



KMR Bearings

## Ball bearings



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Shandong KMR Science & Technology CO.,Ltd

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## Deep Groove Ball Bearings

Deep groove ball bearings are used in a wide range of applications. They can achieve high-speed rotation and ultra-high-speed rotation. They accommodate radial and axial loads in both directions, are easy to mount, and require less maintenance than other bearing types.

Deep groove ball bearings are the most widely used bearing type. KMR provide DGBB from KMR in many designs, variants and sizes.

### Features

Deep groove ball bearings are inseparable bearings bearings with solid outer rings, inner rings and balls and cages assemblies. The DGBB is simple in design, reliable, durable and easy to maintain. DGBB is suitable for occasions requiring high speed, low operation noise and low vibration.

### Compensation of Angle Misalignment

Single row deep groove ball bearings have limited ability to compensate for misalignment, so the bearing must be positioned accurately. In order to limit the additional stress of the bearing to a low range, only small inclination angles are allowed for single row deep groove ball bearings (depending on the magnitude of the load).

Due to its internal structure characteristics, double row deep groove ball bearings have no misalignment compensation capability. When using these bearings, tilt angles are not permissible.

### Radial and Axial Load Capacity

The deep groove-shaped raceways located on the inner and outer rings have a section radius slightly larger than the ball radius. So that the single row deep groove ball bearings can bear not only radial load but also bidirectional axial load when running at high speed.

### Radial and Axial Load Capacity

The standard designs of KMR single row deep groove ball bearings include open and sealed designs.

### Seal

Open type bearings are suitable for high and ultra-high-speed conditions. The suffix 2Z of deep groove ball bearings means double-sided gap seal, suitable for high speed. And suffix 2RSR means lip seals on both sides, made of nitrile rubber NBR, suitable for medium speeds.

By agreement, we can supply bearings with non-contacting BRS seals on both sides (suffix 2BRS). This type bearings have good friction properties, equivalent to Z Shield bearings. If the inner race is stationary and the outer race is rotating, grease leakage will be less than a seal with a Z-type dust cap.



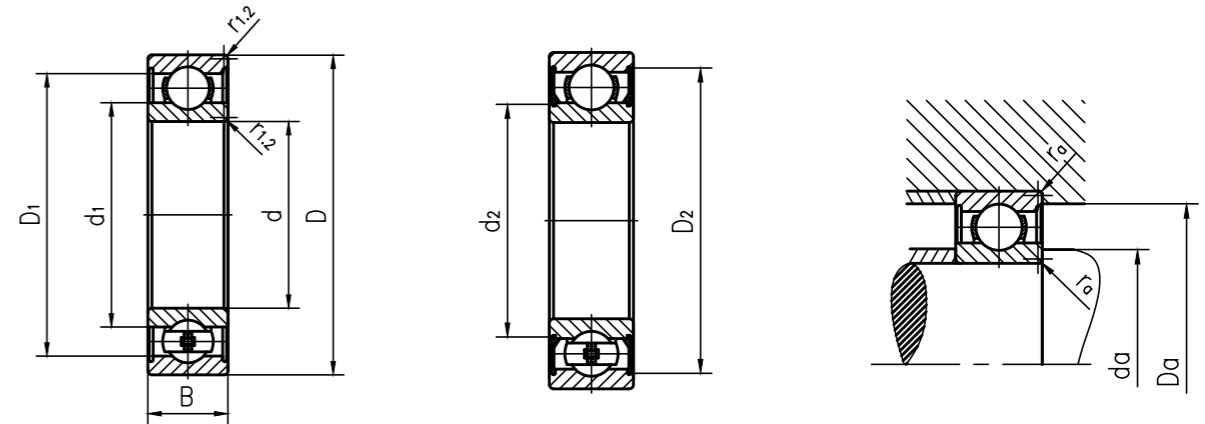
## Suffixes for Designs

Suffix	Meaning
A/AA/C/D	Deviating or modified internal design
E	Reinforced ball set
N	Snap ring groove in the outer ring
NR	Snap ring groove in the outer ring, with snap ring
N1	One locating slot (notch) in one outer ring side face
R	Flanged outer ring
RS1/2RS1	Contact seal, NBR, on one or both sides
RS2/2RS2	Contact seal, FKM, on one or both sides
RSH/2RSH	Contact seal, NBR, on one or both sides
RSH2/2RSH2	Contact seal, FKM, on one or both sides
RSL/2RSL	Low friction seal, NBR, on one or both sides
RST/2RST	Low friction seal, NBR, on one or both sides
RZ/2RZ	Non contact seal, NBR, on one or both sides
Z/ZZ	Shield on one or both sides
ZNBR	Shield on one side, snap ring groove in the outer ring, with snap ring on the same side as the shield
ZNR	Shield on one side, snap ring groove in the outer ring, with snap ring on the opposite side of the shield
2ZNR	Shield on both sides, snap ring groove in the outer ring, with snap ring
2ZS	Shield on both sides, held in place by a retaining ring
X	Boundary dimensions not in accordance with ISO dimension series
-	1 For stainless steel bearings: stamped stainless steel cage, ball centred
-	2 For other bearings: stamped steel cage, ball centred
M	Machined brass cage, ball centred; different designs or material grades are identified by a number following the M, e.g M2
MA(S)	Machined brass cage, outer ring centred The 'S' indicates a lubrication groove in the guiding surface
MB(S)	Machined brass cage, inner ring centred The 'S' indicates a lubrication groove in the guiding surface
TN	PA66 cage, ball centred
TN9	Glass fibre reinforced PA66 cage, ball centred
TN9/VG1561	Glass fibre reinforced PA46 cage, ball centred
TNH	Glass fibre reinforced PEEK cage, ball centred
P5	Dimensional and running tolerances to class P5
P6	Dimensional and running tolerances to class P6
P52	P5+C2
P62	P6+C2
P63	P6+C3
CN	Normal radial internal clearance; only used together with an additional letter that identifies a reduced or displaced clearance range H = Reduced clearance range corresponding to the upper half of the actual clearance range H = Reduced clearance range corresponding to the upper half of the actual clearance range L = Reduced clearance range corresponding to the lower half of the actual clearance range P = Displaced clearance range comprising the upper half of the actual clearance range plus the lower half of the next larger clearance range The above letters are also used together with the clearance classes C2, C3, C4 and C5, e.g C2H
C1	Radial internal clearance smaller than C2
C2	Radial internal clearance smaller than Normal
C3	Radial internal clearance greater than Normal
C4	Radial internal clearance greater than C3
C5	Radial internal clearance greater than C4
CA	Matched bearing set with small axial internal clearance
GA	Matched bearing set with light preload



