0,07	62301-2RSR
	37	12	10 900	4 200	280	31 000	21 900	11,1	0,062	6301-C
37	12	10 900	4 200	280	26 500	21 900	11,1	0,064	6301-C-2BRS	
37	12	10 900	4 200	280	21 700	–	11,1	0,064	6301-C-2HRS	
37	12	10 900	4 200	280	26 500	21 900	11,1	0,061	6301-C-2Z	



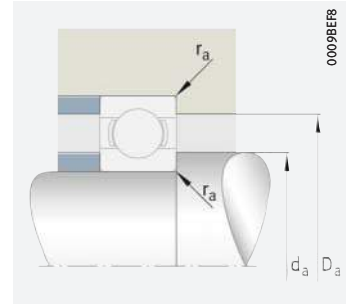
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With seal 2BRS, 2HRS, 2RSR, 2Z



With seal 2RSR



Mounting dimensions



Dimensions

d	r	D ₁	D ₂	d ₁	d ₂
	min.	≈	≈	≈	
12	0,3	18,3	–	14,8	–
	0,3	–	19,2	–	13,8
	0,3	–	19,2	–	13,8
	0,3	20,3	–	16	–
	0,3	–	21,4	–	15,4
	0,3	–	21,4	–	15,4
	0,3	–	25,3	–	15,6
	0,3	–	25,4	–	15,4
	0,3	–	24,5	–	15,6
	0,3	–	25,3	–	15,6
	0,6	–	28	–	17,2
	0,6	–	28,2	–	17
	0,6	–	27,4	–	17,2
	0,6	–	28,2	–	17,2
	0,6	–	27,9	18,3	–
	1	–	32,6	19,3	–
	1	–	32	–	18
	1	–	32	–	17,9
	1	–	32	–	18
	1	–	32	–	18

Mounting dimensions

d _a	D _a	r _a
min.	max.	max.
14	19	0,3
14	19	0,3
14	19	0,3
14	22	0,3
14	22	0,3
14	22	0,3
14	26	0,3
14	26	0,3
14	26	0,3
14	26	0,3
16,2	27,8	0,6
16,2	27,8	0,6
16,2	27,8	0,6
16,2	27,8	0,6
16,2	27,8	0,6
18,75	30,55	1
17,6	31,4	1
17,6	31,4	1
17,6	31,4	1
17,6	31,4	1

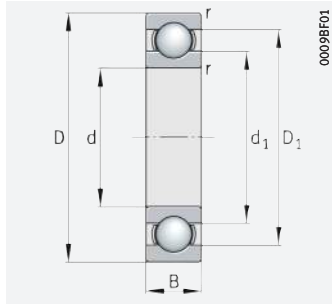


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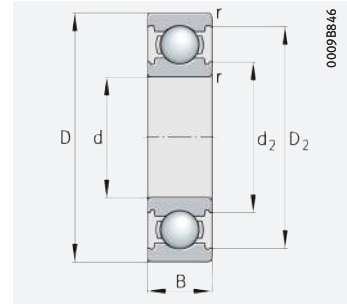


Deep groove ball bearings

Single row



Open



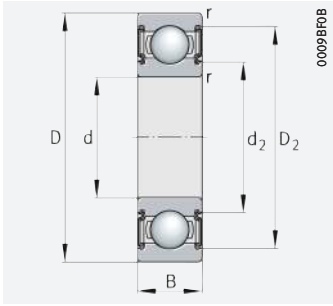
Generation C, open

d = 15 – 15 mm

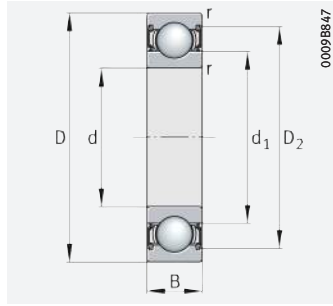
Main dimensions			Basic load ratings		Fatigue limit load C_{ur} N	Limiting speed n_G min ⁻¹	Speed rating n_{0r} min ⁻¹	Factor f_0	Mass m ≈ kg	Designation ▶ 225 1.12 ▶ 226 1.13
d	D	B	dyn. C_r N	stat. C_{0r} N						
15	24	5	2 050	1 100	56	45 000	19 200	13,9	0,008	61802
	24	5	2 050	1 100	56	15 000	–	13,9	0,008	61802-2RSR
	24	5	2 050	1 100	56	38 000	19 200	13,9	0,008	61802-2Z
	28	7	4 600	2 260	128	38 000	20 600	14,3	0,019	61902
	28	7	4 600	2 260	128	14 200	–	14,3	0,019	61902-2RSR
	28	7	4 600	2 260	128	32 000	20 600	14,3	0,019	61902-2Z
	32	8	5 900	2 850	144	33 500	20 000	14	0,025	16002
	32	9	6 000	2 850	171	37 000	23 200	14	0,031	6002-C
	32	9	6 000	2 850	171	31 500	23 200	14	0,033	6002-C-2BRS
	32	9	6 000	2 850	171	21 000	–	14	0,028	6002-C-2HRS
	32	9	6 000	2 850	171	31 500	23 200	14	0,033	6002-C-2Z
	35	11	8 400	3 750	250	33 000	21 900	13	0,043	6202-C
	35	11	8 400	3 750	250	28 000	22 000	13	0,033	6202-C-2BRS
	35	11	8 400	3 750	250	20 000	–	13	0,045	6202-C-2HRS
	35	11	8 400	3 750	250	28 000	21 900	13	0,045	6202-C-2Z
	35	14	8 200	3 750	191	12 700	–	13	0,057	62202-2RSR
	42	17	11 900	5 300	410	11 500	–	12	0,106	62302-2RSR
	42	13	12 600	5 300	360	27 500	19 200	12	0,08	6302-C
42	13	12 600	5 300	360	23 500	19 200	12	0,083	6302-C-2BRS	
42	13	12 600	5 300	360	17 700	–	12	0,083	6302-C-2HRS	
42	13	12 600	5 300	360	23 500	19 200	12	0,082	6302-C-2Z	



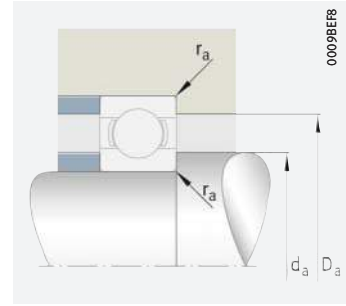
Kalasanati.com



With seal 2BRS, 2HRS, 2RSR, 2Z



With seal 2RSR, 2Z



Mounting dimensions



Dimensions						Mounting dimensions		
d	r	D ₁	D ₂	d ₁	d ₂	d _a	D _a	r _a
	min.	≈	≈	≈		min.	max.	max.
15	0,3	21,3	–	17,8	–	17	22	0,3
	0,3	–	22,2	–	16,8	17	22	0,3
	0,3	–	22,2	–	16,8	17	22	0,3
	0,3	24,2	–	18,8	–	17	26	0,3
	0,3	–	25,3	18,8	–	17	26	0,3
	0,3	–	25,3	18,8	–	17	26	0,3
	0,3	26,8	–	20,5	–	17	30	0,3
	0,3	–	28,9	–	19,1	17	30	0,3
	0,3	–	29	–	18,9	17	30	0,3
	0,3	–	28,4	–	19,1	17	30	0,3
	0,3	–	28,4	–	19,1	17	30	0,3
	0,6	–	31,2	–	15,6	19,2	30,8	0,6
	0,6	–	29	–	18,9	19,2	30,8	0,6
	0,6	–	29	–	20	19,2	30,8	0,6
	0,6	–	31,2	–	20	19,2	30,8	0,6
	0,6	–	30,6	21,1	–	19,2	30,8	0,6
	1	–	36,2	23,2	–	20,6	36,4	1
	1	–	34,1	–	22,9	20,6	36,4	1
	1	–	34,1	–	22,9	20,6	36,4	1
	1	–	34,1	–	22,9	20,6	36,4	1
1	–	34,1	–	22,9	20,6	36,4	1	

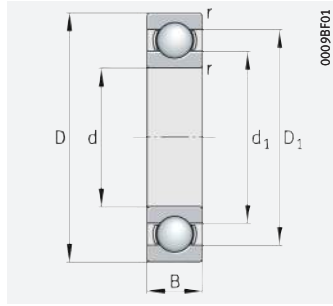


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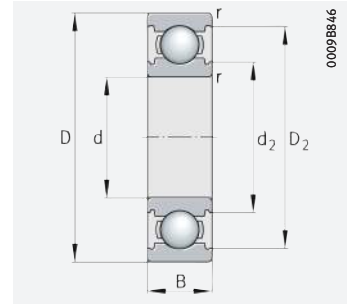


Deep groove ball bearings

Single row



Open



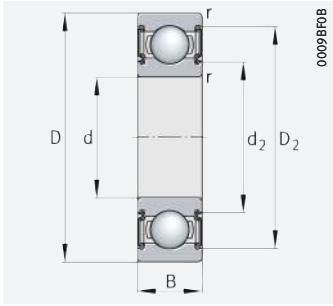
Generation C, open

d = 17 – 17 mm

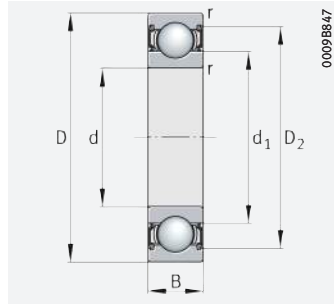
Main dimensions			Basic load ratings		Fatigue limit load C_{ur} N	Limiting speed n_G min^{-1}	Speed rating $n_{\theta r}$ min^{-1}	Factor f_0	Mass m $\approx \text{kg}$	Designation ▶ 225 1.12 ▶ 226 1.13
d	D	B	dyn. C_r N	stat. C_{0r} N						
17	26	5	2 210	1 280	65	41 500	17 100	14,1	0,008	61803
	26	5	2 210	1 280	65	13 500	–	14,1	0,008	61803-2RSR
	26	5	2 210	1 280	65	35 000	17 100	14,1	0,008	61803-2Z
	30	7	4 900	2 550	146	34 500	17 800	14,7	0,014	61903
	30	7	4 900	2 550	146	12 700	–	14,7	0,02	61903-2RSR
	30	7	4 900	2 550	146	29 000	17 800	14,7	0,017	61903-2Z
	35	10	6 400	3 250	157	31 000	20 300	14,3	0,038	6003
	35	8	6 400	3 250	165	31 000	17 700	14,3	0,032	16003
	35	10	6 400	3 250	157	11 800	–	14,3	0,04	6003-2RSR
	35	10	6 400	3 250	157	26 000	20 300	14,3	0,04	6003-2Z
	40	12	10 400	4 750	320	29 000	20 100	13	0,062	6203-C
	40	12	10 400	4 750	320	24 600	20 100	13	0,065	6203-C-2BRS
	40	12	10 400	4 750	320	17 600	–	13	0,067	6203-C-2HRS
	40	12	10 400	4 750	320	24 600	20 100	13	0,067	6203-C-2Z
	40	16	10 000	4 750	345	11 100	–	13	0,085	62203-2RSR
	47	19	14 300	6 600	510	9 700	–	12,4	0,152	62303-2RSR
	47	14	15 000	6 500	440	24 500	17 400	12,2	0,107	6303-C
	47	14	15 000	6 500	440	20 800	17 400	12,2	0,111	6303-C-2BRS
	47	14	15 000	6 500	440	15 700	–	12,2	0,111	6303-C-2HRS
	47	14	15 000	6 500	440	20 800	17 400	12,2	0,067	6303-C-2Z
62	17	23 800	11 500	750	16 200	11 600	12,4	0,269	6403	



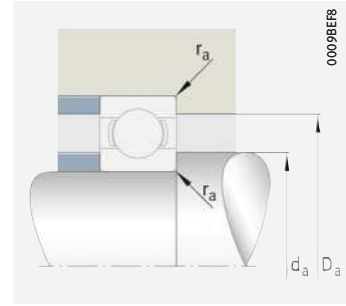
Kalasanati.com



With seal 2BRS, 2HRS, 2RSR, 2Z



With seal 2RSR, 2Z



Mounting dimensions



Dimensions						Mounting dimensions			
d	r	D ₁	D ₂	d ₁	d ₂	d _a	D _a	r _a	
	min.	≈	≈	≈		min.	max.	max.	
17	0,3	23,3	–	19,8	–	19	24	0,3	
	0,3	–	24,2	–	18,8	19	24	0,3	
	0,3	–	24,2	–	18,8	19	24	0,3	
	0,3	26,8	–	21	–	19	28	0,3	
	0,3	–	27,8	21	–	19	28	0,3	
	0,3	–	27,8	21	–	19	28	0,3	
	0,3	29,5	–	22,7	–	19	33	0,3	
	0,3	29,5	–	22,8	–	19	33	0,3	
	0,3	–	30,8	22,7	–	19	33	0,3	
	0,3	–	30,8	22,7	–	19	33	0,3	
	0,6	–	35	–	22,8	–	21,2	35,8	0,6
	0,6	–	35,2	–	22,8	–	21,2	35,8	0,6
	0,6	–	34,4	–	22,8	–	21,2	35,8	0,6
	0,6	–	32,9	–	22,8	–	21,2	35,8	0,6
	0,6	–	35	24,1	–	–	21,2	35,8	0,6
	1	–	41,1	27,5	–	–	22,6	41,4	1
	1	–	40,2	–	25,9	–	22,6	41,4	1
	1	–	40,2	–	25,9	–	22,6	41,4	1
	1	–	40,2	–	25,9	–	22,6	41,4	1
1	–	35,2	–	22,6	–	22,6	41,4	1	
1,1	–	50,2	–	36,4	–	26	53	1	

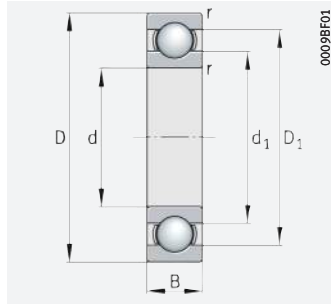


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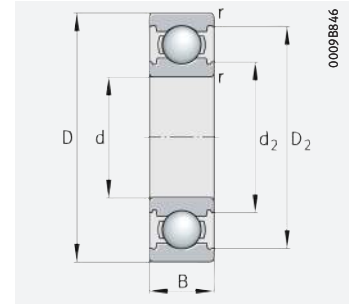


Deep groove ball bearings

Single row



Open



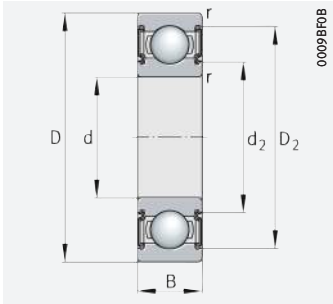
Generation C, open

d = 20 – 20 mm

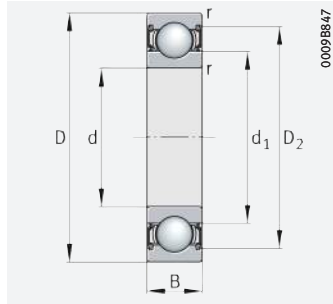
Main dimensions			Basic load ratings		Fatigue limit load C_{ur} N	Limiting speed n_G min^{-1}	Speed rating $n_{\theta r}$ min^{-1}	Factor f_0	Mass m $\approx \text{kg}$	Designation ▶ 225 1.12 ▶ 226 1.13
d	D	B	dyn. C_r N	stat. C_{0r} N						
20	32	7	3 950	2 130	108	33 500	17 200	13,4	0,018	61804
	32	7	3 950	2 130	108	11 500	–	13,4	0,018	61804-2RSR
	32	7	3 950	2 130	108	28 500	17 200	13,4	0,018	61804-2Z
	37	9	6 800	3 700	226	28 500	17 000	14,8	0,04	61904
	37	9	6 800	3 700	226	10 600	–	14,8	0,037	61904-2RSR
	37	9	6 800	3 700	226	24 200	17 000	14,8	0,037	61904-2Z
	42	8	7 400	4 100	207	26 000	14 300	14,9	0,048	16004
	42	12	10 000	5 000	305	27 500	19 700	13,8	0,07	6004-C
	42	12	10 000	5 000	305	23 200	19 700	13,8	0,071	6004-C-2BRS
	42	12	10 000	5 000	305	15 800	–	13,8	0,069	6004-C-2HRS
	42	12	10 000	5 000	305	23 200	19 700	13,8	0,066	6004-C-2Z
	47	14	13 900	6 600	445	24 300	18 100	13,1	0,106	6204-C
	47	14	13 900	6 600	445	20 600	18 100	13,1	0,104	6204-C-2BRS
	47	14	13 900	6 600	445	15 000	–	13,1	0,11	6204-C-2HRS
	47	14	13 900	6 600	445	20 600	18 100	13,1	0,104	6204-C-2Z
	47	18	13 400	6 600	475	9 400	–	13,1	0,129	62204-2RSR
	52	15	16 900	7 900	530	19 800	14 400	12,4	0,151	6304
	52	21	16 900	7 900	540	8 900	–	12,4	0,2	62304-2RSR
	52	15	16 900	7 900	530	8 800	–	12,4	0,155	6304-2RSR
52	15	16 900	7 900	530	16 800	14 400	12,4	0,155	6304-2Z	
72	19	30 500	16 200	820	13 700	9 800	13	0,405	6404	



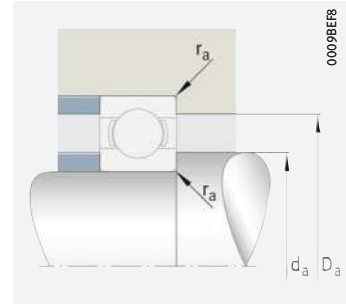
Kalasanati.com



With seal 2BRS, 2HRS, 2RSR, 2Z



With seal 2RSR, 2Z



Mounting dimensions



Dimensions						Mounting dimensions		
d	r	D ₁	D ₂	d ₁	d ₂	d _a	D _a	r _a
	min.	≈	≈	≈		min.	max.	max.
20	0,3	28,2	–	23,2	–	22	30	0,3
	0,3	–	29,5	–	22,6	22	30	0,3
	0,3	–	29,5	–	22,6	22	30	0,3
	0,3	32	–	25,2	–	22	35	0,3
	0,3	–	33,5	–	23,7	22	35	0,3
	0,3	–	33,5	–	23,7	22	35	0,3
	0,3	35	–	28,4	–	22	40	0,3
	0,6	–	37,4	–	25,2	23,2	38,8	0,6
	0,6	–	37,7	–	25,1	23,2	38,8	0,6
	0,6	–	37,4	–	25,2	23,2	38,8	0,6
	0,6	–	37,4	–	25,2	23,2	38,8	0,6
	1	–	41,4	–	26,5	25,6	41,4	1
	1	–	41,4	–	26,6	25,6	41,4	1
	1	–	41,4	–	26,6	25,6	41,4	1
	1	–	41,4	–	26,6	25,6	41,4	1
	1	–	41,5	–	25,9	25,6	41,4	1
	1,1	41,9	–	30,3	–	27	45	1
	1,1	–	45,1	30	–	27	45	1
	1,1	–	44,4	30,3	–	27	45	1
	1,1	–	44,4	30,3	–	27	45	1
1,1	59,6	–	37,5	–	29	63	1	

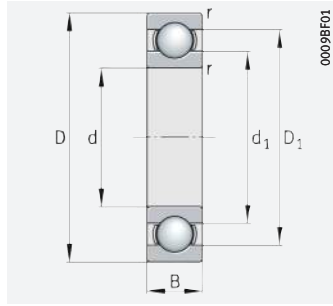


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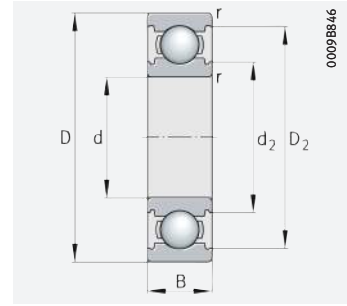


Deep groove ball bearings

Single row



Open



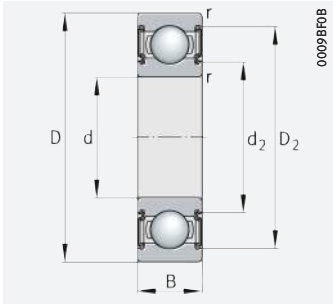
Generation C, open

d = 25 – 25 mm

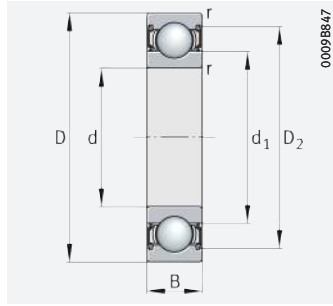
Main dimensions			Basic load ratings		Fatigue limit load	Limiting speed	Speed rating	Factor	Mass	Designation
d	D	B	dyn. C _r N	stat. C _{0r} N	C _{ur} N	n _G min ⁻¹	n _{θr} min ⁻¹	f ₀	m ≈ kg	▶ 225 1.12 ▶ 226 1.13
25	37	7	4 250	2 550	129	28 000	13 900	13,9	0,023	61805
	37	7	4 250	2 550	129	9 500	–	13,9	0,021	61805-2RSR
	37	7	4 250	2 550	129	24 000	13 900	13,9	0,02	61805-2Z
	42	9	7 400	4 550	280	24 200	13 500	15,4	0,042	61905
	42	9	7 400	4 550	280	8 700	–	15,4	0,047	61905-2RSR
	42	9	7 400	4 550	280	20 500	13 500	15,4	0,045	61905-2Z
	47	12	10 700	5 900	305	21 900	15 200	14,6	0,081	6005
	47	8	7 700	4 650	234	22 900	12 000	15,5	0,052	16005
	47	12	10 700	5 900	305	8 400	–	14,6	0,085	6005-2RSR
	47	12	10 700	5 900	305	18 600	15 200	14,6	0,083	6005-2Z
	52	15	15 000	7 800	485	21 600	16 000	13,8	0,129	6205-C
	52	15	15 000	7 800	485	18 400	16 000	13,8	0,133	6205-C-2BRS
	52	15	15 000	7 800	485	12 700	–	13,8	0,133	6205-C-2HRS
	52	15	15 000	7 800	485	18 400	16 000	13,8	0,133	6205-C-2Z
	52	18	14 900	7 900	530	7 900	–	13,9	0,155	62205-2RSR
	62	24	23 800	11 500	770	7 300	–	12,4	0,316	62305-2RSR
	62	17	24 700	11 500	780	17 800	13 500	12,4	0,215	6305-C
	62	17	24 700	11 500	780	15 100	13 500	12,4	0,242	6305-C-2BRS
62	17	24 700	11 500	780	11 300	–	12,4	0,224	6305-C-2HRS	
62	17	24 700	11 500	780	15 100	13 500	12,4	0,222	6305-C-2Z	
80	21	35 500	19 100	1 250	12 300	9 400	13,1	0,549	6405	



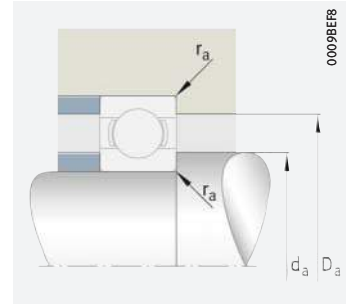
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With seal 2BRS, 2HRS, 2RSR, 2Z



With seal 2RSR, 2Z



Mounting dimensions



Dimensions						Mounting dimensions		
d	r	D ₁	D ₂	d ₁	d ₂	d _a	D _a	r _a
	min.	≈	≈	≈		min.	max.	max.
25	0,3	33,2	–	28,2	–	27	35	0,3
	0,3	–	34,2	28,2	–	27	35	0,3
	0,3	–	34,2	28,2	–	27	35	0,3
	0,3	37,5	–	30,9	–	27	40	0,3
	0,3	–	39,5	30,9	–	27	40	0,3
	0,3	–	39,5	30,9	–	27	40	0,3
	0,6	40,2	–	32	–	28,2	43,8	0,6
	0,3	40	–	32,5	–	27	45	0,3
	0,6	–	42,5	32	–	28,2	43,8	0,6
	0,6	–	42,5	32	–	28,2	43,8	0,6
	1	–	46,4	–	31,4	30,6	46,4	1
	1	–	46,4	–	31,3	30,6	46,4	1
	1	–	46,4	–	31,4	30,6	46,4	1
	1	–	46,4	–	31,4	30,6	46,4	1
	1	–	46,3	–	31,8	30,6	46,4	1
	1,1	–	52,8	–	33,6	32	55	1
	1,1	–	54	–	34	32	55	1
	1,1	–	54	–	34	32	55	1
	1,1	–	54	–	34	32	55	1
	1,1	–	54	–	34	32	55	1
1,5	65,6	–	49,3	–	36	69	1,5	

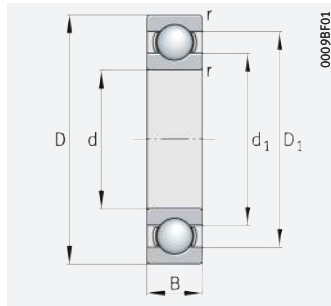


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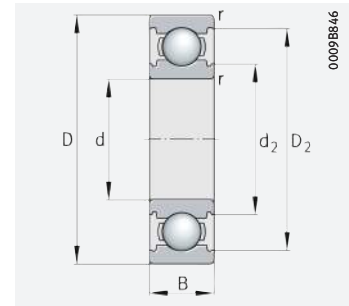


Deep groove ball bearings

Single row



Open



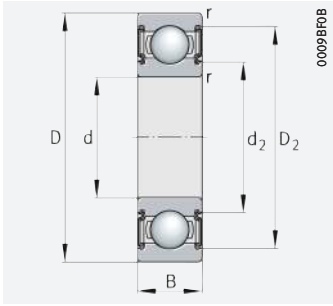
Generation C, open

d = 30 – 30 mm

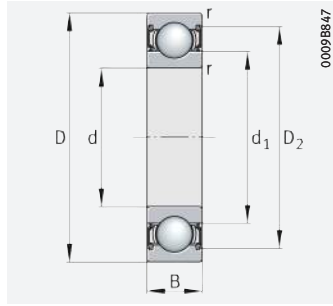
Main dimensions			Basic load ratings		Fatigue limit load C_{ur} N	Limiting speed n_G min^{-1}	Speed rating $n_{\theta r}$ min^{-1}	Factor f_0	Mass m $\approx \text{kg}$	Designation ▶ 225 1.12 ▶ 226 1.13
d	D	B	dyn. C_r N	stat. C_{0r} N						
30	42	7	4 500	2 950	149	24 500	11 500	14,2	0,027	61806
	42	7	4 500	2 950	149	8 100	–	14,2	0,027	61806-2RSR
	42	7	4 500	2 950	149	20 800	11 500	14,2	0,027	61806-2Z
	47	9	7 700	5 000	310	21 700	11 900	15,7	0,051	61906
	47	9	7 700	5 000	310	7 600	–	15,7	0,053	61906-2RSR
	47	9	7 700	5 000	310	18 400	11 900	15,7	0,053	61906-2Z
	55	13	13 500	8 000	390	18 500	13 100	14,8	0,122	6006
	55	9	11 900	7 300	370	18 900	10 500	15,1	0,082	16006
	55	13	13 500	8 000	390	7 000	–	14,8	0,126	6006-2RSR
	55	13	13 500	8 000	390	15 700	13 100	14,8	0,126	6006-2Z
	62	16	20 800	11 300	700	17 800	13 400	13,8	0,195	6206-C
	62	16	20 800	11 300	700	15 100	13 400	13,8	0,201	6206-C-2BRS
	62	16	20 800	11 300	700	10 600	–	13,8	0,201	6206-C-2HRS
	62	16	20 800	11 300	700	15 100	13 400	13,8	0,201	6206-C-2Z
	62	20	20 700	11 300	570	6 700	–	13,8	0,243	62206-2RSR
	72	27	30 000	15 800	1 060	6 000	–	13	0,486	62306-2RSR
	72	19	32 000	16 200	1 090	15 100	11 500	13	0,328	6306-C
	72	19	32 000	16 200	1 090	12 800	11 500	13	0,339	6306-C-2BRS
	72	19	32 000	16 200	1 090	8 900	–	13	0,34	6306-C-2HRS
72	19	32 000	16 200	1 090	12 800	11 500	13	0,339	6306-C-2Z	
90	23	45 500	25 000	1 640	10 800	8 600	13	0,74	6406	