# Deep Groove Ball Bearings

## Single row deep groove ball bearings



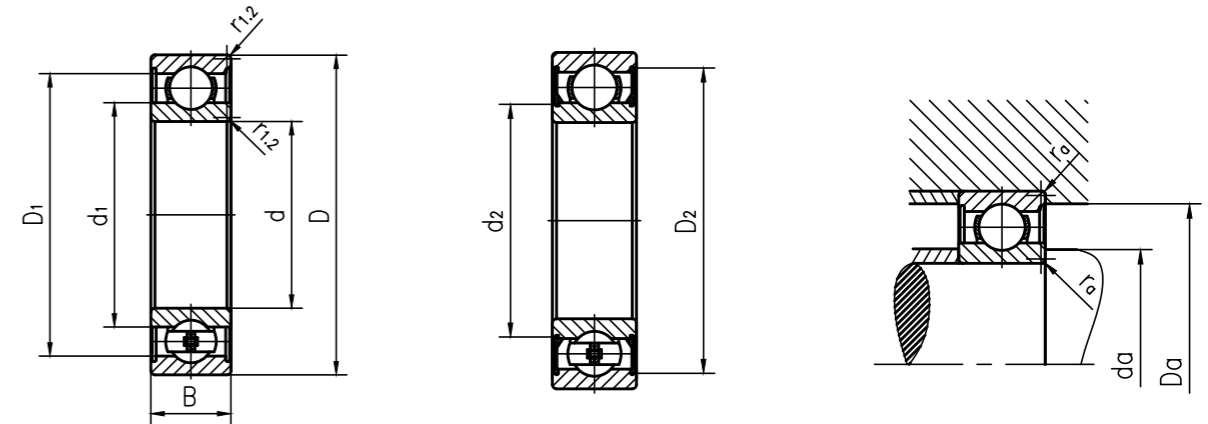
Type Bearing both sides of open or closed seal	One side closed seal	Main dimensions			Dimensions					Shoulder and chamfer dimensions			
		d	D	B	$d_1$ ≈	$d_2$ ≈	$D_1$ ≈	$D_2$ ≈	$r_{1,2}$ Min.	$d_a$ Min.	$d_a$ Max.	$D_a$ Max.	$r_a$ Max.
		mm			mm					mm			
-	-												
623	-	3	10	4	5.2	-	-	8.2	0.15	4.2	-	8.8	0.1
623-2RS1	623-RS1	3	10	4	5.2	-	-	8.2	0.15	4.2	5.1	8.8	0.1
623-2Z	623-Z	3	10	4	5.2	-	-	8.2	0.15	4.2	5.1	8.8	0.1
618/4	-	4	9	2.5	5.2	-	7.5	-	0.1	4.6	-	8.4	0.1
628/4-2Z	-	4	9	3.5	5.2	-	-	8.1	0.1	4.6	5.1	8.4	0.1
638/4-2Z	-	4	9	4	5.2	-	-	8.1	0.1	4.6	5.1	8.4	0.1
619/4-2Z	-	4	11	4	6.1	-	-	9.9	0.15	4.8	5.8	10.2	0.1
619/4	-	4	11	4	6.1	-	-	9.9	0.15	4.8	-	10.2	0.1
604	-	4	12	4	6.1	-	-	9.8	0.2	5.4	-	10.6	0.2
604-2Z	604-Z	4	12	4	6.1	-	-	9.8	0.2	5.4	6	10.6	0.2
624	-	4	13	5	6.7	-	-	11.2	0.2	5.8	-	11.2	0.2
624-2Z	624-Z	4	13	5	6.7	-	-	11.2	0.2	5.8	6.6	11.2	0.2
634	-	4	16	5	8.4	-	-	13.3	0.3	6.4	-	13.6	0.3
634-2RS1	634-RS1	4	16	5	8.4	-	-	13.3	0.3	6.4	8.3	13.6	0.3
634-2RZ	634-RZ	4	16	5	8.4	-	-	13.3	0.3	6.4	8.3	13.6	0.3
634-2Z	634-Z	4	16	5	8.4	-	-	13.3	0.3	6.4	8.3	13.6	0.3
618/5	-	5	11	3	6.8	-	9.2	-	0.15	5.8	-	10.2	0.1
628/5-2Z	-	5	11	4	6.8	-	-	9.9	0.15	5.8	6.7	10.2	0.1
638/5-2Z	-	5	11	5	-	6.2	-	9.9	0.15	5.8	6	10.2	0.1
619/5-2Z	-	5	13	4	7.5	-	-	11.2	0.2	6.4	7.5	11.6	0.2
619/5	-	5	13	4	7.5	-	-	11.2	0.2	6.4	-	11.6	0.2
625	-	5	16	5	8.4	-	-	13.3	0.3	7.4	-	13.6	0.3
625-2Z	625-Z	5	16	5	8.4	-	-	13.3	0.3	7.4	8.3	13.6	0.3
635	-	5	19	6	11.1	-	-	16.5	0.3	7.4	-	16.6	0.3
635-2RS1	635-RS1	5	19	6	11.1	-	-	16.5	0.3	7.4	10.6	16.6	0.3
635-2RZ	635-RZ	5	19	6	11.1	-	-	16.5	0.3	7.4	10.6	16.6	0.3
635-2Z	635-Z	5	19	6	11.1	-	-	16.5	0.3	7.4	10.6	16.6	0.3
618/6	-	6	13	3.5	8	-	11	-	0.15	6.8	-	12.2	0.1
628/6-2Z	-	6	13	5	-	7.4	-	11.7	0.15	6.8	7.2	12.2	0.1
619/6-2Z	-	6	15	5	8.2	-	-	13	0.2	7.4	8	13.6	0.2
619/6	-	6	15	5	8.2	-	-	13	0.2	7.4	-	13.6	0.2
626	-	6	19	6	11.1	-	-	16.5	0.3	8.4	-	16.6	0.3
626-2RSH	626-RSH	6	19	6	-	9.5	-	16.5	0.3	8.4	9.4	16.6	0.3
626-2RSL	626-RSL	6	19	6	-	9.5	-	16.5	0.3	8.4	9.4	16.6	0.3
626-2Z	626-Z	6	19	6	11.1	-	-	16.5	0.3	8.4	11	16.6	0.3

Type Bearing both sides of open or closed seal	One side closed seal	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient	
			Dynamic	Static				$K_r$	$f_o$
			C	$C_0$	$P_u$				
		kg	kN			r/min			
-	-								
623	-	0.0015	0.57	0.19	0.01	136500	84000	0.025	7.5
623-2RS1	623-RS1	0.0015	0.57	0.19	0.01	-	42000	0.025	7.5
623-2Z	623-Z	0.0015	0.57	0.19	0.01	136500	63000	0.025	7.5
618/4	-	0.0007	0.44	0.12	0.01	147000	89250	0.015	6.5
628/4-2Z	-	0.001	0.57	0.19	0.07	147000	73500	0.015	10
638/4-2Z	-	0.0013	0.57	0.19	0.07	147000	73500	0.015	10
619/4-2Z	-	0.0017	0.66	0.19	0.01	136500	66150	0.02	6.4
619/4	-	0.0017	0.66	0.19	0.01	136500	84000	0.02	6.4
604	-	0.0021	0.85	0.29	0.01	126000	78750	0.025	10
604-2Z	604-Z	0.0021	0.85	0.29	0.01	126000	63000	0.025	10
624	-	0.0031	0.98	0.30	0.01	115500	70350	0.025	10
624-2Z	624-Z	0.0031	0.98	0.30	0.01	115500	55650	0.025	7.3
634	-	0.0054	1.17	0.40	0.02	99750	63000	0.03	8.4
634-2RS1	634-RS1	0.0054	1.17	0.40	0.02	-	29400	0.03	8.4
634-2RZ	634-RZ	0.0054	1.17	0.40	0.02	99750	50400	0.03	8.4
634-2Z	634-Z	0.0054	1.17	0.40	0.02	99750	50400	0.03	8.4
618/5	-	0.0012	0.49	0.15	0.01	126000	78750	0.015	7.1
628/5-2Z	-	0.0014	0.67	0.27	0.01	126000	63000	0.015	11
638/5-2Z	-	0.0016	0.67	0.27	0.01	126000	63000	0.015	11
619/5-2Z	-	0.0025	0.93	0.35	0.01	115500	52500	0.02	11
619/5	-	0.0025	0.93	0.35	0.01	115500	73500	0.02	11
625	-	0.005	1.20	0.40	0.02	99750	63000	0.025	8.4
625-2Z	625-Z	0.005	1.20	0.40	0.02	99750	50400	0.025	8.4
635	-	0.0085	2.46	1.00	0.04	84000	52500	0.03	13
635-2RS1	635-RS1	0.009	2.46	1.00	0.04	-	25200	0.03	13
635-2RZ	635-RZ	0.009	2.46	1.00	0.04	84000	42000	0.03	13
635-2Z	635-Z	0.0093	2.46	1.00	0.04	84000	42000	0.03	13
618/6	-	0.002	0.75	0.24	0.01	115500	70350	0.015	7
628/6-2Z	-	0.0026	0.92	0.37	0.02	115500	55650	0.015	11
619/6-2Z	-	0.0039	0.93	0.28	0.01	105000	52500	0.02	6.8
619/6	-	0.0039	0.93	0.28	0.01	105000	66150	0.02	6.8
626	-	0.0081	2.46	1.00	0.04	84000	52500	0.025	13
626-2RSH	626-RSH	0.0083	2.46	1.00	0.04	-	25200	0.025	13
626-2RSL	626-RSL	0.0083	2.46	1.00	0.04	84000	42000	0.025	13
626-2Z	626-Z	0.0088	2.46	1.00	0.04	84000	42000	0.025	13