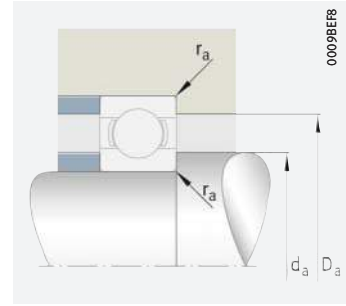
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With seal 2BRS, 2HRS, 2RSR, 2Z



With seal 2RSR, 2Z



Mounting dimensions



Dimensions

d	r	D ₁	D ₂	d ₁	d ₂
	min.	≈	≈	≈	
30	0,3	38,2	–	33,1	–
	0,3	–	39,2	33,1	–
	0,3	–	39,2	33,1	–
	0,3	42	–	35,1	–
	0,3	–	44,1	35,1	–
	0,3	–	44,1	35,1	–
	1	47,2	–	38,3	–
	0,3	47,9	–	39,2	–
	1	–	49,2	38,3	–
	1	–	49,2	38,3	–
	1	–	55,4	–	37,5
	1	–	55,4	–	37,4
	1	–	55,4	–	37,5
	1	–	55,4	–	37,5
	1	–	55,4	–	37,5
	1	–	55,2	–	38
	1,1	–	62,5	–	41,7
	1,1	–	63,4	–	41,3
	1,1	–	63,4	–	41,3
	1,1	–	63,4	–	41,3
1,1	–	63,4	–	41,3	
1,5	74,6	–	55,6	–	

Mounting dimensions

d _a	D _a	r _a
min.	max.	max.
32	40	0,3
32	40	0,3
32	40	0,3
32	45	0,3
32	45	0,3
32	45	0,3
34,6	50,4	1
32	53	0,3
34,6	50,4	1
34,6	50,4	1
35,6	56,4	1
35,6	56,4	1
35,6	56,4	1
35,6	56,4	1
35,6	56,4	1
37	65	1
37	65	1
37	65	1
37	65	1
37	65	1
41	79	1,5

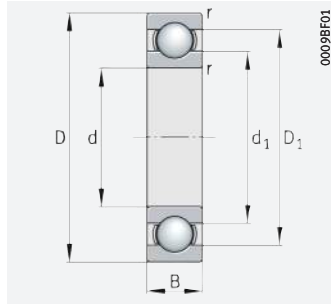


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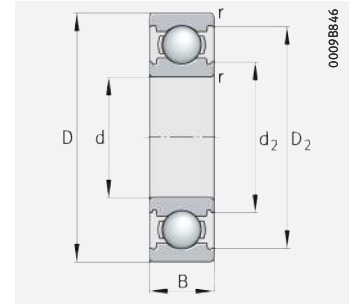


Deep groove ball bearings

Single row



Open



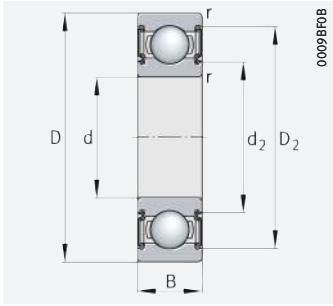
Generation C, open

d = 35 – 35 mm

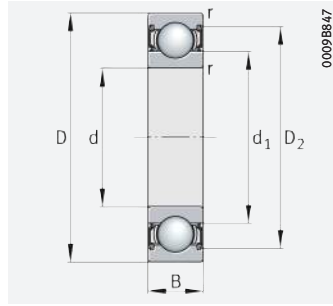
Main dimensions			Basic load ratings		Fatigue limit load C_{ur} N	Limiting speed n_G min^{-1}	Speed rating $n_{\theta r}$ min^{-1}	Factor f_0	Mass m $\approx \text{kg}$	Designation ▶ 225 1.12 ▶ 226 1.13
d	D	B	dyn. C_r N	stat. C_{0r} N						
35	47	7	4 700	3 350	170	21 600	9 900	14,4	0,032	61807
	47	7	4 700	3 350	170	7 000	–	14,4	0,032	61807-2RSR
	47	7	4 700	3 350	170	18 300	9 900	14,4	0,032	61807-2Z
	55	10	10 100	6 800	410	18 300	10 500	15,7	0,076	61907
	55	10	10 100	6 800	345	6 500	–	15,7	0,076	61907-2RSR
	55	10	10 100	6 800	410	15 600	10 500	15,7	0,076	61907-2Z
	62	14	17 000	10 300	550	16 100	11 600	14,9	0,157	6007
	62	9	13 000	8 800	445	16 700	8 900	15,6	0,105	16007
	62	14	17 000	10 300	550	6 200	–	14,9	0,163	6007-2RSR
	62	14	17 000	10 300	550	13 700	11 700	14,9	0,163	6007-2Z
	72	17	28 000	15 400	1 030	15 000	11 300	13,9	0,262	6207-C
	72	17	28 000	15 400	1 030	12 700	11 300	13,9	0,274	6207-C-2BRS
	72	17	28 000	15 400	1 030	8 800	–	13,9	0,274	6207-C-2HRS
	72	17	28 000	15 400	1 030	12 700	11 300	13,9	0,273	6207-C-2Z
	72	23	27 500	15 300	770	5 700	–	13,8	0,384	62207-2RSR
	80	31	35 500	19 100	1 280	5 300	–	13,1	0,651	62307-2RSR
	80	21	37 000	19 100	1 290	13 600	10 900	13,1	0,434	6307-C
	80	21	37 000	19 100	1 290	11 500	10 900	13,1	0,447	6307-C-2BRS
80	21	37 000	19 100	1 290	8 300	–	13,1	0,449	6307-C-2HRS	
80	21	37 000	19 100	1 290	11 500	10 900	13,1	0,447	6307-C-2Z	
100	25	56 000	31 500	2 180	9 500	7 900	12,9	0,971	6407	



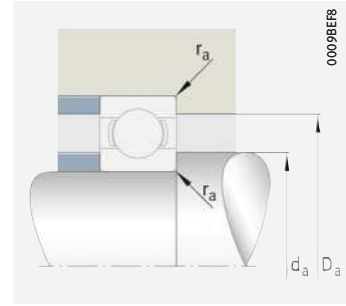
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With seal 2BRS, 2HRS, 2RSR, 2Z



With seal 2RSR, 2Z



Mounting dimensions



Dimensions						Mounting dimensions		
d	r	D ₁	D ₂	d ₁	d ₂	d _a	D _a	r _a
	min.	≈	≈	≈		min.	max.	max.
35	0,3	42,8	–	38,2	–	37	45	0,3
	0,3	–	44	38,2	–	37	45	0,3
	0,3	–	44	38,2	–	37	45	0,3
	0,6	48,4	–	41,6	–	38,2	51,8	0,6
	0,6	–	50,6	41,1	–	38,2	51,8	0,6
	0,6	–	50,6	41,1	–	38,2	51,8	0,6
	1	53,3	–	43,2	–	39,6	57,4	1
	0,3	52,7	–	44,3	–	37	60	0,3
	1	–	55,4	43,2	–	39,6	57,4	1
	1	–	55,4	43,2	–	39,6	57,4	1
	1,1	–	64,7	–	44,5	42	65	1
	1,1	–	64,7	–	44,5	42	65	1
	1,1	–	64,7	–	44,5	42	65	1
	1,1	–	64,7	–	44,5	42	65	1
	1,1	–	62,9	–	44,1	42	65	1
	1,5	–	70,1	–	46,2	44	71	1,5
	1,5	–	69,8	–	46	44	71	1,5
	1,5	–	69,8	–	46	44	71	1,5
	1,5	–	69,8	–	46	44	71	1,5
	1,5	–	69,8	–	46	44	71	1,5
1,5	83,8	–	62,3	–	46	89	1,5	

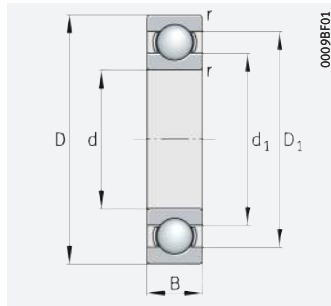


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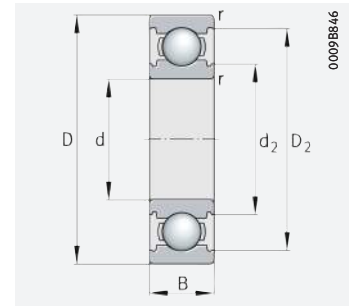


Deep groove ball bearings

Single row



Open



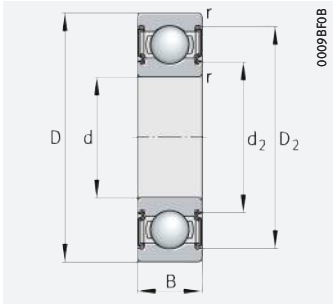
Generation C, open

d = 40 – 40 mm

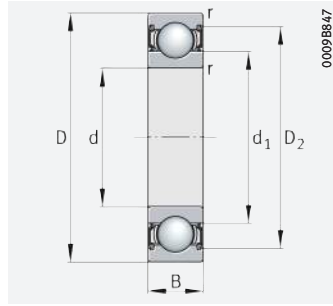
Main dimensions			Basic load ratings		Fatigue limit load C_{ur} N	Limiting speed n_G min^{-1}	Speed rating $n_{\theta r}$ min^{-1}	Factor f_0	Mass m $\approx \text{kg}$	Designation ▶ 225 1.12 ▶ 226 1.13
d	D	B	dyn. C_r N	stat. C_{0r} N						
40	52	7	4 900	3 750	191	19 300	8 600	14,6	0,035	61808
	52	7	4 900	3 750	191	6 200	–	14,6	0,035	61808-2RSR
	52	7	4 900	3 750	191	16 400	8 600	14,6	0,034	61808-2Z
	62	12	14 500	9 900	580	15 800	10 000	15,5	0,117	61908
	62	12	14 500	9 900	580	5 700	–	15,5	0,11	61908-2RSR
	62	12	14 500	9 900	580	13 500	10 000	15,5	0,11	61908-2Z
	68	15	17 800	11 500	580	14 600	10 700	15,2	0,194	6008
	68	9	14 100	10 200	520	15 700	8 400	15,8	0,127	16008
	68	15	17 800	11 500	580	5 400	–	15,2	0,202	6008-2RSR
	68	15	17 800	11 500	580	12 400	10 600	15,2	0,2	6008-2Z
	80	18	31 500	17 800	1 200	13 600	10 500	14	0,345	6208-C
	80	18	31 500	17 800	1 200	11 600	10 500	14	0,359	6208-C-2BRS
	80	18	31 500	17 800	1 200	8 000	–	14	0,359	6208-C-2HRS
	80	18	31 500	17 800	1 200	11 600	10 500	14	0,359	6208-C-2Z
	80	23	31 000	17 800	1 200	5 000	–	14	0,462	62208-2RSR
	90	33	46 500	26 000	1 730	4 750	–	13	0,882	62308-2RSR
	90	23	47 000	25 000	1 690	11 800	9 900	13	0,6	6308-C
90	23	47 000	25 000	1 690	10 100	9 900	13	0,654	6308-C-2BRS	
90	23	47 000	25 000	1 690	7 400	–	13	0,622	6308-C-2HRS	
90	23	47 000	25 000	1 690	10 100	9 900	13	0,617	6308-C-2Z	
110	27	68 000	38 500	2 600	9 500	7 400	13,3	1,23	6408	



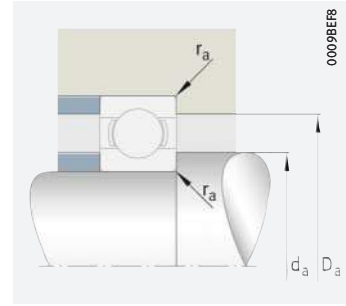
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With seal 2BRS, 2HRS, 2RSR, 2Z



With seal 2RSR, 2Z



Mounting dimensions



Dimensions

d	r	D ₁	D ₂	d ₁	d ₂
	min.	≈	≈	≈	
40	0,3	48,1	–	43,2	–
	0,3	–	48,9	43,2	–
	0,3	–	48,9	43,2	–
	0,6	55,1	–	46,9	–
	0,6	–	57,3	46,6	–
	0,6	–	56,6	46,6	–
	1	59,1	–	49,3	–
	0,3	59,7	–	48,9	–
	1	–	61,6	49,3	–
	1	–	61,6	49,3	–
	1,1	–	70,7	–	49,2
	1,1	–	70,7	–	49,2
	1,1	–	70,7	–	49,2
	1,1	–	70,7	–	49,2
	1,1	–	70,6	–	50,4
	1,5	–	78	–	51
	1,5	–	78,8	–	52,1
	1,5	–	78,8	–	52,1
1,5	–	78,8	–	52,1	
1,5	–	78,8	–	52,1	
2	91,8	–	68	–	

Mounting dimensions

d _a	D _a	r _a
min.	max.	max.
42	50	0,3
42	50	0,3
42	50	0,3
43,2	58,8	0,6
43,2	58,8	0,6
43,2	58,8	0,6
44,6	63,4	1
42	66	0,3
44,6	63,4	1
44,6	63,4	1
47	73	1
47	73	1
47	73	1
47	73	1
47	73	1
49	81	1,5
49	81	1,5
49	81	1,5
49	81	1,5
49	81	1,5
53	97	2

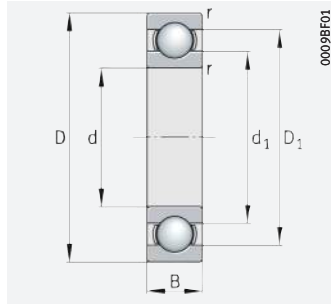


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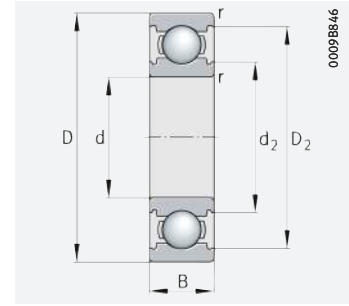


Deep groove ball bearings

Single row



Open



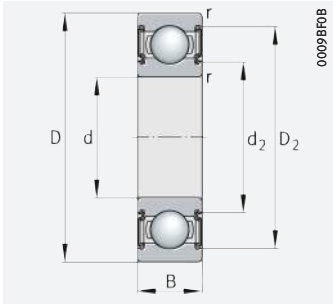
Generation C, open

d = 45 – 45 mm

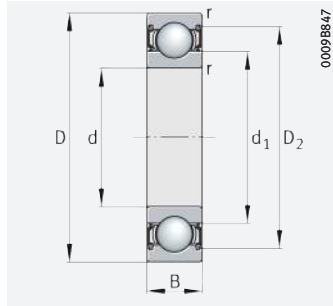
Main dimensions			Basic load ratings		Fatigue limit load C_{ur} N	Limiting speed n_G min ⁻¹	Speed rating $n_{\vartheta r}$ min ⁻¹	Factor f_0	Mass m ≈ kg	Designation ▶ 225 1.12 ▶ 226 1.13
d	D	B	dyn. C_r N	stat. C_{0r} N						
45	58	7	7 000	5 900	385	5 400	–	16,3	0,039	61809-2RSR-Y
	58	7	7 000	5 900	385	14 300	7 300	16,3	0,039	61809-2RZ-Y
	58	7	7 000	5 900	385	21 900	7 300	16,3	0,039	61809-Y
	68	12	15 000	10 900	630	14 400	8 800	16	0,135	61909
	68	12	15 000	10 900	630	5 100	–	16	0,13	61909-2RSR
	68	12	15 000	10 900	630	12 200	8 800	16	0,13	61909-2RZ
	75	16	21 200	14 400	730	13 100	9 700	15,3	0,247	6009
	75	10	16 500	12 300	700	13 100	6 900	16,1	0,16	16009
	75	16	21 200	14 400	730	4 950	–	15,3	0,257	6009-2RSR
	75	16	21 200	14 400	730	11 200	9 700	15,3	0,253	6009-2Z
	85	19	34 000	20 300	1 370	12 700	9 900	14,3	0,396	6209-C
	85	19	34 000	20 300	1 370	10 800	9 900	14,3	0,414	6209-C-2BRS
	85	19	34 000	20 300	1 370	7 100	–	14,3	0,413	6209-C-2HRS
	85	19	34 000	20 300	1 370	10 800	9 900	14,3	0,411	6209-C-2Z
	85	23	34 500	20 300	1 370	4 650	–	14	0,484	62209-2RSR
	100	36	56 000	31 500	2 180	4 300	–	12,9	1,2	62309-2RSR
	100	25	58 000	31 500	2 140	10 500	9 100	12,9	0,83	6309-C
100	25	58 000	31 500	2 140	8 900	9 100	12,9	0,85	6309-C-2BRS	
100	25	58 000	31 500	2 140	6 400	–	12,9	0,85	6309-C-2HRS	
100	25	58 000	31 500	2 140	8 900	9 100	12,9	0,84	6309-C-2Z	
120	29	83 000	47 500	3 150	8 500	6 800	12,9	1,55	6409	



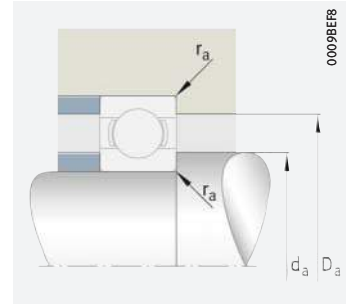
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With seal 2BRS, 2HRS, 2RSR, 2Z



With seal 2RSR, 2RZ, 2Z



Mounting dimensions



Dimensions

Mounting dimensions

d	r	D ₁	D ₂	d ₁	d ₂	d _a	D _a	r _a
	min.	≈	≈	≈		min.	max.	max.
45	0,3	–	55,4	49,1	–	47	56	0,3
	0,3	–	55,4	49,1	–	47	56	0,3
	0,3	54,1	–	49,1	–	47	56	0,3
	0,6	60,6	–	52,4	–	48,2	64,8	0,6
	0,6	–	62,1	52,1	–	48,2	64,8	0,6
	0,6	–	62,1	52,1	–	48,2	64,8	0,6
	1	65,5	–	54,2	–	49,6	70,4	1
	0,6	65,7	–	54,2	–	48,2	71,8	0,6
	1	–	68	54,2	–	49,6	70,4	1
	1	–	68	54,2	–	49,6	70,4	1
	1,1	–	75,5	–	53,9	52	78	1
	1,1	–	75,5	–	53,9	52	78	1
	1,1	–	75,5	–	53,9	52	78	1
	1,1	–	75,5	–	53,9	52	78	1
	1,1	–	75,6	–	54,4	52	78	1
	1,5	–	85,6	62	–	54	91	1,5
	1,5	–	86,4	–	60,3	54	91	1,5
	1,5	–	86,4	–	60,3	54	91	1,5
	1,5	–	86,4	–	60,3	54	91	1,5
1,5	–	86,4	–	60,3	54	91	1,5	
2	–	101,1	–	75,2	–	58	107	2

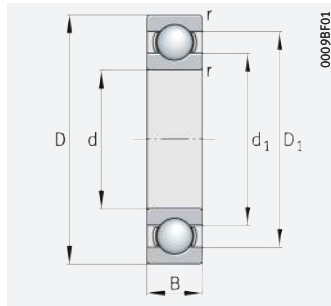


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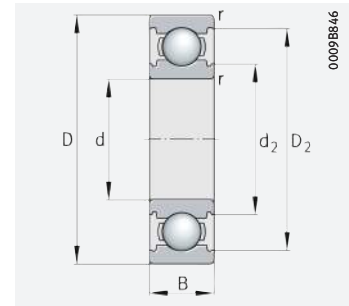


Deep groove ball bearings

Single row



Open



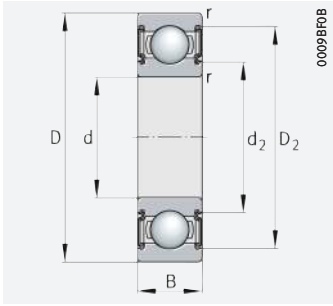
Generation C, open

d = 50 – 50 mm

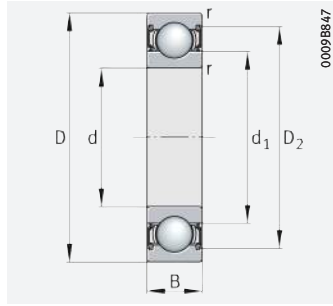
Main dimensions			Basic load ratings		Fatigue limit load C_{ur} N	Limiting speed n_G min ⁻¹	Speed rating $n_{\varnothing r}$ min ⁻¹	Factor f_0	Mass m ≈ kg	Designation ▶ 225 1.12 ▶ 226 1.13
d	D	B	dyn. C_r N	stat. C_{0r} N						
50	65	7	7 200	6 300	425	4 850	–	16	0,052	61810-2RSR-Y
	65	7	7 200	6 300	425	12 900	6 400	16	0,052	61810-2RZ-Y
	65	7	7 200	6 300	425	19 700	6 400	16	0,052	61810-Y
	72	12	15 400	11 700	680	13 400	8 100	16,1	0,083	61910
	72	12	15 400	11 700	680	4 700	–	16,1	0,13	61910-2RSR
	72	12	15 400	11 700	680	11 400	8 100	16,1	0,13	61910-2RZ
	80	10	17 100	13 200	670	12 500	6 700	16,2	0,175	16010
	80	16	22 000	15 800	770	12 200	8 900	15,6	0,272	6010
	80	16	22 000	15 800	770	10 400	8 900	15,6	0,282	6010-2Z
	80	16	22 000	15 800	770	4 450	–	15,6	0,283	6010-2RSR
	90	20	38 000	23 200	1 540	11 700	9 200	14,4	0,431	6210-C
	90	20	38 000	23 200	1 540	9 900	9 200	14,4	0,48	6210-C-2BRS
	90	20	38 000	23 200	1 540	6 400	–	14,4	0,451	6210-C-2HRS
	90	20	38 000	23 200	1 540	9 900	9 200	14,4	0,448	6210-C-2Z
	90	23	37 500	23 200	1 560	4 250	–	14,4	0,53	62210-2RSR
	110	40	66 000	38 000	2 600	3 950	–	13,1	1,55	62310-2RSR
	110	27	68 000	38 000	2 550	9 500	8 400	13,1	1,1	6310-C
110	27	68 000	38 000	2 550	8 000	8 400	13,1	1,1	6310-C-2BRS	
110	27	68 000	38 000	2 550	5 800	–	13,1	1,12	6310-C-2HRS	
110	27	68 000	38 000	2 550	8 000	8 400	13,1	1,12	6310-C-2Z	
130	31	89 000	52 000	3 500	7 900	6 500	13,2	1,96	6410	



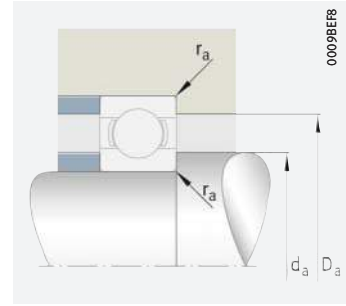
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With seal 2BRS, 2HRS, 2RSR, 2Z



With seal 2RSR, 2RZ, 2Z



Mounting dimensions



Dimensions						Mounting dimensions		
d	r	D ₁	D ₂	d ₁	d ₂	d _a	D _a	r _a
	min.	≈	≈	≈		min.	max.	max.
50	0,3	–	61,8	55,1	–	52	63	0,3
	0,3	–	61,8	55,1	–	52	63	0,3
	0,3	60,1	–	55,1	–	52	63	0,3
	0,6	65,1	–	56,9	–	53,2	68,8	0,6
	0,6	–	68,6	56,6	–	53,2	68,8	0,6
	0,6	–	67,3	56,9	–	53,2	68,8	0,6
	0,6	71,3	–	59,7	–	53,2	76,8	0,6
	1	70,1	–	59,8	–	54,6	75,4	1
	1	–	72,9	59,8	–	54,6	75,4	1
	1	–	72,9	59,8	–	54,6	75,4	1
	1,1	–	81,8	–	59,1	57	83	1
	1,1	–	81,7	–	59,2	57	83	1
	1,1	–	81,8	–	59,1	57	83	1
	1,1	–	81,8	–	59,1	57	83	1
	1,1	–	82,1	–	58,8	57	83	1
	2	–	95,1	68	–	61	99	2
	2	–	95,2	–	66,7	61	99	2
	2	–	95,2	–	66,7	61	99	2
	2	–	95,2	–	66,7	61	99	2
	2	–	95,2	–	66,7	61	99	2
2,1	108,6	–	81,3	–	64	116	2,1	

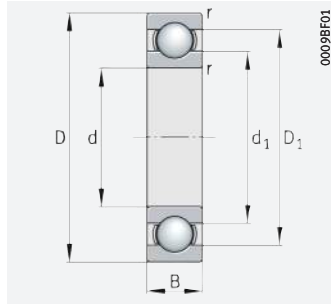


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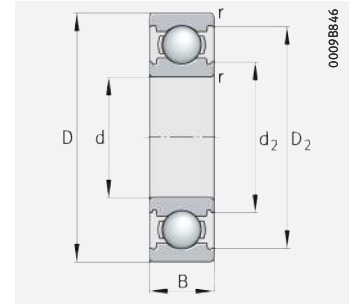


Deep groove ball bearings

Single row



Open



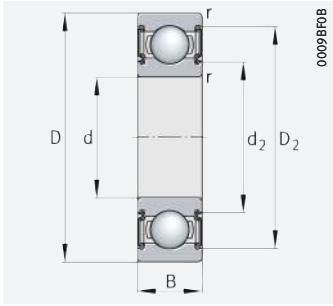
Generation C, open

d = 55 – 55 mm

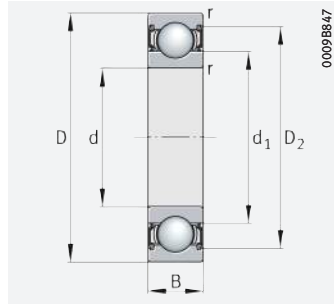
Main dimensions			Basic load ratings		Fatigue limit load C_{ur} N	Limiting speed n_G min^{-1}	Speed rating $n_{\theta r}$ min^{-1}	Factor f_0	Mass m $\approx \text{kg}$	Designation ▶225 1.12 ▶226 1.13
d	D	B	dyn. C_r N	stat. C_{0r} N						
55	90	18	30 000	21 200	1 120	10 700	8 300	15,3	0,385	6011
	90	18	30 000	21 200	1 120	4 100	–	15,3	0,41	6011-2RSR
	90	18	30 000	21 200	1 120	9 100	8 300	15,3	0,409	6011-2Z
	72	9	9 600	8 500	510	4 400	–	16,3	0,084	61811-2RSR-Y
	72	9	9 600	8 500	510	11 500	6 600	16,3	0,084	61811-2RZ-Y
	72	9	9 600	8 500	510	17 500	6 600	16,3	0,085	61811-Y
	80	13	17 700	14 100	760	12 100	7 500	16,3	0,185	61911
	80	13	17 700	14 100	760	4 250	–	16,3	0,18	61911-2RSR
	80	13	17 700	14 100	760	10 300	7 500	16,3	0,18	61911-2RZ
	90	11	20 600	16 300	910	10 900	6 000	16,2	0,26	16011
	100	21	46 000	29 000	1 720	9 500	7 500	14,2	0,618	6211
	100	21	46 000	29 000	1 720	3 900	–	14,2	0,632	6211-2RSR
	100	21	46 000	29 000	1 720	8 000	7 500	14,2	0,632	6211-2Z
	100	25	44 500	29 000	1 720	3 900	–	14,2	0,737	62211-2RSR
	120	29	83 000	47 500	3 200	8 500	7 800	12,9	1,33	6311-C
	120	29	83 000	47 500	3 200	7 200	7 800	12,9	1,38	6311-C-2BRS
120	29	83 000	47 500	3 200	5 300	–	12,9	1,37	6311-C-2HRS	
120	29	83 000	47 500	3 200	7 200	7 800	12,9	1,37	6311-C-2Z	
140	33	100 000	60 000	3 900	7 300	6 200	13,2	2,29	6411	