# Deep Groove Ball Bearings

## Single row deep groove ball bearings

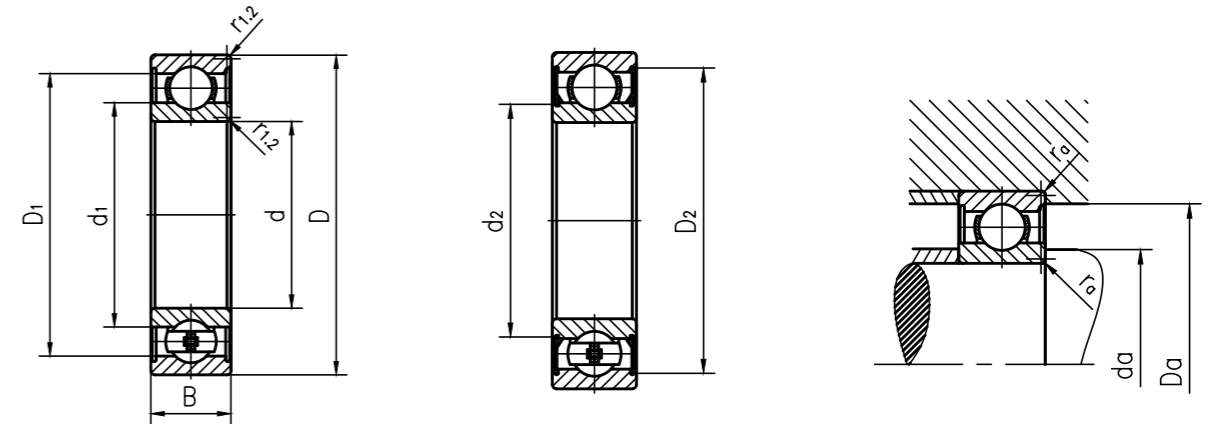


Type Bearing both sides of open or closed seal	One side closed seal	Main dimensions			Dimensions					Shoulder and chamfer dimensions			
		d	D	B	$d_1$ ≈	$d_2$ ≈	$D_1$ ≈	$D_2$ ≈	$r_{1,2}$ Min.	$d_a$ Min.	$d_a$ Max.	$D_a$ Max.	$r_a$ Max.
-	-	mm			mm					mm			
618/7	-	7	14	3.5	9	-	12	-	0.15	7.8	-	13.2	0.1
628/7-2Z	-	7	14	5	-	8.5	-	12.7	0.15	7.8	8	13.2	0.1
619/7-2Z	-	7	17	5	10.4	-	-	14.3	0.3	9	9.7	15	0.3
619/7	-	7	17	5	10.4	-	-	14.3	0.3	9	-	15	0.3
607	-	7	19	6	11.1	-	-	16.5	0.3	9	-	17	0.3
607-2RSH	607-RSH	7	19	6	-	9.5	-	16.5	0.3	9	9.4	17	0.3
607-2RSL	607-RSL	7	19	6	-	9.5	-	16.5	0.3	9	9.4	17	0.3
607-2Z	607-Z	7	19	6	11.1	-	-	16.5	0.3	9	11	17	0.3
627	-	7	22	7	12.1	-	-	19.2	0.3	9.4	-	19.6	0.3
627-2RSH	627-RSH	7	22	7	-	10.5	-	19.2	0.3	9.4	10.5	19.6	0.3
627-2RSL	627-RSL	7	22	7	-	10.5	-	19.2	0.3	9.4	10.5	19.6	0.3
627-2Z	627-Z	7	22	7	12.1	-	-	19.2	0.3	9.4	12.1	19.6	0.3
618/8	-	8	16	4	10.5	-	13.5	-	0.2	9.4	-	14.6	0.2
628/8-2RS1	-	8	16	5	10.1	-	-	14.2	0.2	9.4	9.4	14.6	0.2
628/8-2Z	-	8	16	5	10.1	-	-	14.2	0.2	9.4	10	14.6	0.2
638/8-2Z	-	8	16	6	-	9.6	-	14.2	0.2	9.4	9.5	14.6	0.2
619/8-2RS1	-	8	19	6	-	9.8	-	16.7	0.3	9.5	9.8	17	0.3
619/8-2Z	-	8	19	6	-	9.8	-	16.7	0.3	9.5	9.8	17	0.3
619/8	-	8	19	6	10.5	-	-	16.7	0.3	10	-	17	0.3
607/8-2Z	607/8-Z	8	19	6	11.1	-	-	16.5	0.3	10	11	17	0.3
608	-	8	22	7	12.1	-	-	19.2	0.3	10	-	20	0.3
608-2RSH	608-RSH	8	22	7	-	10.5	-	19.2	0.3	10	10.5	20	0.3
608-2RSL	608-RSL	8	22	7	-	10.5	-	19.2	0.3	10	10.5	20	0.3
608-2Z	608-Z	8	22	7	12.1	-	-	19.2	0.3	10	12	20	0.3
630/8-2RS1	-	8	22	11	11.8	-	-	19	0.3	10	11.7	20	0.3
628	-	8	24	8	14.4	-	-	21.2	0.3	10.4	-	21.6	0.3
628-2RS1	628-RS1	8	24	8	14.4	-	-	21.2	0.3	10.4	14.4	21.6	0.3
628-2RZ	628-RZ	8	24	8	14.4	-	-	21.2	0.3	10.4	14.4	21.6	0.3
628-2Z	628-Z	8	24	8	14.4	-	-	21.2	0.3	10.4	14.4	21.6	0.3
638-2RZ	638-RZ	8	28	9	14.8	-	-	22.6	0.3	10.4	14.7	25.6	0.3
618/9	-	9	17	4	11.5	-	14.5	-	0.2	10.4	-	15.6	0.2
628/9-2RS1	-	9	17	5	-	10.7	-	15.2	0.2	10.4	10.5	15.6	0.2
628/9-2Z	628/9-Z	9	17	5	-	10.7	-	15.2	0.2	10.4	10.5	15.6	0.2
619/9-2Z	-	9	20	6	11.6	-	-	17.5	0.3	11	11.5	18	0.3

Type Bearing both sides of open or closed seal	One side closed seal	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient	
			Dynamic	Static				$K_f$	$f_0$
-	-	kg	kN		$P_u$	r/min	-	-	
618/7	-	0.0022	0.82	0.27	0.01	105000	66150	0.015	7.2
628/7-2Z	-	0.0031	1.00	0.42	0.02	105000	52500	0.015	11
619/7-2Z	-	0.0049	1.11	0.39	0.02	94500	47250	0.02	7.3
619/7	-	0.0049	1.11	0.39	0.02	94500	58800	0.02	7.3
607	-	0.0076	2.46	1.00	0.04	89250	55650	0.025	13
607-2RSH	607-RSH	0.0078	2.46	1.00	0.04	-	25200	0.025	13
607-2RSL	607-RSL	0.0078	2.46	1.00	0.04	89250	45150	0.025	13
607-2Z	607-Z	0.0084	2.46	1.00	0.04	89250	45150	0.025	13
627	-	0.012	3.62	1.44	0.06	73500	47250	0.025	12
627-2RSH	627-RSH	0.013	3.62	1.44	0.06	-	23100	0.025	12
627-2RSL	627-RSL	0.013	3.62	1.44	0.06	73500	37800	0.025	12
627-2Z	627-Z	0.013	3.62	1.44	0.06	73500	37800	0.025	12
618/8	-	0.003	0.86	0.32	0.01	94500	58800	0.015	7.5
628/8-2RS1	-	0.0036	1.40	0.60	0.03	-	27300	0.015	11
628/8-2Z	-	0.0036	1.40	0.60	0.03	94500	47250	0.015	11
638/8-2Z	-	0.0043	1.40	0.60	0.03	94500	47250	0.015	11
619/8-2RS1	-	0.0071	1.53	0.49	0.02	-	25200	0.02	6.6
619/8-2Z	-	0.0071	1.53	0.49	0.02	89250	45150	0.02	6.6
619/8	-	0.0071	1.53	0.49	0.02	89250	55650	0.02	6.6
607/8-2Z	607/8-Z	0.0072	2.46	1.00	0.04	89250	45150	0.025	13
608	-	0.012	3.62	1.44	0.06	78750	50400	0.025	12
608-2RSH	608-RSH	0.012	3.62	1.44	0.06	-	23100	0.025	12
608-2RSL	608-RSL	0.012	3.62	1.44	0.06	78750	39900	0.025	12
608-2Z	608-Z	0.013	3.62	1.44	0.06	78750	39900	0.025	12
630/8-2RS1	-	0.016	3.62	1.44	0.06	-	23100	0.025	12
628	-	0.018	4.10	1.74	0.07	66150	42000	0.025	13
628-2RS1	628-RS1	0.017	4.10	1.74	0.07	-	19950	0.025	13
628-2RZ	628-RZ	0.017	4.10	1.74	0.07	66150	33600	0.025	13
628-2Z	628-Z	0.018	4.10	1.74	0.07	66150	33600	0.025	13
638-2RZ	638-RZ	0.03	1.40	0.60	0.03	63000	31500	0.03	12
618/9	-	0.0034	0.91	0.36	0.01	89250	55650	0.015	7.7
628/9-2RS1	-	0.0043	1.50	0.67	0.03	-	25200	0.015	11
628/9-2Z	628/9-Z	0.0043	1.50	0.67	0.03	89250	45150	0.015	11
619/9-2Z	-	0.0076	2.46	1.03	0.05	84000	42000	0.02	12