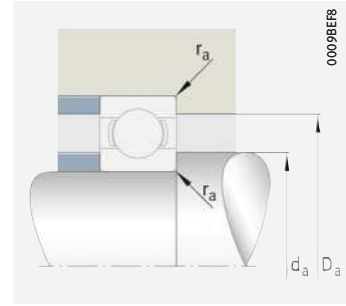
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With seal 2BRS, 2HRS, 2RSR, 2Z



With seal 2RSR, 2RZ, 2Z



Mounting dimensions



Dimensions						Mounting dimensions			
d	r	D ₁	D ₂	d ₁	d ₂	d _a	D _a	r _a	
	min.	≈	≈	≈		min.	max.	max.	
55	1,1	78,9	–	66,2	–	61	84	1	
	1,1	–	81,5	66,2	–	61	84	1	
	1,1	–	81,5	66,2	–	61	84	1	
	0,3	–	68,6	60,6	–	57	70	0,3	
	0,3	–	68,6	60,6	–	57	70	0,3	
	0,3	66,5	–	60,6	–	57	70	0,3	
	1	71,8	–	63,2	–	59,6	75,4	1	
	1	–	74,2	62,6	–	59,6	75,4	1	
	1	–	74,2	63,2	–	59,6	75,4	1	
	0,6	79	–	65,6	–	58,2	86,8	0,6	
	1,5	86,2	–	68,9	–	64	91	1,5	
	1,5	–	88,2	68,7	–	64	91	1,5	
	1,5	–	88,2	68,7	–	64	91	1,5	
	1,5	–	88,2	68,7	–	64	91	1,5	
	2	–	105,3	–	72,5	72,5	66	109	2
	2	–	105,3	–	72,5	72,5	66	109	2
	2	–	105,3	–	72,5	72,5	66	109	2
	2	–	105,3	–	72,5	72,5	66	109	2
2,1	117,6	–	88,6	–	–	69	126	2,1	

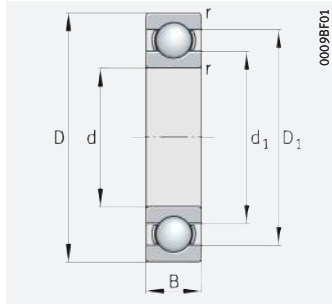


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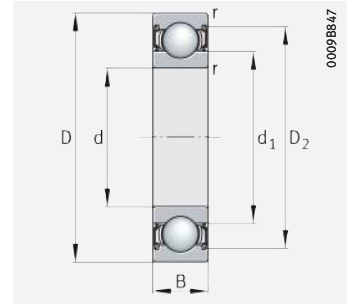


Deep groove ball bearings

Single row



Open



With seal 2RSR, 2RZ, 2Z

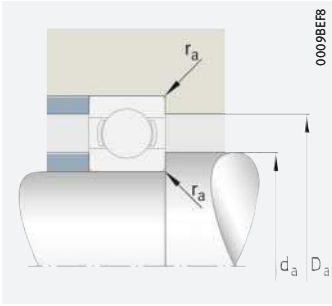
d = 60 – 60 mm

Main dimensions			Basic load ratings		Fatigue limit load C_{ur} N	Limiting speed n_G min^{-1}	Speed rating $n_{\theta r}$ min^{-1}	Factor f_0	Mass m $\approx \text{kg}$	Designation ► 225 1.12 ► 226 1.13
d	D	B	dyn. C_r N	stat. C_{0r} N						
60	78	10	12 600	11 100	690	4 100	–	16,3	0,105	61812-2RSR-Y
	78	10	12 600	11 100	690	10 400	6 300	16,3	0,105	61812-2RZ-Y
	78	10	12 600	11 100	690	15 900	6 300	16,3	0,109	61812-Y
	85	13	17 400	14 300	770	11 300	6 900	16,5	0,206	61912
	85	13	17 400	14 300	770	3 950	–	16,5	0,19	61912-2RSR
	95	18	31 500	23 200	1 190	10 100	7 600	15,6	0,419	6012
	95	11	21 200	17 500	820	10 500	5 700	16,3	0,283	16012
	95	18	31 500	23 200	1 190	3 750	–	15,6	0,432	6012-2RSR
	95	18	31 500	23 200	1 190	8 500	7 600	15,6	0,431	6012-2Z
	110	22	57 000	36 500	2 470	9 300	6 800	14,5	0,791	6212
	110	22	57 000	36 500	2 470	3 550	–	14,5	0,809	6212-2RSR
	110	22	57 000	36 500	2 470	7 900	6 800	14,5	0,807	6212-2Z
	110	28	56 000	36 000	2 480	3 550	–	14,3	0,998	62212-2RSR
	130	31	89 000	52 000	3 500	7 900	7 400	13,2	1,71	6312-C
	130	31	89 000	52 000	3 500	6 700	7 400	13,2	1,75	6312-C-2BRS
	130	31	89 000	52 000	3 500	4 800	–	13,2	1,75	6312-C-2HRS
130	31	89 000	52 000	3 500	6 700	7 400	13,2	1,74	6312-C-2Z	
150	35	115 000	69 000	4 450	6 800	5 900	13,4	2,83	6412	

medias ► <https://www.schaeffler.de/std/1E35>



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Mounting dimensions



Dimensions						Mounting dimensions			
d	r	D ₁	D ₂	d ₁	d ₂	d _a	D _a	r _a	
	min.	≈	≈	≈		min.	max.	max.	
60	0,3	–	75,3	65,6	–	62	76	0,3	
	0,3	–	74,5	65,6	–	62	76	0,3	
	0,3	72,6	–	65,6	–	62	76	0,3	
	1	76,8	–	68,2	–	64,6	80,4	1	
	1	–	79,2	67,6	–	64,6	80,4	1	
	1,1	83,9	–	71,3	–	66	89	1	
	0,6	83	–	72,1	–	63,2	91,8	0,6	
	1,1	–	86	71,3	–	66	89	1	
	1,1	–	86	71,3	–	66	89	1	
	1,5	95,8	–	75,8	–	69	101	1,5	
	1,5	–	97,7	75,8	–	69	101	1,5	
	1,5	–	97,7	75,8	–	69	101	1,5	
	1,5	–	97,7	75,8	–	69	101	1,5	
	2,1	–	112,1	–	79,6	–	72	118	2,1
	2,1	–	112,1	–	79,6	–	72	118	2,1
	2,1	–	112,1	–	79,6	–	72	118	2,1
	2,1	–	112,1	–	79,6	–	72	118	2,1
	2,1	126,3	–	95,1	–	–	74	136	2,1

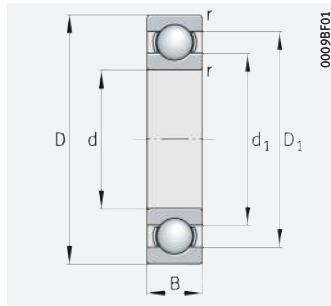


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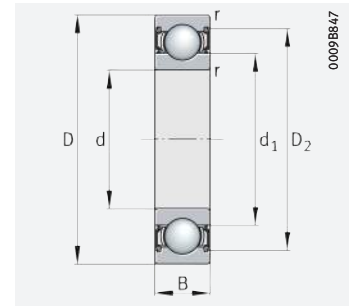


Deep groove ball bearings

Single row



Open



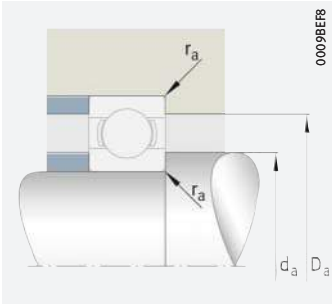
With seal 2RSR, 2RZ, 2Z

d = 65 – 65 mm

Main dimensions			Basic load ratings		Fatigue limit load C_{ur} N	Limiting speed n_G min^{-1}	Speed rating $n_{\theta r}$ min^{-1}	Factor f_0	Mass m $\approx \text{kg}$	Designation ▶ 225 1.12 ▶ 226 1.13
d	D	B	dyn. C_r N	stat. C_{0r} N						
65	85	10	13 000	12 000	760	3 750	–	16,2	0,13	61813-2RSR-Y
	85	10	13 000	12 000	760	9 600	5 700	16,2	0,13	61813-2RZ-Y
	85	10	13 000	12 000	760	14 700	5 700	16,2	0,136	61813-Y
	90	13	18 500	16 100	870	10 600	6 400	16,6	0,212	61913
	90	13	18 500	16 100	870	3 650	–	16,6	0,212	61913-2RSR
	90	13	18 500	16 100	810	9 000	6 400	16,6	0,212	61913-2RZ
	100	18	32 500	25 000	1 270	9 500	7 100	15,7	0,448	6013
	100	11	22 500	19 700	910	9 900	5 300	16,5	0,302	16013
	100	18	32 500	25 000	1 270	3 500	–	15,7	0,463	6013-2RSR
	100	18	32 500	25 000	1 270	8 100	7 100	15,7	0,464	6013-2Z
	120	23	63 000	41 500	2 750	8 600	6 300	14,4	1	6213
	120	23	63 000	41 500	2 750	3 250	–	14,4	1,03	6213-2RSR
	120	23	63 000	41 500	2 750	7 300	6 300	14,4	1,03	6213-2Z
	140	33	101 000	60 000	4 000	7 300	7 000	13,2	2,07	6313-C
	140	33	101 000	60 000	4 000	6 200	7 000	13,2	2,13	6313-C-2BRS
	140	33	101 000	60 000	4 000	4 500	–	13,2	2,13	6313-C-2HRS
140	33	101 000	60 000	4 000	6 200	7 000	13,2	2,12	6313-C-2Z	
160	37	123 000	77 000	4 750	6 300	5 600	13,2	3,49	6413	



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Mounting dimensions

Dimensions						Mounting dimensions		
d	r	D ₁	D ₂	d ₁	d ₂	d _a	D _a	r _a
	min.	≈	≈	≈		min.	max.	max.
65	0,6	–	80,5	71,6	–	68,2	81,8	0,6
	0,6	–	80,5	71,6	–	68,2	81,8	0,6
	0,6	78,6	–	71,6	–	68,2	81,8	0,6
	1	82,3	–	72,6	–	69,6	85,4	1
	1	–	84,2	73,2	–	69,6	85,4	1
	1	–	84,2	72,6	–	69,6	85,4	1
	1,1	88,8	–	76,2	–	71	94	1
	0,6	88	–	77,1	–	68,2	96,8	0,6
	1,1	–	91,5	76,2	–	71	94	1
	1,1	–	91,5	76,2	–	71	94	1
	1,5	103,2	–	82,3	–	74	111	1,5
	1,5	–	106,3	82	–	74	111	1,5
	1,5	–	106,3	82	–	74	111	1,5
	2,1	–	121,4	–	85,6	77	128	2,1
	2,1	–	121,4	–	85,6	77	128	2,1
	2,1	–	121,4	–	85,6	77	128	2,1
	2,1	–	121,4	–	85,6	77	128	2,1
	2,1	133,3	–	101,7	–	79	146	2,1

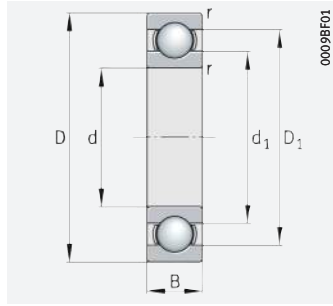


Deep groove ball bearings

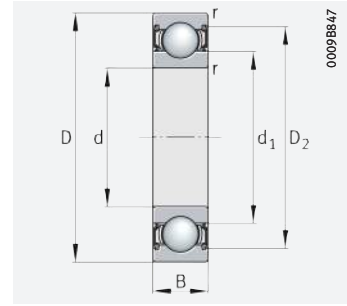
Single row



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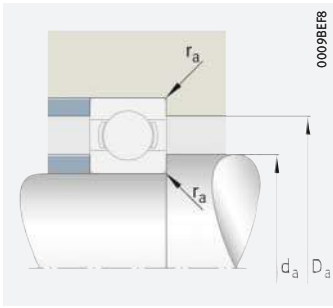
Open



With seal 2RSR, 2RZ, 2Z

d = 70 – 75 mm

Main dimensions			Basic load ratings		Fatigue limit load C_{ur} N	Limiting speed n_G min ⁻¹	Speed rating $n_{\theta r}$ min ⁻¹	Factor f_0	Mass m ≈ kg	Designation ▶ 225 1.12 ▶ 226 1.13
d	D	B	dyn. C_r N	stat. C_{0r} N						
70	90	10	13 200	12 400	800	3 500	–	16,1	0,14	61814-2RSR-Y
	90	10	13 200	12 400	800	9 000	5 300	16,1	0,14	61814-2RZ-Y
	90	10	13 200	12 400	800	13 800	5 300	16,1	0,138	61814-Y
	100	16	25 000	21 200	1 160	9 500	6 400	16,4	0,34	61914
	100	16	25 000	21 200	1 160	3 350	–	16,4	0,34	61914-2RSR
	100	16	25 000	21 200	1 160	8 100	6 400	16,4	0,34	61914-2RZ
	110	20	40 500	31 000	1 850	8 600	6 800	15,6	0,622	6014
	110	13	29 500	25 000	1 230	8 900	5 300	16,2	0,438	16014
	110	20	40 500	31 000	1 850	3 250	–	15,6	0,64	6014-2RSR
	110	20	40 500	31 000	1 850	7 300	6 800	15,6	0,642	6014-2Z
	125	24	66 000	44 000	2 950	8 200	6 100	14,4	1,09	6214
	125	24	66 000	44 000	2 950	3 100	–	14,4	1,11	6214-2RSR
	125	24	66 000	44 000	2 950	7 000	6 100	14,4	1,11	6214-2Z
	150	35	115 000	69 000	4 450	6 800	6 100	13,4	2,55	6314
	150	35	115 000	69 000	4 450	2 800	–	13,4	2,6	6314-2RSR
	150	35	115 000	69 000	4 450	5 700	6 100	13,4	2,6	6314-2Z
180	42	141 000	97 000	5 800	5 000	5 200	13,3	5,06	6414	
75	95	10	13 700	13 400	870	3 300	–	16,1	0,15	61815-2RSR-Y
	95	10	13 700	13 400	870	8 500	4 950	16,1	0,15	61815-2RZ-Y
	95	10	13 700	13 400	870	13 000	4 950	16,1	0,15	61815-Y
	105	16	26 000	22 600	1 240	9 000	6 000	16,5	0,36	61915
	115	20	42 000	33 500	1 960	8 100	6 300	15,8	0,654	6015
	115	13	30 500	27 000	1 290	8 400	4 900	16,5	0,463	16015
	115	20	42 000	33 500	1 960	3 050	–	15,8	0,678	6015-2RSR
	115	20	42 000	33 500	1 960	6 900	6 300	15,8	0,676	6015-2Z
	130	25	70 000	49 000	3 250	7 800	5 900	14,6	1,19	6215
	130	25	70 000	49 000	3 250	2 900	–	14,6	1,22	6215-2RSR
	130	25	70 000	49 000	3 250	6 600	5 900	14,6	1,21	6215-2Z
	160	37	123 000	77 000	4 750	6 300	5 800	13,2	3,18	6315
	160	37	123 000	77 000	4 750	2 650	–	13,2	3,18	6315-2RSR
	160	37	123 000	77 000	4 750	5 400	5 800	13,2	3,23	6315-2Z
	190	45	141 000	97 000	5 800	6 600	5 600	13,3	7	6415-M



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Mounting dimensions

Dimensions					Mounting dimensions		
d	r	D ₁	D ₂	d ₁	d _a	D _a	r _a
	min.	≈	≈	≈	min.	max.	max.
70	0,6	–	85,5	76,6	73,2	86,8	0,6
	0,6	–	85,5	76,6	73,2	86,8	0,6
	0,6	83,6	–	76,6	73,2	86,8	0,6
	1	90,3	–	79,7	74,6	95,4	1
	1	–	92,8	84,1	74,6	95,4	1
	1	–	93,3	79,7	74,6	95,4	1
	1,1	97,3	–	82,8	76	104	1
	0,6	96,2	–	83,7	73,2	106,8	0,6
	1,1	–	100	82,8	76	104	1
	1,1	–	100	82,8	76	104	1
	1,5	108,2	–	86,8	79	116	1,5
	1,5	–	110,7	86,8	79	116	1,5
	1,5	–	110,7	86,8	79	116	1,5
	2,1	126,3	–	95,1	82	138	2,1
	2,1	–	130,2	94,8	82	138	2,1
	2,1	–	130,2	94,8	82	138	2,1
3	151,6	–	114,4	86	164	2,5	
75	0,6	–	90,5	81,6	78,2	91,8	0,6
	0,6	–	90,5	81,6	78,2	91,8	0,6
	0,6	88,6	–	81,6	78,2	91,8	0,6
	1	95,3	–	84,7	79,6	100,4	1
	1,1	102,6	–	88,1	81	109	1
	0,6	101,2	–	88,7	78,2	111,8	0,6
	1,1	–	105,3	88,1	81	109	1
	1,1	–	105,3	88,1	81	109	1
	1,5	113	–	92,1	84	121	1,5
	1,5	–	115,5	92,1	84	121	1,5
	1,5	–	115,5	92,1	84	121	1,5
	2,1	133,3	–	101,8	87	148	2,1
	2,1	–	137,2	101,4	87	148	2,1
	2,1	–	137,2	101,4	87	148	2,1
	3	151,6	–	114,4	91	174	2,5

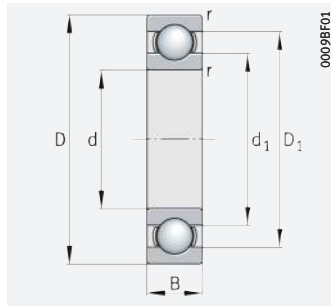
Deep groove ball bearings

Single row

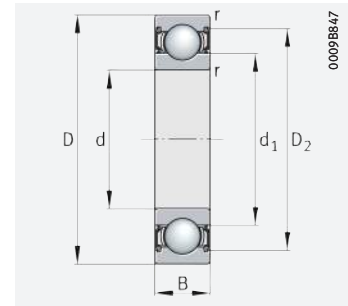


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d = 80 – 85 mm

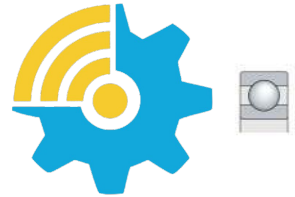
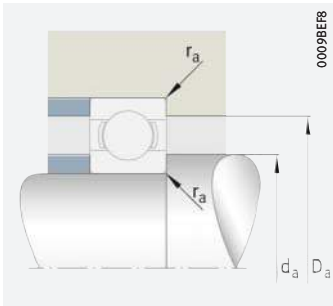


Open



With seal 2RSR, 2RZ, 2Z

Main dimensions			Basic load ratings		Fatigue limit load C_{ur} N	Limiting speed n_G min^{-1}	Speed rating $n_{\theta r}$ min^{-1}	Factor f_0	Mass m $\approx \text{kg}$	Designation ▶ 225 1.12 ▶ 226 1.13
d	D	B	dyn. C_r N	stat. C_{0r} N						
80	100	10	13 800	13 800	900	3 100	–	16	0,17	61816-2RSR-Y
	100	10	13 800	13 800	900	8 000	4 600	16	0,155	61816-2RZ-Y
	100	10	13 800	13 800	900	12 300	4 600	16	0,163	61816-Y
	110	16	26 500	24 000	1 320	8 500	5 600	16,6	0,385	61916
	125	22	51 000	40 000	2 340	7 500	6 100	15,7	0,845	6016
	125	14	34 000	31 500	1 510	7 700	4 600	16,6	0,609	16016
	125	22	51 000	40 000	2 340	2 850	–	15,7	0,895	6016-2RSR
	125	22	51 000	40 000	2 340	6 300	6 100	15,7	0,893	6016-2Z
	140	26	77 000	55 000	3 550	7 300	5 500	15	1,46	6216
	140	26	77 000	55 000	3 550	2 700	–	15	1,49	6216-2RSR
	140	26	77 000	55 000	3 550	6 200	5 500	15	1,49	6216-2Z
	170	39	131 000	87 000	5 200	5 400	5 500	13,3	3,75	6316
	170	39	131 000	87 000	5 200	2 470	–	13,3	3,75	6316-2RSR
170	39	131 000	87 000	5 200	4 550	5 500	13,3	3,82	6316-2Z	
200	48	173 000	125 000	6 900	5 900	5 400	12,3	8,29	6416-M	
85	110	13	20 400	19 800	1 130	2 850	–	16,2	0,27	61817-2RSR-Y
	110	13	20 400	19 800	1 130	7 200	4 900	16,2	0,27	61817-2RZ-Y
	110	13	20 400	19 800	1 130	11 100	4 900	16,2	0,27	61817-Y
	120	18	34 000	31 500	1 650	7 700	5 400	16,6	0,557	61917
	130	22	53 000	43 000	2 430	7 100	5 800	15,7	0,917	6017
	130	14	36 000	33 500	1 840	7 400	4 400	16,6	0,666	16017
	130	22	53 000	43 000	2 430	2 700	–	15,7	0,917	6017-2RSR
	130	22	53 000	43 000	2 430	6 100	5 800	15,7	0,94	6017-2Z
	150	28	89 000	64 000	3 950	6 700	5 300	14,8	1,87	6217
	150	28	89 000	64 000	3 950	2 500	–	14,8	1,87	6217-2RSR
	150	28	89 000	64 000	3 950	5 700	5 300	14,8	1,91	6217-2Z
	180	41	141 000	97 000	5 800	5 000	5 300	13,3	4,25	6317
	180	41	141 000	97 000	5 800	2 350	–	13,3	4,25	6317-2RSR
180	41	141 000	97 000	5 800	4 300	5 300	13,3	4,33	6317-2Z	
210	52	184 000	136 000	7 500	5 600	5 300	12,3	9,6	6417-M	



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Mounting dimensions

Dimensions					Mounting dimensions		
d	r	D ₁	D ₂	d ₁	d _a	D _a	r _a
	min.	≈	≈	≈	min.	max.	max.
80	0,6	–	95,5	86,6	83,2	96,8	0,6
	0,6	–	95,5	86,6	83,2	96,8	0,6
	0,6	93,6	–	86,6	83,2	96,8	0,6
	1	100,5	–	89,7	84,6	105,4	1
	1,1	111	–	94	86	119	1
	0,6	110,7	–	96,8	83,2	121,8	0,6
	1,1	–	113,7	93,7	86	119	1
	1,1	–	113,7	93,7	86	119	1
	2	121,5	–	98,8	91	129	2
	2	–	124,4	98,5	91	129	2
	2	–	124,4	98,5	91	129	2
	2,1	141,9	–	108,6	92	158	2,1
	2,1	–	145,5	108,2	92	158	2,1
	2,1	–	145,5	108,2	92	158	2,1
3	162,1	–	117,9	96	184	2,5	
85	1	–	104,2	93,2	89,6	105,4	1
	1	–	104,2	93,2	89,6	105,4	1
	1	102	–	93,2	89,6	105,4	1
	1,1	110	–	97,1	89,6	115,4	1
	1,1	116	–	99,6	91	124	1
	0,6	114,7	–	100,9	88,2	126,8	0,6
	1,1	–	119,2	99,2	91	124	1
	1,1	–	119,2	99,2	91	124	1
	2	129,8	–	106,6	96	139	2
	2	–	133,8	106,2	96	139	2
	2	–	133,8	106,2	96	139	2
	3	151,6	–	114,4	99	166	2,5
	3	–	154,9	114	99	166	2,5
	3	–	154,9	114	99	166	2,5
4	173	–	123,4	105	190	3	

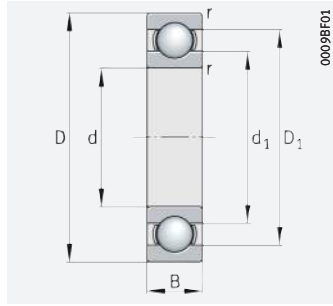


Deep groove ball bearings

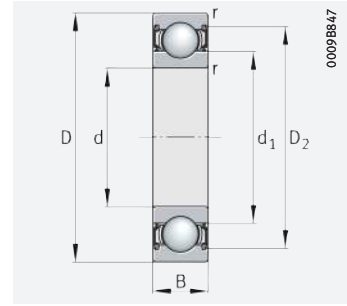
Single row



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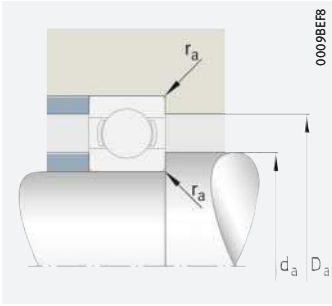
Open



With seal 2RSR, 2RZ, 2Z

d = 90 – 95 mm

Main dimensions			Basic load ratings		Fatigue limit load C_{ur} N	Limiting speed n_G min^{-1}	Speed rating $n_{\theta r}$ min^{-1}	Factor f_0	Mass m $\approx \text{kg}$	Designation ▶225 1.12 ▶226 1.13
d	D	B	dyn. C_r N	stat. C_{0r} N						
90	115	13	20 700	20 600	1 170	2 700	–	16,1	0,28	61818-2RSR-Y
	115	13	20 700	20 600	1 170	6 900	4 600	16,1	0,28	61818-2RZ-Y
	115	13	20 700	20 600	1 170	10 500	4 600	16,1	0,28	61818-Y
	125	18	33 500	30 500	1 490	7 400	5 200	15,1	0,59	61918
	140	24	62 000	49 500	2 950	6 600	5 600	15,5	1,21	6018
	140	16	44 000	39 500	2 020	6 800	4 400	16,4	0,866	16018
	140	24	62 000	49 500	2 950	2 500	–	15,5	1,21	6018-2RSR
	140	24	62 000	49 500	2 950	5 600	5 600	15,5	1,23	6018-2Z
	160	30	102 000	74 000	4 400	6 300	5 100	14,6	2,21	6218
	160	30	102 000	74 000	4 400	2 380	–	14,6	2,21	6218-2RSR
	160	30	102 000	74 000	4 400	5 400	5 100	14,6	2,26	6218-2Z
	190	43	142 000	102 000	5 800	4 900	5 100	13,9	5,43	6318
	190	43	142 000	102 000	5 800	2 170	–	13,9	5,396	6318-2RSR
	190	43	142 000	102 000	5 800	4 150	5 100	13,9	5,53	6318-2Z
225	54	209 000	162 000	8 900	5 200	4 950	12,1	11,7	6418-M	
95	120	13	21 000	21 300	1 190	2 600	–	16,1	0,295	61819-2RSR-Y
	120	13	21 000	21 300	1 190	6 600	4 350	16,1	0,32	61819-2RZ-Y
	120	13	21 000	21 300	1 190	10 000	4 350	16,1	0,295	61819-Y
	145	24	64 000	54 000	3 050	6 300	5 300	15,8	1,27	6019
	145	16	42 500	41 000	1 990	6 600	4 150	16,6	0,922	16019
	145	24	64 000	54 000	3 050	2 420	–	15,8	1,27	6019-2RSR
	145	24	64 000	54 000	3 050	5 400	5 300	15,8	1,27	6019-2Z
	170	32	116 000	82 000	4 700	5 300	4 950	14,5	2,73	6219
	170	32	116 000	82 000	4 700	2 260	–	14,5	2,73	6219-2RSR
	170	32	116 000	82 000	4 700	4 550	4 950	14,5	2,79	6219-2Z
	200	45	154 000	113 000	6 400	4 600	4 950	13,8	6,23	6319
	200	45	154 000	113 000	6 400	2 080	–	13,8	6,317	6319-2RSR
	200	45	154 000	113 000	6 400	3 900	4 950	13,8	6,2	6319-2Z