# Deep Groove Ball Bearings

## Single row deep groove ball bearings

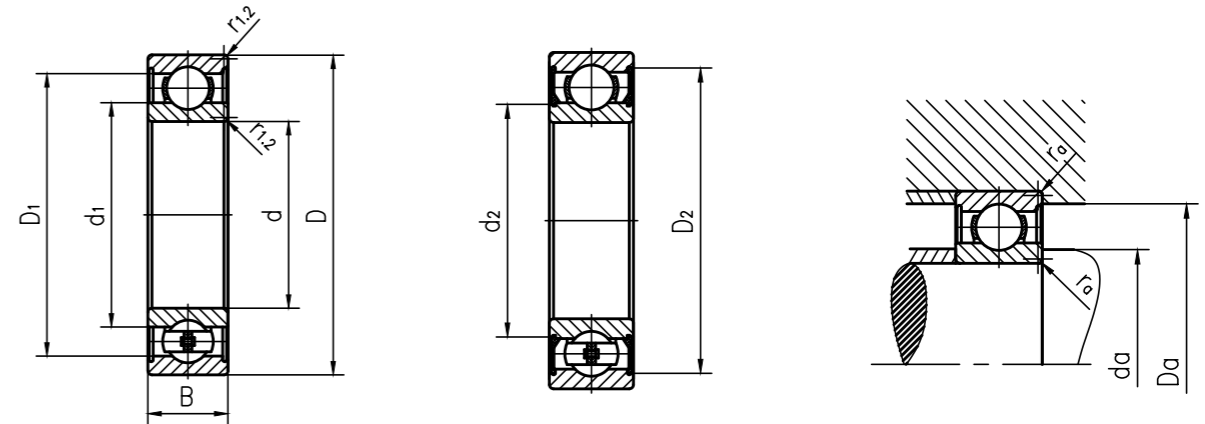


Type Bearing both sides of open or closed seal	One side closed seal	Main dimensions			Dimensions					Shoulder and chamfer dimensions			
		d	D	B	$d_1$	$d_2$	$D_1$	$D_2$	$r_{1.2}$ Min.	$d_a$ Min.	$d_a$ Max.	$D_a$ Max.	$r_a$ Max.
-	-	mm			mm					mm			
619/9	-	9	20	6	11.6	-	-	17.5	0.3	11	-	18	0.3
609	-	9	24	7	14.4	-	-	21.2	0.3	11	-	22	0.3
609-2RSH	609-RSH	9	24	7	-	12.8	-	21.2	0.3	11	12.5	22	0.3
609-2RSL	609-RSL	9	24	7	-	12.8	-	21.2	0.3	11	12.5	22	0.3
609-2Z	609-Z	9	24	7	14.4	-	-	21.2	0.3	11	14.3	22	0.3
629	-	9	26	8	14.8	-	-	22.6	0.3	11.4	-	23.6	0.3
629-2RSH	629-RSH	9	26	8	-	12.5	-	22.6	0.3	11.4	12.5	23.6	0.3
629-2RSL	629-RSL	9	26	8	-	12.5	-	22.6	0.3	11.4	12.5	23.6	0.3
629-2Z	629-Z	9	26	8	14.8	-	-	22.6	0.3	11.4	14.7	23.6	0.3
61800-2RS1	-	10	19	5	-	11.8	-	17.2	0.3	11.8	11.8	17	0.3
61800-2Z	-	10	19	5	12.7	-	-	17.2	0.3	12	12.5	17	0.3
61800	-	10	19	5	12.7	-	16.3	-	0.3	12	-	17	0.3
61900-2RS1	-	10	22	6	-	13.2	-	19.4	0.3	12	12	20	0.3
61900-2Z	-	10	22	6	13.9	-	-	19.4	0.3	12	12.9	20	0.3
61900	-	10	22	6	13.9	-	18.2	-	0.3	12	-	20	0.3
6000	-	10	26	8	14.8	-	-	22.6	0.3	12	-	24	0.3
6000-2RSH	6000-RSH	10	26	8	-	12.5	-	22.6	0.3	12	12.5	24	0.3
6000-2RSL	6000-RSL	10	26	8	-	12.5	-	22.6	0.3	12	12.5	24	0.3
6000-2Z	6000-Z	10	26	8	14.8	-	-	22.6	0.3	12	14.7	24	0.3
63000-2RS1	-	10	26	12	14.8	-	-	22.6	0.3	12	14.7	24	0.3
16100-2Z	-	10	28	8	17	-	-	24.8	0.3	14.2	16.6	23.8	0.3
16100	-	10	28	8	17	-	-	24.8	0.3	14.2	-	23.8	0.3
6200	-	10	30	9	17	-	-	24.8	0.6	14.2	-	25.8	0.6
6200-2RSH	6200-RSH	10	30	9	-	15	-	24.8	0.6	14.2	15	25.8	0.6
6200-2RSL	6200-RSL	10	30	9	-	15	-	24.8	0.6	14.2	15	25.8	0.6
6200-2Z	6200-Z	10	30	9	17	-	-	24.8	0.6	14.2	16.9	25.8	0.6
62200-2RS1	-	10	30	14	17	-	-	24.8	0.6	14.2	16.9	25.8	0.6
6300	-	10	35	11	17.5	-	-	28.7	0.6	14.2	-	30.8	0.6
6300-2RSH	6300-RSH	10	35	11	-	15.5	-	28.7	0.6	14.2	15.5	30.8	0.6
6300-2RSL	6300-RSL	10	35	11	-	15.5	-	28.7	0.6	14.2	15.5	30.8	0.6
6300-2Z	6300-Z	10	35	11	17.5	-	-	28.7	0.6	14.2	17.4	30.8	0.6
62300-2RS1	-	10	35	17	17.5	-	-	28.7	0.6	14.2	17.4	30.8	0.6
61801-2RS1	-	12	21	5	-	14.1	-	19	0.3	13.6	13.8	19	0.3
61801-2Z	-	12	21	5	14.8	-	-	19	0.3	14	14.7	19	0.3

Type Bearing both sides of open or closed seal	One side closed seal	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient	
			Dynamic	Static				$K_r$	$f_0$
-	-	kg	kN		$P_u$	r/min	-	-	
619/9	-	0.0076	2.46	1.03	0.05	84000	52500	0.02	12
609	-	0.014	4.10	1.74	0.07	73500	45150	0.025	13
609-2RSH	609-RSH	0.015	4.10	1.74	0.07	-	19950	0.025	13
609-2RSL	609-RSL	0.014	4.10	1.74	0.07	73500	35700	0.025	13
609-2Z	609-Z	0.015	4.10	1.74	0.07	73500	35700	0.025	13
629	-	0.02	4.99	2.06	0.09	63000	39900	0.025	12
629-2RSH	629-RSH	0.02	4.99	2.06	0.09	-	19950	0.025	12
629-2RSL	629-RSL	0.02	4.99	2.06	0.09	63000	31500	0.025	12
629-2Z	629-Z	0.021	4.99	2.06	0.09	63000	31500	0.025	12
61800-2RS1	-	0.0055	1.81	0.87	0.04	-	23100	0.015	15
61800-2Z	-	0.0055	1.81	0.87	0.04	84000	39900	0.015	15
61800	-	0.0053	1.81	0.87	0.04	84000	50400	0.015	15
61900-2RS1	-	0.01	2.84	1.33	0.06	-	21000	0.02	14
61900-2Z	-	0.01	2.84	1.33	0.06	73500	37800	0.02	14
61900	-	0.01	2.84	1.33	0.06	73500	47250	0.02	14
6000	-	0.019	4.99	2.06	0.09	70350	42000	0.025	12
6000-2RSH	6000-RSH	0.019	4.99	2.06	0.09	-	19950	0.025	12
6000-2RSL	6000-RSL	0.019	4.99	2.06	0.09	70350	35700	0.025	12
6000-2Z	6000-Z	0.02	4.99	2.06	0.09	70350	35700	0.025	12
63000-2RS1	-	0.025	4.85	2.06	0.09	-	19950	0.025	12
16100-2Z	-	0.026	5.32	2.48	0.11	63000	31500	0.025	13
16100	-	0.024	5.32	2.48	0.11	63000	39900	0.025	13
6200	-	0.031	5.67	2.48	0.11	58800	37800	0.025	13
6200-2RSH	6200-RSH	0.032	5.67	2.48	0.11	-	17850	0.025	13
6200-2RSL	6200-RSL	0.032	5.67	2.48	0.11	58800	29400	0.025	13
6200-2Z	6200-Z	0.034	5.67	2.48	0.11	58800	29400	0.025	13
62200-2RS1	-	0.04	5.32	2.48	0.11	-	17850	0.025	13
6300	-	0.053	8.95	3.57	0.15	52500	33600	0.03	11
6300-2RSH	6300-RSH	0.054	8.95	3.57	0.15	-	15750	0.03	11
6300-2RSL	6300-RSL	0.053	8.95	3.57	0.15	52500	27300	0.03	11
6300-2Z	6300-Z	0.055	8.95	3.57	0.15	52500	27300	0.03	11
62300-2RS1	-	0.06	8.46	3.57	0.15	-	15750	0.03	11
61801-2RS1	-	0.0063	1.83	0.96	0.04	-	21000	0.015	13
61801-2Z	-	0.0063	1.83	0.96	0.04	73500	37800	0.015	13

# Deep Groove Ball Bearings

## Single row deep groove ball bearings



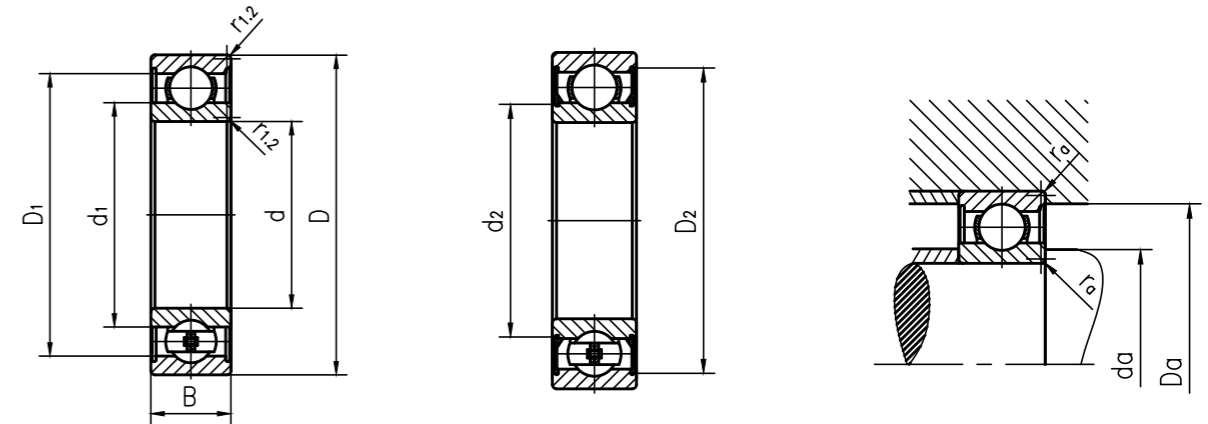
Type Bearing both sides of open or closed seal	One side closed seal	Main dimensions			Dimensions					Shoulder and chamfer dimensions			
		d	D	B	$d_1$	$d_2$	$D_1$	$D_2$	$r_{1.2}$ Min.	$d_a$ Min.	$d_a$ Max.	$D_a$ Max.	$r_a$ Max.
		mm			mm					mm			
-	-	12	21	5	14.8	-	18.3	-	0.3	14	-	19	0.3
61801	-	12	24	6	-	15.3	-	21.4	0.3	14	15.2	22	0.3
61901-2RS1	-	12	24	6	16	-	-	21.4	0.3	14	15.8	22	0.3
61901-2Z	-	12	24	6	16	-	20.3	-	0.3	14	-	22	0.3
61901	-	12	28	8	17	-	-	24.8	0.3	14	-	26	0.3
6001	-	12	28	8	-	14.7	-	24.8	0.3	14	15	26	0.3
6001-2RSH	6001-RSH	12	28	8	-	14.7	-	24.8	0.3	14	15	26	0.3
6001-2RSL	6001-RSL	12	28	8	17	-	-	24.8	0.3	14	16.9	26	0.3
6001-2Z	6001-Z	12	28	8	17	-	-	24.8	0.3	14	16.9	26	0.3
63001-2RS1	-	12	28	12	17	-	-	24.8	0.3	14	16.9	26	0.3
16101-2RS1	-	12	30	8	17	-	-	24.8	0.3	14.4	16.6	27.6	0.3
16101-2Z	-	12	30	8	17	-	-	24.8	0.3	14.4	16.6	27.6	0.3
16101	-	12	30	8	17	-	-	24.8	0.3	14.4	-	27.6	0.3
6201	-	12	32	10	18.4	-	-	27.4	0.6	16.2	-	27.8	0.6
6201-2RSH	6201-RSH	12	32	10	-	16.2	-	27.4	0.6	16.2	16.5	27.8	0.6
6201-2RSL	6201-RSL	12	32	10	-	16.2	-	27.4	0.6	16.2	16.5	27.8	0.6
6201-2Z	6201-Z	12	32	10	18.4	-	-	27.4	0.6	16.2	18.4	27.8	0.6
62201-2RS1	-	12	32	14	18.5	-	-	27.4	0.6	16.2	18.4	27.8	0.6
6301	-	12	37	12	19.5	-	-	31.5	1	17.6	-	31.4	1
6301-2RSH	6301-RSH	12	37	12	-	17.5	-	31.5	1	17.6	17.8	31.4	1
6301-2RSL	6301-RSL	12	37	12	-	17.5	-	31.5	1	17.6	17.6	31.4	1
6301-2Z	6301-Z	12	37	12	19.5	-	-	31.5	1	17.6	19.4	31.4	1
62301-2RS1	-	12	37	17	19.5	-	-	31.5	1	17.6	19.4	31.4	1
61802-2RS1	-	15	24	5	17.8	-	-	22.2	0.3	17	17.8	22	0.3
61802-2Z	-	15	24	5	17.8	-	-	22.2	0.3	17	17.8	22	0.3
61802	-	15	24	5	17.8	-	21.3	-	0.3	17	-	22	0.3
61902-2RS1	-	15	28	7	18.8	-	-	25.3	0.3	17	18.3	26	0.3
61902-2RZ	-	15	28	7	18.8	-	-	25.3	0.3	17	18.3	26	0.3
61902-2Z	-	15	28	7	18.8	-	-	25.3	0.3	17	18.3	26	0.3
61902	-	15	28	7	18.8	-	-	25.3	0.3	17	-	26	0.3
16002	-	15	32	8	20.5	-	-	28.2	0.3	17	-	30	0.3
16002-2Z	16002-Z	15	32	8	20.5	-	-	28.2	0.3	17	20.1	30	0.3
6002	-	15	32	9	20.5	-	-	28.2	0.3	17	-	30	0.3
6002-2RSH	6002-RSH	15	32	9	-	18.3	-	28.2	0.3	17	18.5	30	0.3
6002-2RSL	6002-RSL	15	32	9	-	18.3	-	28.2	0.3	17	18.5	30	0.3