Mounting dimensions



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Dimensions					Mounting dimensions		
d	r	D ₁	D ₂	d ₁	d _a	D _a	r _a
	min.	≈	≈	≈	min.	max.	max.
90	1	–	109,2	98,2	94,6	110,4	1
	1	–	109,2	98,2	94,6	110,4	1
	1	107	–	98,2	94,6	110,4	1
	1,1	113,8	–	101,6	96	119	1
	1,5	124,5	–	106,6	97	133	1,5
	1	122,7	–	107,6	94,6	135,4	1
	1,5	–	126,8	106,2	97	133	1,5
	1,5	–	126,8	106,2	97	133	1,5
	2	138,8	–	112,6	101	149	2
	2	–	143,4	112,3	101	149	2
	2	–	143,4	112,3	101	149	2
	3	157,2	–	123,7	104	176	2,5
	3	–	160,7	123,3	104	176	2,5
	3	–	160,7	123,3	104	176	2,5
95	4	184	–	132,2	110	205	3
	1	–	114,2	103,2	99,6	115,4	1
	1	–	114,2	103,2	99,6	115,4	1
	1	112	–	103,2	99,6	115,4	1
	1,5	129,1	–	111	102	138	1,5
	1	128,4	–	113,8	99,6	140,4	1
	1,5	–	131,8	110,6	102	138	1,5
	1,5	–	131,8	110,6	102	138	1,5
	2,1	146,7	–	118,7	107	158	2,1
	2,1	–	150,9	118,3	107	158	2,1
	2,1	–	150,9	118,3	107	158	2,1
	3	166,9	–	129,1	109	186	2,5
	3	–	170,4	128,7	109	186	2,5
	3	–	170,4	128,7	109	186	2,5

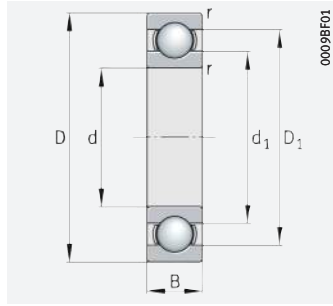


Deep groove ball bearings

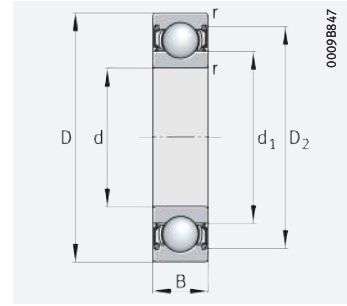
Single row



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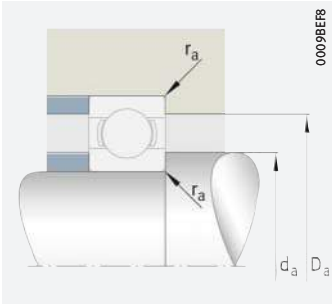
Open



With seal 2RSR, 2RZ, 2Z

d = 100 – 105 mm

Main dimensions			Basic load ratings		Fatigue limit load C_{ur} N	Limiting speed n_G min^{-1}	Speed rating $n_{\theta r}$ min^{-1}	Factor f_0	Mass m $\approx \text{kg}$	Designation ▶ 225 1.12 ▶ 226 1.13
d	D	B	dyn. C_r N	stat. C_{0r} N						
100	125	13	21 300	22 100	1 210	2 470	–	16	0,31	61820-2RSR-Y
	125	13	21 300	22 100	1 210	6 300	4 150	16	0,31	61820-2RZ-Y
	125	13	21 300	22 100	1 210	9 600	4 150	16	0,31	61820-Y
	150	24	64 000	54 000	2 950	6 100	5 100	15,8	1,32	6020
	150	16	46 500	44 500	2 140	6 300	4 000	16,5	0,945	16020
	150	24	64 000	54 000	2 950	2 300	–	15,8	1,32	6020-2RSR
	150	24	64 000	54 000	2 950	5 200	5 100	15,8	1,35	6020-2Z
	180	34	130 000	93 000	5 400	5 000	4 800	14,4	3,3	6220
	180	34	130 000	93 000	5 400	2 140	–	14,4	3,3	6220-2RSR
	180	34	130 000	93 000	5 400	4 250	4 800	14,4	3,36	6220-2Z
	215	47	177 000	137 000	7 100	4 250	4 600	13,7	7,67	6320
215	47	177 000	137 000	7 100	1 940	–	13,7	7,78	6320-2RSR	
215	47	177 000	137 000	7 100	3 600	4 600	13,7	7,78	6320-2Z	
105	130	13	22 100	23 600	1 280	2 360	–	15,9	0,33	61821-2RSR-Y
	130	13	22 100	23 600	1 280	6 000	3 900	15,9	0,35	61821-2RZ-Y
	130	13	22 100	23 600	1 280	9 200	3 900	15,9	0,33	61821-Y
	145	20	46 500	44 500	2 140	6 300	4 600	16,5	0,87	61921
	160	26	75 000	64 000	3 450	5 700	4 950	15,7	1,67	6021
	160	18	57 000	54 000	2 390	5 900	3 950	16,5	1,244	16021
	160	26	75 000	64 000	3 450	2 200	–	15,7	1,6	6021-2RSR
	160	26	75 000	64 000	3 450	4 850	4 950	15,7	1,7	6021-2Z
	190	36	141 000	105 000	5 700	4 750	4 650	14,4	3,88	6221
	190	36	141 000	105 000	5 700	2 030	–	14,4	3,73	6221-2RSR
	190	36	141 000	105 000	5 700	4 000	4 650	14,4	3,99	6221-2Z
225	49	188 000	150 000	7 800	4 050	4 450	13,7	8,7	6321	



Mounting dimensions



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Dimensions					Mounting dimensions		
d	r	D ₁	D ₂	d ₁	d _a	D _a	r _a
	min.	≈	≈	≈	min.	max.	max.
100	1	–	119,2	108,2	104,6	120,4	1
	1	–	119,2	108,2	104,6	120,4	1
	1	117,1	–	108,2	104,6	120,4	1
	1,5	134,1	–	116,6	107	143	1,5
	1	132,7	–	117,6	104,6	145,4	1
	1,5	–	137,3	116,2	107	143	1,5
	1,5	–	137,3	116,2	107	143	1,5
	2,1	155,5	–	125,1	112	168	2,1
	2,1	–	158,9	124,7	112	168	2,1
	2,1	–	158,9	124,7	112	168	2,1
	3	179	–	138,6	114	201	2,5
	3	–	184,6	138,1	114	201	2,5
	3	–	184,6	138,1	114	201	2,5
105	1	–	124,2	113,2	109,6	125,4	1
	1	–	124,2	113,2	109,6	125,4	1
	1	122,1	–	113,2	109,6	125,4	1
	1,1	132,7	–	117,6	111	139	1
	2	142,5	–	122,1	113,8	151,2	2
	1	141,2	–	124,2	109,6	155,4	1
	2	–	145,3	121,7	113,8	151,2	2
	2	–	145,3	121,7	113,8	151,2	2
	2,1	163,2	–	131,9	117	178	2,1
	2,1	–	168,1	131,5	117	178	2,1
	2,1	–	168,1	131,5	117	178	2,1
	3	187,9	–	144,3	119	211	2,5

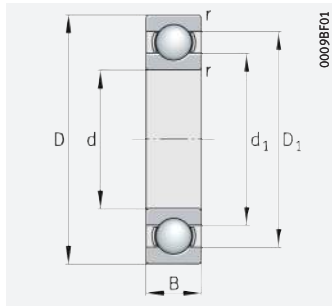


Deep groove ball bearings

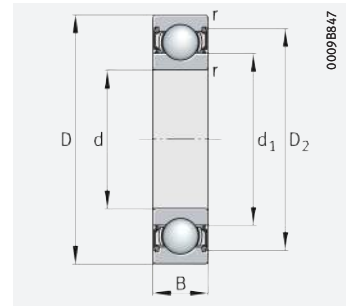
Single row



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Open



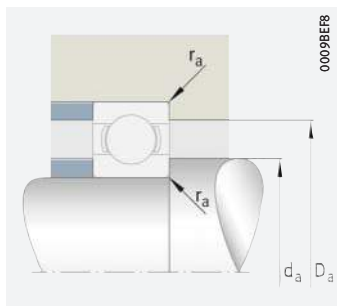
With seal 2RSR, 2RZ, 2Z

d = 110 – 130 mm

Main dimensions			Basic load ratings		Fatigue limit load C_{ur} N	Limiting speed n_G min ⁻¹	Speed rating n_{0r} min ⁻¹	Factor f_0	Mass m ≈ kg	Designation ▶225 1.12 ▶226 1.13
d	D	B	dyn. C_r N	stat. C_{0r} N						
110	140	16	30 000	30 500	1 610	2 230	–	16	0,5	61822-2RSR-Y
	140	16	30 000	30 500	1 610	5 600	4 100	16	0,5	61822-2RZ-Y
	140	16	30 000	30 500	1 610	8 500	4 100	16	0,5	61822-Y
	170	28	85 000	71 000	3 450	5 300	4 850	15,7	2,06	6022
	170	19	61 000	57 000	2 800	5 500	3 850	16,4	1,52	16022
	170	28	85 000	71 000	3 450	2 080	–	15,7	2,06	6022-2RSR
	170	28	85 000	71 000	3 450	4 550	4 850	15,7	2,11	6022-2Z
	200	38	153 000	117 000	6 300	4 450	4 500	14,3	4,64	6222
	200	38	153 000	117 000	6 300	3 800	4 500	14,3	4,8	6222-2Z
	240	50	201 000	165 000	8 600	3 800	4 150	13,8	10,3	6322
	240	50	201 000	165 000	8 600	1 750	–	13,8	10,5	6322-2RSR
240	50	201 000	165 000	8 600	3 250	4 150	13,8	10,5	6322-2Z	
120	150	16	30 500	33 000	1 680	2 060	–	16	0,55	61824-2RSR-Y
	150	16	30 500	33 000	1 680	5 100	3 750	16	0,55	61824-2RZ-Y
	150	16	30 500	33 000	1 680	7 900	3 750	16	0,56	61824-Y
	180	28	88 000	77 000	3 550	5 000	4 450	15,8	2,18	6024
	180	19	65 000	64 000	3 000	5 200	3 550	16,5	1,62	16024
	180	28	88 000	77 000	3 550	1 920	–	15,8	2,18	6024-2RSR
	180	28	88 000	77 000	3 550	4 250	4 450	15,8	2,23	6024-2Z
	215	40	154 000	123 000	6 200	4 200	4 250	14,8	5,62	6224
	215	40	154 000	123 000	6 200	1 770	–	14,8	5,8	6224-2RSR
	215	40	154 000	123 000	6 200	3 600	4 250	14,8	5,8	6224-2Z
130	260	55	225 000	195 000	9 500	3 500	3 800	13,8	12,8	6324
	165	18	40 500	43 000	1 790	5 500	3 600	16,2	0,801	61826
	180	24	77 000	74 000	3 200	6 400	3 900	16,3	1,7	61926-M
	200	33	113 000	101 000	4 850	4 500	4 350	15,8	3,42	6026
	200	22	84 000	82 000	3 650	4 650	3 450	16,4	2,41	16026
	200	33	113 000	101 000	4 850	1 750	–	15,8	3,16	6026-2RSR
	200	33	113 000	101 000	4 850	3 800	4 350	15,8	3,16	6026-2Z
	230	40	177 000	146 000	7 500	3 850	3 900	14,5	6	6226
	230	40	177 000	146 000	7 500	3 250	3 900	14,5	6,24	6226-2Z
280	58	244 000	214 000	9 800	3 200	3 500	13,5	15,3	6326	



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Mounting dimensions

Dimensions					Mounting dimensions		
d	r	D ₁	D ₂	d ₁	d _a	D _a	r _a
	min.	≈	≈	≈	min.	max.	max.
110	1	–	133,3	119,7	114,6	135,4	1
	1	–	133,3	119,7	114,6	135,4	1
	1	130,6	–	119,7	114,6	135,4	1
	2	150,9	–	129,2	118,8	161,2	2
	1	149,5	–	130,7	114,6	165,4	1
	2	–	155	128,7	118,8	161,2	2
	2	–	155	128,7	118,8	161,2	2
	2,1	171,7	–	138,4	122	188	2,1
	2,1	–	177,2	138	122	188	2,1
	3	197,4	–	153,3	124	226	2,5
	3	–	203,1	152,9	124	226	2,5
3	–	203,1	152,9	124	226	2,5	
120	1	–	143,3	129,7	124,6	145,4	1
	1	–	143,3	129,7	124,6	145,4	1
	1	140,6	–	129,7	124,6	145,4	1
	2	161,2	–	139,9	128,8	171,2	2
	1	159,5	–	140,7	124,6	175,4	1
	2	–	165,4	139,4	128,8	171,2	2
	2	–	165,4	139,4	128,8	171,2	2
	2,1	185	–	151,5	132	203	2,1
	2,1	–	190,5	151,1	132	203	2,1
	2,1	–	190,5	151,1	132	203	2,1
	3	215	–	165	134	246	2,5
130	1,1	154,7	–	140	136	159	1
	1,5	164,7	–	145,7	137	173	1,5
	2	177,9	–	153,3	138,8	191,2	2
	1,1	176,7	–	154,7	136	194	1
	2	–	182,1	152,9	138,8	191,2	2
	2	–	182,1	152,9	138,8	191,2	2
	3	198,6	–	161,4	144	216	2,5
	3	–	203,5	161	144	216	2,5
	4	231,3	–	178,9	147	263	3