Type Bearing both sides of open or closed seal	One side closed seal	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient	
			Dynamic	Static				$K_r$	$f_0$
		kg	kN		$P_u$	r/min			
			C	$C_0$					
-	-								
61801	-	0.0063	1.83	0.96	0.04	73500	45150	0.015	13
61901-2RS1	-	0.011	3.06	1.53	0.07	-	19950	0.02	15
61901-2Z	-	0.011	3.06	1.53	0.07	70350	33600	0.02	15
61901	-	0.011	3.06	1.53	0.07	70350	42000	0.02	15
6001	-	0.021	5.67	2.48	0.11	63000	39900	0.025	13
6001-2RSH	6001-RSH	0.022	5.67	2.48	0.11	-	17850	0.025	13
6001-2RSL	6001-RSL	0.021	5.67	2.48	0.11	63000	31500	0.025	13
6001-2Z	6001-Z	0.022	5.67	2.48	0.11	63000	31500	0.025	13
63001-2RS1	-	0.029	5.32	2.48	0.11	-	17850	0.025	13
16101-2RS1	-	0.028	5.32	2.48	0.11	-	17850	0.025	13
16101-2Z	-	0.028	5.32	2.48	0.11	58800	29400	0.025	13
16101	-	0.026	5.32	2.48	0.11	63000	39900	0.025	13
6201	-	0.037	7.64	3.26	0.14	52500	33600	0.025	12
6201-2RSH	6201-RSH	0.038	7.64	3.26	0.14	-	15750	0.025	12
6201-2RSL	6201-RSL	0.038	7.64	3.26	0.14	52500	27300	0.025	12
6201-2Z	6201-Z	0.039	7.64	3.26	0.14	52500	27300	0.025	12
62201-2RS1	-	0.045	7.23	3.26	0.14	-	15750	0.025	12
6301	-	0.06	10.61	4.36	0.18	47250	29400	0.03	11
6301-2RSH	6301-RSH	0.062	10.61	4.36	0.18	-	14700	0.03	11
6301-2RSL	6301-RSL	0.06	10.61	4.36	0.18	47250	23100	0.03	11
6301-2Z	6301-Z	0.063	10.61	4.36	0.18	47250	23100	0.03	11
62301-2RS1	-	0.07	10.24	4.36	0.18	-	14700	0.03	11
61802-2RS1	-	0.0074	2.00	1.16	0.05	-	17850	0.015	14
61802-2Z	-	0.0074	2.00	1.16	0.05	63000	31500	0.015	14
61802	-	0.0065	2.00	1.16	0.05	63000	39900	0.015	14
61902-2RS1	-	0.016	4.58	2.35	0.1	-	16800	0.02	14
61902-2RZ	-	0.016	4.58	2.35	0.1	58800	29400	0.02	14
61902-2Z	-	0.016	4.58	2.35	0.1	58800	29400	0.02	14
61902	-	0.016	4.58	2.35	0.1	58800	35700	0.02	14
16002	-	0.027	6.14	2.99	0.13	52500	33600	0.02	14
16002-2Z	16002-Z	0.025	6.14	2.99	0.13	52500	27300	0.02	14
6002	-	0.03	6.14	2.99	0.13	52500	33600	0.025	14
6002-2RSH	6002-RSH	0.03	6.14	2.99	0.13	-	14700	0.025	14
6002-2RSL	6002-RSL	0.03	6.14	2.99	0.13	52500	27300	0.025	14



# Deep Groove Ball Bearings

## Single row deep groove ball bearings

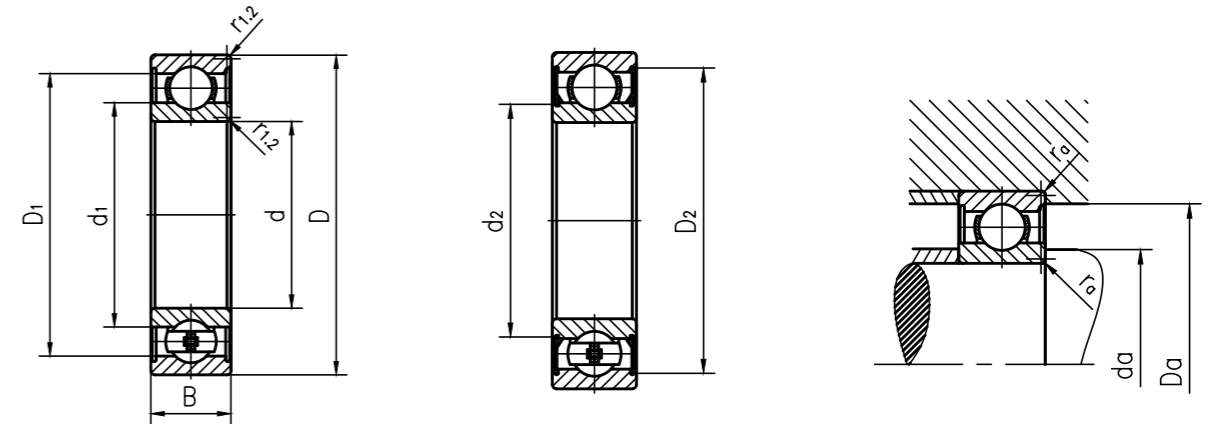


Type Bearing both sides of open or closed seal	One side closed seal	Main dimensions			Dimensions					Shoulder and chamfer dimensions			
		d	D	B	d <sub>1</sub> ≈	d <sub>2</sub> ≈	D <sub>1</sub> ≈	D <sub>2</sub> ≈	r <sub>1,2</sub> Min.	d <sub>a</sub> Min.	d <sub>a</sub> Max.	D <sub>a</sub> Max.	r <sub>a</sub> Max.
-	-	mm			mm					mm			
6002-2Z	6002-Z	15	32	9	20.5	-	-	28.2	0.3	17	20.4	30	0.3
63002-2RS1	-	15	32	13	20.5	-	-	28.2	0.3	17	20.4	30	0.3
6202	-	15	35	11	21.7	-	-	30.5	0.6	19.2	-	30.8	0.6
6202-2RSH	6202-RSH	15	35	11	-	18.6	-	30.5	0.6	19.2	19.4	31.3	0.6
6202-2RSL	6202-RSL	15	35	11	-	18.6	-	30.5	0.6	19.2	19.4	30.8	0.6
6202-2Z	6202-Z	15	35	11	21.7	-	-	30.5	0.6	19.2	21.6	30.8	0.6
62202-2RS1	-	15	35	14	21.7	-	-	30.4	0.6	19.2	21.6	30.8	0.6
6302	-	15	42	13	23.7	-	-	36.3	1	20.6	-	36.4	1
6302-2RSH	6302-RSH	15	42	13	-	20.6	-	36.3	1	20.6	21	36.4	1
6302-2RSL	6302-RSL	15	42	13	-	20.6	-	36.3	1	20.6	21	36.4	1
6302-2Z	6302-Z	15	42	13	23.7	-	-	36.3	1	20.6	23.6	36.4	1
62302-2RS1	-	15	42	17	23.7	-	-	36.3	1	20.6	23.6	36.4	1
61808-2RS1	-	15	52	7	-	42.1	-	49.3	0.3	42	42	50	0.3
61803-2RS1	-	17	26	5	19.8	-	-	24.2	0.3	18	18.6	24	0.3
61803-2RZ	-	17	26	5	19.8	-	-	24.2	0.3	19	19.6	24	0.3
61803-2Z	-	17	26	5	19.8	-	-	24.2	0.3	19	19.6	24	0.3
61803	-	17	26	5	19.8	-	23.3	-	0.3	19	-	24	0.3
61903-2RS1	-	17	30	7	-	19.4	-	27.7	0.3	19	19.3	28	0.3
61903-2Z	-	17	30	7	20.4	-	-	27.7	0.3	19	20.3	28	0.3
61903-2RZ	-	17	30	7	20.4	-	-	27.7	0.3	19	20.3	28	0.3
61903	-	17	30	7	20.4	-	-	27.7	0.3	19	-	28	0.3
16003-2Z	-	17	35	8	23	-	-	31.2	0.3	19	22.6	33	0.3
16003	-	17	35	8	23	-	-	31.2	0.3	19	-	33	0.3
6003	-	17	35	10	23	-	-	31.2	0.3	19	-	33	0.3
6003-2RSH	6003-RSH	17	35	10	-	20.4	-	31.2	0.3	19	20.5	33	0.3
6003-2RSL	6003-RSL	17	35	10	-	20.4	-	31.2	0.3	19	20.5	33	0.3
6003-2Z	6003-Z	17	35	10	23	-	-	31.2	0.3	19	22.9	33	0.3
63003-2RS1	-	17	35	14	23	-	-	31.2	0.3	19	22.9	33	0.3
6203	-	17	40	12	24.5	-	-	35	0.6	21.2	-	35.8	0.6
6203-2RSH	6203-RSH	17	40	12	-	21.7	-	35	0.6	21.2	22	35.8	0.6
6203-2RSL	6203-RSL	17	40	12	-	21.7	-	35	0.6	21.2	22	35.8	0.6
6203-2Z	6203-Z	17	40	12	24.5	-	-	35	0.6	21.2	24.4	35.8	0.6
6203	ETN9	17	40	12	24.5	-	32.7	-	0.6	21.2	-	35.8	0.6
62203-2RS1	-	17	40	16	-	21.5	-	35	0.6	21.2	24.4	35.8	0.6

Type Bearing both sides of open or closed seal	One side closed seal	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient	
			Dynamic	Static				K <sub>r</sub>	f <sub>0</sub>
-	-	kg	kN		P <sub>u</sub>	r/min	-	-	-
6002-2Z	6002-Z	0.032	6.14	2.99	0.13	52500	27300	0.025	14
63002-2RS1	-	0.039	5.87	2.99	0.13	-	14700	0.025	14
6202	-	0.045	8.46	3.94	0.17	45150	29400	0.025	13
6202-2RSH	6202-RSH	0.046	8.46	3.94	0.17	-	13650	0.025	13
6202-2RSL	6202-RSL	0.046	8.46	3.94	0.17	45150	23100	0.025	13
6202-2Z	6202-Z	0.048	8.46	3.94	0.17	45150	23100	0.025	13
62202-2RS1	-	0.054	8.19	3.94	0.17	-	13650	0.025	13
6302	-	0.082	12.50	5.67	0.24	39900	25200	0.03	12
6302-2RSH	6302-RSH	0.085	12.50	5.67	0.24	-	12600	0.03	12
6302-2RSL	6302-RSL	0.085	12.50	5.67	0.24	39900	19950	0.03	12
6302-2Z	6302-Z	0.086	12.50	5.67	0.24	39900	19950	0.03	12
62302-2RS1	-	0.11	11.97	5.67	0.24	-	12600	0.03	12
61808-2RS1	-	0.034	4.71	3.94	0.17	-	7875	0.015	15
61803-2RS1	-	0.0082	2.13	1.33	0.06	-	16800	0.015	14
61803-2RZ	-	0.0082	2.13	1.33	0.06	58800	29400	0.015	14
61803-2Z	-	0.0082	2.13	1.33	0.06	58800	29400	0.015	14
61803	-	0.0075	2.13	1.33	0.06	58800	35700	0.015	14
61903-2RS1	-	0.017	4.85	2.68	0.11	-	14700	0.02	15
61903-2Z	-	0.017	4.85	2.68	0.11	52500	27300	0.02	15
61903-2RZ	-	0.018	4.85	2.68	0.11	52500	27300	0.02	15
61903	-	0.016	4.85	2.68	0.11	52500	33600	0.02	15
16003-2Z	-	0.032	6.69	3.41	0.14	47250	23100	0.02	14
16003	-	0.031	6.69	3.41	0.14	47250	29400	0.02	14
6003	-	0.038	6.69	3.41	0.14	47250	29400	0.025	14
6003-2RSH	6003-RSH	0.039	6.69	3.41	0.14	-	13650	0.025	14
6003-2RSL	6003-RSL	0.039	6.69	3.41	0.14	47250	23100	0.025	14
6003-2Z	6003-Z	0.041	6.69	3.41	0.14	47250	23100	0.025	14
63003-2RS1	-	0.052	6.35	3.41	0.14	-	13650	0.025	14
6203	-	0.065	10.45	4.99	0.21	39900	25200	0.025	13
6203-2RSH	6203-RSH	0.067	10.45	4.99	0.21	-	12600	0.025	13
6203-2RSL	6203-RSL	0.067	10.45	4.99	0.21	39900	19950	0.025	13
6203-2Z	6203-Z	0.068	10.45	4.99	0.21	39900	19950	0.025	13
6203	ETN9	0.064	11.97	5.67	0.24	39900	25200	0.03	12
62203-2RS1	-	0.089	10.04	4.99	0.21	-	12600	0.025	13