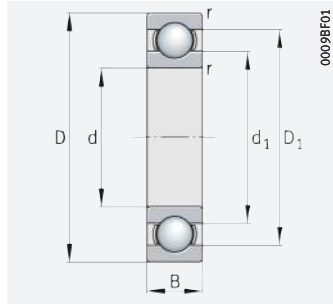
Deep groove ball bearings

Single row

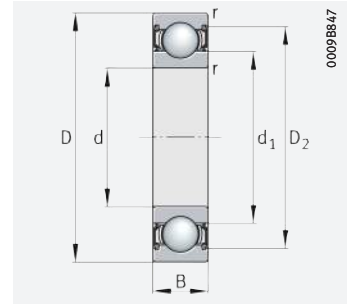


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d = 140 – 170 mm

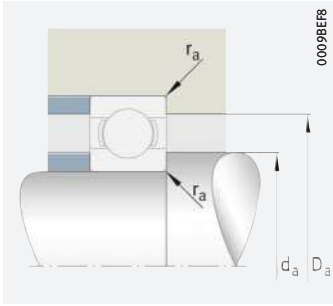


Open



With seal 2RSR, 2RZ, 2Z

Main dimensions			Basic load ratings		Fatigue limit load C_{ur} N	Limiting speed n_G min^{-1}	Speed rating $n_{\theta r}$ min^{-1}	Factor f_0	Mass m $\approx \text{kg}$	Designation ▶ 225 1.12 ▶ 226 1.13
d	D	B	dyn. C_r N	stat. C_{0r} N						
140	175	18	41 500	46 000	1 860	6 700	3 350	16	0,848	61828-Y
	210	33	117 000	109 000	5 000	4 250	4 050	16	3,6	6028
	210	22	86 000	87 000	3 700	4 400	3 200	16,5	2,55	16028
	210	33	117 000	109 000	5 000	1 650	–	16	3,58	6028-2RSR
	210	33	117 000	109 000	5 000	3 600	4 050	16	3,56	6028-2Z
	250	42	188 000	165 000	8 100	3 600	3 600	14,9	8,07	6228
	300	62	270 000	246 000	11 100	3 850	3 250	13,6	21,767	6328-M
150	190	20	54 000	60 000	2 420	4 700	3 200	16,1	1,18	61830
	225	35	131 000	124 000	5 400	3 950	3 850	16	4,32	6030
	225	24	98 000	99 000	4 250	4 050	3 100	16,5	3,17	16030
	225	35	131 000	124 000	5 400	1 540	–	16	4,34	6030-2RSR
	225	35	131 000	124 000	5 400	3 350	3 850	16	4,3	6030-2Z
	270	45	187 000	168 000	7 800	3 350	3 350	15,2	10,3	6230
	320	65	300 000	290 000	13 100	2 800	3 000	13,7	22,4	6330
160	200	20	55 000	62 000	2 430	4 450	3 000	16,1	1,25	61832
	220	28	98 000	99 000	4 250	4 050	3 450	16,5	2,71	61932
	240	38	142 000	136 000	5 800	3 700	3 750	16	5,2	6032
	240	25	109 000	114 000	4 600	3 800	2 950	16,5	3,8	16032
	240	38	142 000	136 000	5 800	1 440	–	16	6,16	6032-2RSR
	240	38	142 000	136 000	5 800	3 150	3 750	16	5	6032-2Z
	290	48	212 000	203 000	8 900	4 050	3 100	15,2	14,7	6232-M
170	215	22	65 000	73 000	2 850	4 100	2 950	16,1	1,63	61834
	230	28	109 000	114 000	4 600	3 800	3 150	16,4	2,83	61934
	260	42	179 000	172 000	7 400	3 400	3 550	15,7	7,13	6034
	260	28	131 000	136 000	5 400	3 500	2 850	16,5	5,15	16034
	260	42	179 000	172 000	7 400	1 340	–	15,7	7,3	6034-2RSR
	310	52	225 000	224 000	9 400	3 800	2 950	15,3	18,3	6234-M



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Mounting dimensions

Dimensions					Mounting dimensions		
d	r	D ₁	D ₂	d ₁	d _a	D _a	r _a
	min.	≈	≈	≈	min.	max.	max.
140	1,1	164	–	150,8	146	169	1
	2	187,5	–	162,3	148,8	201,2	2
	1,1	186,7	–	164,3	146	204	1
	2	–	191,3	161,9	148,8	201,2	2
	2	–	191,3	161,9	148,8	201,2	2
	3	213,8	–	175,9	154	236	2,5
	4	248,8	–	191,2	157	283	3
150	1,1	177,9	–	162,7	156	184	1
	2,1	201,4	–	174,4	160,2	214,8	2,1
	1,1	199	–	176	156	219	1
	2,1	–	206	173,9	160,2	214,8	2,1
	2,1	–	206	173,9	160,2	214,8	2,1
	3	229,1	–	191,6	164	256	2,5
	4	266,2	–	205,5	167	303	3
160	1,1	187,3	–	172,7	166	194	1
	2	199	–	176	168,8	211,2	2
	2,1	214,6	–	186,2	170,2	229,8	2,1
	1,5	212,4	–	187,3	167	233	1,5
	2,1	–	219,7	185,8	170,2	229,8	2,1
	2,1	–	219,7	185,8	170,2	229,8	2,1
	3	245	–	204,9	174	276	2,5
170	1,1	200,8	–	184,4	176	209	1
	2	212,6	–	187,2	178,8	221,2	2
	2,1	231,2	–	199,4	180,2	249,8	2,1
	1,5	228,6	–	202,3	177	253	1,5
	2,1	–	236,5	198,9	180,2	249,8	2,1
	4	260,8	–	219	187	293	3

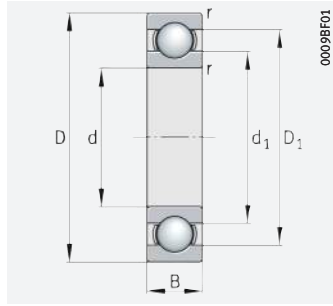


Deep groove ball bearings

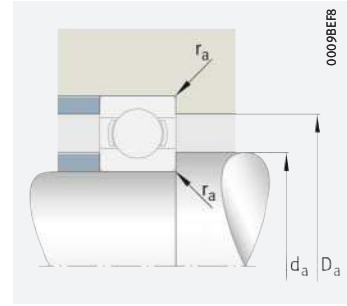
Single row



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Open



Mounting dimensions

d = 180 – 260 mm

Main dimensions			Basic load ratings		Fatigue limit load C_{ur} N	Limiting speed n_G min^{-1}	Speed rating $n_{\theta r}$ min^{-1}	Factor f_0	Mass m $\approx \text{kg}$	Designation ▶225 1.12 ▶226 1.13
d	D	B	dyn. C_r N	stat. C_{0r} N						
180	225	22	66 000	76 000	2 850	3 900	2 750	16,1	1,71	61836
	250	33	131 000	136 000	5 400	3 500	3 200	16,4	4,22	61936
	280	31	140 000	146 000	5 200	3 350	2 950	16,4	6,92	16036
	280	46	201 000	199 000	8 200	4 050	3 300	15,6	10,6	6036-M
	320	52	240 000	244 000	10 300	3 650	2 750	15,3	18,744	6236-M
190	240	24	73 000	85 000	3 300	3 650	2 700	16,1	2,24	61838
	260	33	140 000	146 000	5 200	3 350	3 000	16,4	4,39	61938
	290	31	158 000	168 000	6 300	3 100	2 650	16,5	7,04	16038
	290	46	216 000	220 000	9 100	3 850	3 100	15,6	11,3	6038-M
200	250	24	74 000	88 000	3 350	3 500	2 550	15,9	2,35	61840
	280	38	158 000	168 000	6 300	3 100	2 950	16,4	6,27	61940
	310	34	186 000	202 000	7 300	2 850	2 470	16,4	9	16040
	310	51	231 000	243 000	9 600	3 650	3 000	15,6	14,4	6040-M
220	270	24	78 000	97 000	3 550	3 200	2 320	15,9	2,62	61844
	300	38	186 000	202 000	6 900	2 850	2 600	16,4	6,372	61944
240	300	28	100 000	124 000	4 350	2 900	2 260	15,9	3,769	61848
	320	38	211 000	240 000	8 400	2 600	2 330	16,4	6,88	61948
260	320	28	102 000	132 000	4 550	2 700	2 070	15,9	4,31	61852



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Dimensions				Mounting dimensions		
d	r	D ₁	d ₁	d _a	D _a	r _a
	min.	≈	≈	min.	max.	max.
180	1,1	211,4	194,4	186	219	1
	2	228,9	202,2	188,8	241,2	2
	2	238,8	211,9	188,8	271,2	2
	2,1	249,3	211,8	190,2	269,8	2,1
	4	272,1	228,6	197	303	3
190	1,5	223,8	206,1	197	233	1,5
	2	238,8	211,9	198,8	251,2	2
	2	255,3	225,7	198,8	281,2	2
	2,1	260,3	220,8	200,2	279,8	2,1
200	1,5	233,8	216,7	207	243	1,5
	2,1	255,3	225,7	210,2	269,8	2,1
	2	276,4	244,5	208,8	301,2	2
	2,1	276,3	234,8	210,2	299,8	2,1
220	1,5	255	235,9	227	263	1,5
	2,1	276,4	244,6	230,2	289,8	2,1
240	2	281,6	259,3	248,8	291,2	2
	2,1	298	262,9	250,2	309,8	2,1
260	2	301,7	279,3	268,8	311,2	2

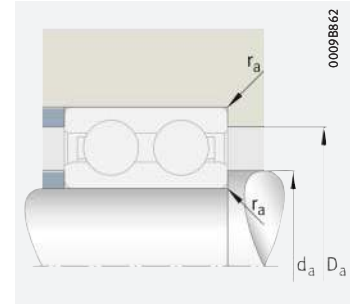
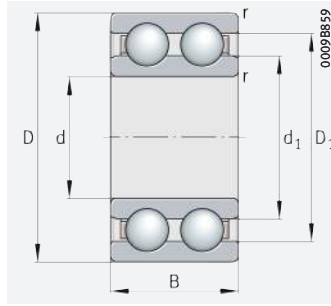


Deep groove ball bearings

Double row



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Mounting dimensions

d = 10 – 90 mm

Main dimensions			Basic load ratings		Fatigue limit load C_{ur} N	Limiting speed n_G min^{-1}	Speed rating $n_{\partial r}$ min^{-1}	Factor f_0	Mass m $\approx \text{kg}$	Designation ▶ 225 1.12 ▶ 226 1.13
d	D	B	dyn. C_r N	stat. C_{0r} N						
10	30	14	8 300	4 750	240	21 800	21 600	13,1	0,051	4200-B-TVH
12	32	14	11 100	6 100	310	19 000	19 100	12,3	0,051	4201-B-TVH
15	35	14	12 400	7 400	375	17 100	16 400	13,1	0,08	4202-B-TVH
	42	17	15 600	9 500	480	14 900	11 600	13	0,125	4302-B-TVH
17	40	16	15 600	9 500	480	14 900	15 100	13	0,1	4203-B-TVH
	47	19	20 900	13 200	670	12 500	9 800	13,1	0,178	4303-B-TVH
20	47	18	20 900	13 200	670	12 500	13 300	13,1	0,14	4204-B-TVH
	52	21	26 000	16 800	850	11 100	9 300	13	0,19	4304-B-TVH
25	52	18	22 900	15 700	790	11 100	11 200	13,8	0,19	4205-B-TVH
	62	24	34 500	22 900	1 160	9 400	8 500	13	0,28	4305-B-TVH
30	62	20	29 000	21 600	1 100	9 400	9 600	14,2	0,28	4206-B-TVH
	72	27	44 000	30 000	1 530	8 000	7 500	13	0,5	4306-B-TVH
35	72	23	39 500	30 000	1 520	7 900	8 700	14,1	0,45	4207-B-TVH
	80	31	58 000	40 500	2 060	6 900	6 900	12,9	0,59	4307-B-TVH
40	80	23	42 000	34 500	1 740	7 200	7 500	14,7	0,45	4208-B-TVH
	90	33	67 000	48 000	2 430	6 100	6 300	13,2	0,83	4308-B-TVH
45	85	23	44 500	38 000	1 930	6 700	6 900	14,9	0,54	4209-B-TVH
	100	36	75 000	60 000	3 600	5 400	5 300	13,9	1,23	4309-B-TVH
50	90	23	46 500	42 000	2 130	6 300	6 300	15,2	0,68	4210-B-TVH
	110	40	92 000	76 000	4 450	4 800	5 000	13,8	1,62	4310-B-TVH
55	100	25	43 000	42 500	2 140	5 700	5 900	15,4	0,808	4211-B-TVH
	120	43	111 000	90 000	5 400	4 350	4 650	13,8	2,06	4311-B-TVH
60	110	28	56 000	56 000	2 850	5 000	5 400	15	1,09	4212-B-TVH
	130	46	128 000	106 000	6 200	3 950	4 350	13,8	2,58	4312-B-TVH
65	120	31	67 000	67 000	3 350	4 650	5 400	15,3	1,44	4213-B-TVH
	140	48	137 000	114 000	6 800	3 850	4 500	13,8	3,49	4313-B-TVH
70	125	31	70 000	71 000	3 600	4 300	4 800	15	1,5	4214-B-TVH
	150	51	156 000	131 000	7 700	3 550	4 200	13,7	3,99	4314-B-TVH
75	130	31	72 000	76 000	3 750	4 100	4 450	14,9	1,58	4215-B-TVH
80	140	33	81 000	90 000	4 350	3 800	4 200	15,7	1,98	4216-B-TVH
85	150	36	94 000	106 000	4 950	3 500	4 100	15,8	2,5	4217-B-TVH
90	160	40	113 000	123 000	5 900	3 300	4 100	15,5	3,15	4218-B-TVH



Dimensions				Mounting dimensions		
d	r	D ₁	d ₁	d _a	D _a	r _a
	min.	≈	≈	min.	max.	max.
10	0,6	23	16,6	14,2	25,8	0,6
12	0,6	25,8	17,8	16,2	27,8	0,6
15	0,6	28,8	21,4	19,2	30,8	0,6
	0,6	32,9	23,8	20,6	36,4	0,6
17	0,6	32,9	23,8	21,2	35,8	0,6
	1	38,5	28,4	22,6	41,4	1
20	1	38,5	28,4	25,6	41,4	1
	1,1	42,3	31,5	27	45	1
25	1	43,6	33,6	30,6	46,4	1
	1,1	49,9	37	32	55	1
30	1	51,8	39,9	35,6	56,4	1
	1,1	59,4	42,6	37	65	1
35	1,1	60,4	46,3	42	65	1
	1,5	68	48,2	44	71	1,5
40	1,1	67,2	53	47	73	1
	1,5	75,6	54,5	49	81	1,5
45	1,1	72,2	58,1	52	78	1
	1,5	86,8	66,7	54	91	1,5
50	1,1	76,9	62,8	57	83	1
	2	96,2	73,6	61	99	2
55	1,5	84,7	71,4	64	91	1,5
	2	105,3	80,4	66	109	2
60	1,5	95,3	79,8	69	101	1,5
	2,1	113,8	87,7	72	118	2,1
65	1,5	101,9	84,2	74	111	1,5
	2,1	116,2	89,2	77	128	2,1
70	1,5	109,4	91,7	79	116	1,5
	2,1	127,1	97,3	82	138	2,1
75	1,5	115	97,6	84	121	1,5
80	2	124	105,2	91	129	2
85	2	132,8	112,7	96	139	2
90	2	140,2	117,6	101	149	2



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