# Deep Groove Ball Bearings

## Single row deep groove ball bearings

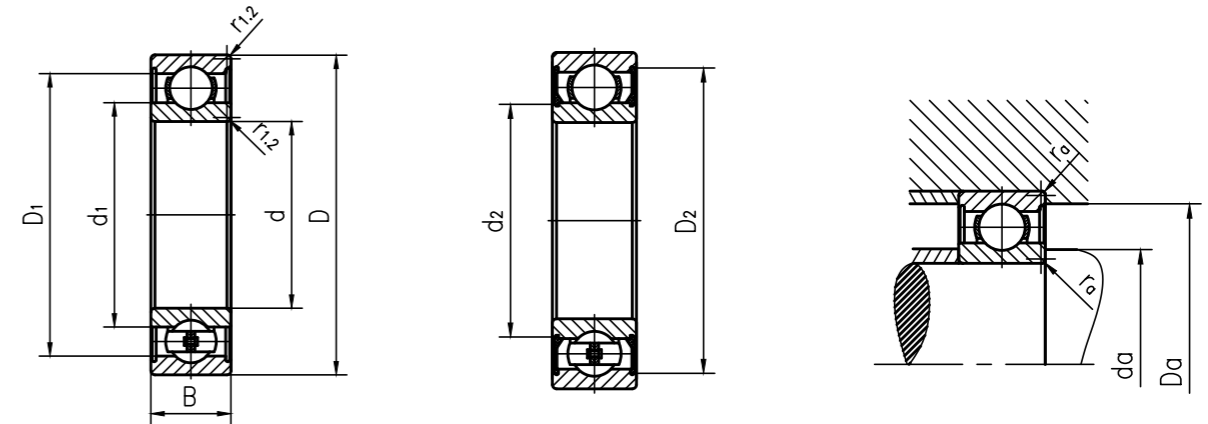


Type Bearing both sides of open or closed seal	One side closed seal	Main dimensions			Dimensions					Shoulder and chamfer dimensions			
		d	D	B	d <sub>1</sub> ≈	d <sub>2</sub> ≈	D <sub>1</sub> ≈	D <sub>2</sub> ≈	r <sub>1,2</sub> Min.	d <sub>a</sub> Min.	d <sub>a</sub> Max.	D <sub>a</sub> Max.	r <sub>a</sub> Max.
		mm			mm					mm			
-	-												
6303	-	17	47	14	26.5	-	-	39.6	1	22.6	-	41.4	1
6303-2RSH	6303-RSH	17	47	14	-	23.4	-	39.6	1	22.6	23.5	41.4	1
6303-2RSL	6303-RSL	17	47	14	-	23.4	-	39.6	1	22.6	23.5	41.4	1
6303-2Z	6303-Z	17	47	14	26.5	-	-	39.6	1	22.6	26.4	41.4	1
62303-2RS1	-	17	47	19	26.5	-	-	39.6	1	22.6	26.4	41.4	1
6403	-	17	62	17	32.4	-	-	48.7	1.1	23.5	-	55	1
61804-2RS1	-	20	32	7	23.8	-	-	29.4	0.6	22	23.6	30	0.3
61804-2RZ	-	20	32	7	23.8	-	-	29.4	0.6	22	23.6	30	0.3
61804	-	20	32	7	23.8	-	28.3	-	0.3	22	-	30	0.3
61904-2RS1	-	20	37	9	25.5	-	-	32.7	0.3	22	23	35	0.3
61904-2RZ	-	20	37	9	25.5	-	-	32.7	0.3	22	25.5	35	0.3
61904	-	20	37	9	25.5	-	-	32.7	0.3	22	-	35	0.3
16004	-	20	42	8	27.2	-	-	37.2	0.3	22	-	40	0.3
6004	-	20	42	12	27.2	-	-	37.2	0.6	23.2	-	38.8	0.6
6004-2RSH	6004-RSH	20	42	12	-	24.6	-	37.2	0.6	23.2	24.5	38.8	0.6
6004-2RSL	6004-RSL	20	42	12	-	24.6	-	37.2	0.6	23.2	24.5	38.8	0.6
6004-2Z	6004-Z	20	42	12	27.2	-	-	37.2	0.6	23.2	27.1	38.8	0.6
63004-2RS1	-	20	42	16	27.2	-	-	37.2	0.6	23.2	27.1	38.8	0.6
6204	-	20	47	14	28.8	-	-	40.6	1	25.6	-	41.4	1
6204-2RSH	6204-RSH	20	47	14	-	26	-	40.6	1	25.6	26	41.4	1
6204-2RSL	6204-RSL	20	47	14	-	26	-	40.6	1	25.6	26	41.4	1
6204-2Z	6204-Z	20	47	14	28.8	-	-	40.6	1	25.6	28.7	41.4	1
6204 ETN9	-	20	47	14	28.2	-	39.6	-	1	25.6	-	41.4	1
62204-2RS1	-	20	47	18	28.8	-	-	40.6	1	25.6	28.7	41.4	1
6304-2RSL	6304-RSL	20	52	15	-	26.9	-	44.8	1.1	27	27	45	1
6304	-	20	52	15	30.3	-	-	44.8	1.1	27	-	45	1
6304-2RSH	6304-RSH	20	52	15	-	26.9	-	44.8	1.1	27	27.3	45	1
6304-2Z	6304-Z	20	52	15	30.3	-	-	44.8	1.1	27	30.3	45	1
6304 ETN9	-	20	52	15	30.3	-	42.6	-	1.1	27	-	45	1
62304-2RS1	-	20	52	21	30.3	-	-	44.8	1.1	27	30.3	45	1
6404	-	20	72	19	37.1	-	54.8	-	1.1	29	-	63	1
62/22-2RS1	-	22	50	14	32.2	-	-	44	1	27.6	32	44.4	1
62/22	-	22	50	14	32.2	-	-	44	1	27.6	-	44.4	1
63/22	-	22	56	16	32.9	-	45.3	-	1.1	29	-	47	1

Type Bearing both sides of open or closed seal	One side closed seal	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient	
			Dynamic	Static				K <sub>r</sub>	f <sub>0</sub>
		kg	kN		P <sub>u</sub>	r/min			
-	-								
6303	-	0.11	15.02	6.88	0.29	35700	23100	0.03	12
6303-2RSH	6303-RSH	0.12	15.02	6.88	0.29	-	11550	0.03	12
6303-2RSL	6303-RSL	0.12	15.02	6.88	0.29	35700	17850	0.03	12
6303-2Z	6303-Z	0.12	15.02	6.88	0.29	35700	17850	0.03	12
62303-2RS1	-	0.16	14.18	6.88	0.29	-	11550	0.03	12
6403	-	0.27	24.05	11.34	0.48	29400	18900	0.035	11
61804-2RS1	-	0.018	4.23	2.44	0.11	-	13650	0.015	15
61804-2RZ	-	0.018	4.23	2.44	0.11	47250	23100	0.015	15
61804	-	0.018	4.23	2.44	0.11	47250	29400	0.015	15
61904-2RS1	-	0.038	6.69	3.83	0.16	-	12600	0.02	15
61904-2RZ	-	0.038	6.69	3.83	0.16	45150	21000	0.02	15
61904	-	0.037	6.69	3.83	0.16	45150	27300	0.02	15
16004	-	0.051	7.64	4.25	0.18	39900	25200	0.02	15
6004	-	0.067	10.45	5.25	0.22	39900	25200	0.025	14
6004-2RSH	6004-RSH	0.067	10.45	5.25	0.22	-	11550	0.025	14
6004-2RSL	6004-RSL	0.069	10.45	5.25	0.22	39900	19950	0.025	14
6004-2Z	6004-Z	0.071	10.45	5.25	0.22	39900	19950	0.025	14
63004-2RS1	-	0.086	9.83	5.25	0.22	-	11550	0.025	14
6204	-	0.11	14.18	6.88	0.29	33600	21000	0.025	13
6204-2RSH	6204-RSH	0.11	14.18	6.88	0.29	-	10500	0.025	13
6204-2RSL	6204-RSL	0.11	14.18	6.88	0.29	33600	17850	0.025	13
6204-2Z	6204-Z	0.11	14.18	6.88	0.29	33600	17850	0.025	13
6204 ETN9	-	0.098	16.38	8.03	0.34	33600	21000	0.025	12
62204-2RS1	-	0.13	13.34	6.88	0.29	-	10500	0.025	13
6304-2RSL	6304-RSL	0.15	16.70	8.19	0.35	31500	15750	0.03	12
6304	-	0.14	17.64	8.19	0.35	31500	19950	0.03	12
6304-2RSH	6304-RSH	0.15	17.64	8.19	0.35	-	9975	0.03	12
6304-2Z	6304-Z	0.15	17.64	8.19	0.35	31500	15750	0.03	12
6304 ETN9	-	0.14	19.11	9.45	0.4	31500	19950	0.03	12
62304-2RS1	-	0.21	16.70	8.19	0.35	-	9975	0.03	12
6404	-	0.41	32.24	15.75	0.67	25200	15750	0.035	11
62/22-2RS1	-	0.12	14.70	8.03	0.34	-	9450	0.025	14
62/22	-	0.12	14.70	8.03	0.34	31500	19950	0.025	14
63/22	-	0.18	19.53	9.77	0.41	29400	18900	0.03	12

# Deep Groove Ball Bearings

## Single row deep groove ball bearings



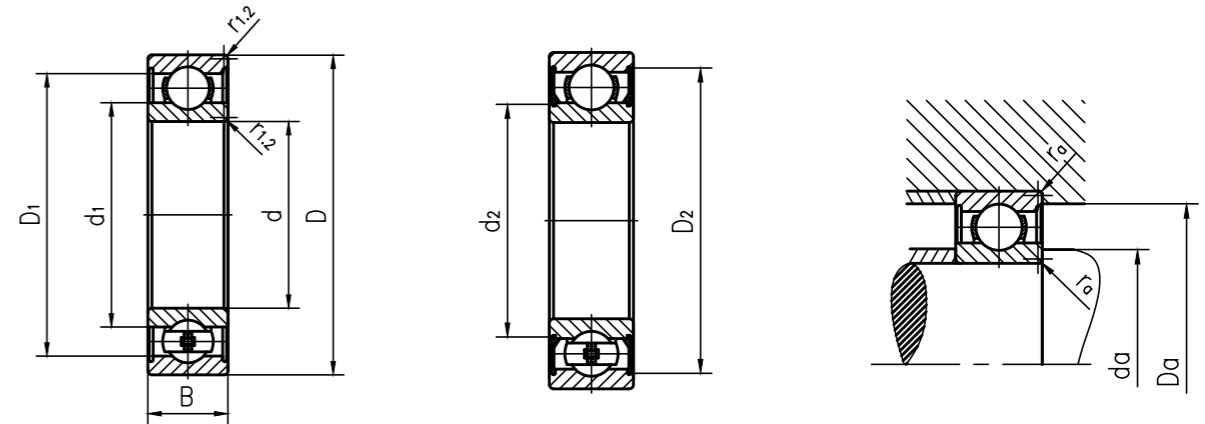
Type Bearing both sides of open or closed seal	One side closed seal	Main dimensions			Dimensions					Shoulder and chamfer dimensions			
		d	D	B	d <sub>1</sub> ≈	d <sub>2</sub> ≈	D <sub>1</sub> ≈	D <sub>2</sub> ≈	r <sub>1.2</sub> Min.	d <sub>a</sub> Min.	d <sub>a</sub> Max.	D <sub>a</sub> Max.	r <sub>a</sub> Max.
-	-	mm			mm					mm			
61805-2RS1	-	25	37	7	-	27.4	-	34.2	0.6	27	27.3	35	0.3
61805-2RZ	-	25	37	7	28.5	-	-	34.2	0.3	27	28.4	35	0.3
61805	-	25	37	7	28.5	-	33.2	-	0.6	27	-	35	0.3
61905-2RS1	-	25	42	9	30.2	-	-	37.7	0.6	27	29	40	0.3
61905-2RZ	-	25	42	9	30.2	-	-	37.7	0.6	27	29	40	0.3
61905	-	25	42	9	30.2	-	-	37.7	0.6	27	-	40	0.3
16005	-	25	47	8	33.3	-	-	42.4	0.3	27	-	45	0.3
6005	-	25	47	12	32	-	-	42.2	0.6	28.2	-	43.8	0.6
6005-2RSH	6005-RSH	25	47	12	-	29.4	-	42.2	0.6	28.2	29.5	43.8	0.6
6005-2RSL	6005-RSL	25	47	12	-	29.4	-	42.2	0.6	28.2	29.5	43.8	0.6
6005-2Z	6005-Z	25	47	12	32	-	-	42.2	0.6	28.2	31.9	43.8	0.6
63005-2RS1	-	25	47	16	32	-	-	42.2	0.6	29.2	31.9	43.8	0.6
6205	-	25	52	15	34.3	-	-	46.3	1	30.6	-	46.4	1
6205-2RSH	6205-RSH	25	52	15	-	31.3	-	46.3	1	30.6	31.5	46.4	1
6205-2RSL	6205-RSL	25	52	15	-	31.3	-	46.3	1	30.6	31.5	46.4	1
6205-2Z	6205-Z	25	52	15	34.3	-	-	46.3	1	30.6	34.3	46.4	1
6205ETN9	-	25	52	15	33.1	-	-	46.3	1	30.6	-	46.4	1
62205-2RS1	-	25	52	18	34.3	-	-	46.3	1	30.6	34.3	46.4	1
6305	-	25	62	17	36.6	-	-	52.7	1.1	32	-	55	1
6305-2RSH	6305-RSH	25	62	17	-	33	-	52.7	1.1	32	33	55	1
6305-2RZ	6305-RZ	25	62	17	36.6	-	-	52.7	1.1	32	36.5	55	1
6305-2Z	6305-Z	25	62	17	36.6	-	-	52.7	1.1	32	36.5	55	1
6305ETN9	-	25	62	17	36.3	-	51.7	-	1.1	32	-	55	1
62305-2RS1	-	25	62	24	36.6	-	-	52.7	1.1	32	36.5	55	1
6405	-	25	80	21	45.4	-	62.9	-	1.5	34	-	71	1.5
62/28	-	28	58	16	37	-	-	51.5	1	33.6	-	52	1
63/28	-	28	68	18	41.7	-	-	57.8	1.1	35	-	61	1
61806-2RS1	-	30	42	7	-	32.6	-	39.4	0.6	32	32.5	40	0.3
61806-2RZ	-	30	42	7	33.7	-	-	39.4	0.6	32	33.6	40	0.3
61806	-	30	42	7	33.7	-	38.4	-	0.3	32	-	40	0.3
61906-2RS1	-	30	47	9	-	34.2	-	42.7	0.3	32	34	45	0.3
61906-2RZ	-	30	47	9	35.2	-	-	42.7	0.3	32	35.1	45	0.3
61906	-	30	47	9	35.2	-	-	42.7	0.3	32	-	45	0.3
16006	-	30	55	9	37.7	-	47.3	-	0.3	32	-	53	0.3

Type Bearing both sides of open or closed seal	One side closed seal	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient	
			Dynamic	Static				K <sub>r</sub>	f <sub>0</sub>
-	-	kg	kN		-	r/min	-		
-	-	-	C	C <sub>0</sub>	P <sub>u</sub>	-	-	-	
61805-2RS1	-	0.022	4.58	2.73	0.13	-	11550	0.015	14
61805-2RZ	-	0.022	4.58	2.73	0.13	39900	19950	0.015	14
61805	-	0.022	4.58	2.73	0.13	39900	25200	0.015	14
61905-2RS1	-	0.045	7.37	4.52	0.2	-	10500	0.02	15
61905-2RZ	-	0.045	7.37	4.52	0.2	37800	18900	0.02	15
61905	-	0.045	7.37	4.52	0.2	37800	23100	0.02	15
16005	-	0.055	8.46	4.99	0.22	33600	21000	0.02	15
6005	-	0.078	12.50	6.88	0.29	33600	21000	0.025	14
6005-2RSH	6005-RSH	0.081	12.50	6.88	0.29	-	9975	0.025	14
6005-2RSL	6005-RSL	0.08	12.50	6.88	0.29	33600	16800	0.025	14
6005-2Z	6005-Z	0.083	12.50	6.88	0.29	33600	16800	0.025	14
63005-2RS1	-	0.11	11.76	6.88	0.29	-	9975	0.025	14
6205	-	0.13	15.54	8.19	0.35	29400	18900	0.025	14
6205-2RSH	6205-RSH	0.13	15.54	8.19	0.35	-	8925	0.025	14
6205-2RSL	6205-RSL	0.13	15.54	8.19	0.35	29400	14700	0.025	14
6205-2Z	6205-Z	0.13	15.54	8.19	0.35	29400	14700	0.025	14
6205ETN9	-	0.12	18.69	9.77	0.42	29400	18900	0.025	13
62205-2RS1	-	0.13	14.70	8.19	0.35	-	8925	0.025	14
6305	-	0.23	24.57	12.18	0.51	25200	16800	0.03	12
6305-2RSH	6305-RSH	0.24	24.57	12.18	0.51	-	7875	0.03	12
6305-2RZ	6305-RZ	0.23	24.57	12.18	0.51	25200	13650	0.03	12
6305-2Z	6305-Z	0.23	24.57	12.18	0.51	25200	13650	0.03	12
6305ETN9	-	0.22	27.30	14.07	0.6	25200	16800	0.03	12
62305-2RS1	-	0.32	23.63	12.18	0.51	-	7875	0.03	12
6405	-	0.54	37.59	20.27	0.86	21000	13650	0.035	12
62/28	-	0.17	17.64	9.98	0.43	27300	16800	0.025	14
63/28	-	0.3	26.36	14.39	0.61	23100	14700	0.03	13
61806-2RS1	-	0.025	4.71	3.05	0.15	-	9975	0.015	14
61806-2RZ	-	0.025	4.71	3.05	0.15	33600	16800	0.015	14
61806	-	0.025	4.71	3.05	0.15	33600	21000	0.015	14
61906-2RS1	-	0.051	7.64	4.78	0.22	-	8925	0.02	14
61906-2RZ	-	0.051	7.64	4.78	0.22	31500	15750	0.02	14
61906	-	0.049	7.64	4.78	0.22	31500	19950	0.02	14
16006	-	0.089	12.50	7.72	0.33	29400	17850	0.02	15



# Deep Groove Ball Bearings

## Single row deep groove ball bearings

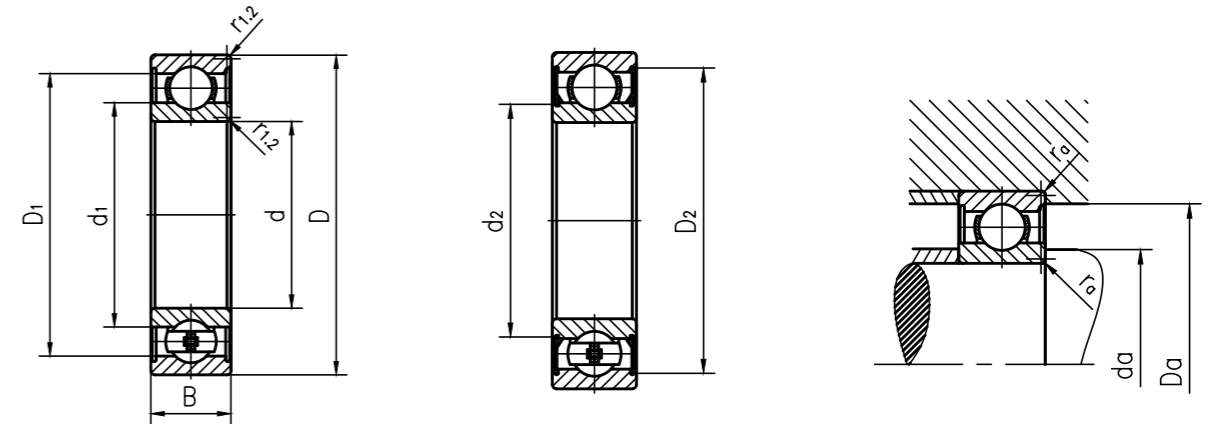


Type Bearing both sides of open or closed seal	One side closed seal	Main dimensions			Dimensions					Shoulder and chamfer dimensions			
		d	D	B	$d_1$ ≈	$d_2$ ≈	$D_1$ ≈	$D_2$ ≈	$r_{1,2}$ Min.	$d_a$ Min.	$d_a$ Max.	$D_a$ Max.	$r_a$ Max.
		mm			mm					mm			
-	-												
6006	-	30	55	13	38.2	-	-	49	1	34.6	-	50	1
6006-2RS1	6006-RS1	30	55	13	38.2	-	-	49	1	34.6	38.1	50	1
6006-2RZ	6006-RZ	30	55	13	38.2	-	-	49	1	34.6	38.1	50	1
6006-2Z	6006-Z	30	55	13	38.2	-	-	49	1	34.6	38.1	50	1
63006-2RS1	-	30	55	19	38.2	-	-	49	1	34.6	38.1	50	1
6206	-	30	62	16	40.3	-	-	54.1	1	35.6	-	56	1
6206-2RSH	6206-RSH	30	62	16	-	37.3	-	54.1	1	35.6	37.3	56	1
6206-2RZ	6206-RZ	30	62	16	40.3	-	-	54.1	1	35.6	40.3	56	1
6206-2Z	6206-Z	30	62	16	40.3	-	-	54.1	1	35.6	40.3	56	1
6206 ETN9	-	30	62	16	39.5	-	52.9	-	1	35.6	-	56	1
62206-2RS1	-	30	62	20	40.3	-	-	54.1	1	35.6	40.3	56	1
6306	-	30	72	19	44.6	-	-	61.9	1.1	37	-	65	1
6306-2RSH	6306-RSH	30	72	19	-	41.1	-	63.2	1.1	37	40.8	65	1
6306-2RZ	6306-RZ	30	72	19	44.6	-	-	61.9	1.1	37	44.5	65	1
6306-2Z	6306-Z	30	72	19	44.6	-	-	61.9	1.1	37	44.5	65	1
6306 ETN9	-	30	72	19	42.3	-	59.6	-	1.1	37	-	65	1
62306-2RS1	-	30	72	27	44.6	-	-	61.9	1.1	37	44.5	65	1
6406	-	30	90	23	50.3	-	69.7	-	1.5	41	-	79	1.5
61807-2RS1	-	35	47	7	38.2	-	-	44.4	0.3	37	38	45	0.3
61807-2RZ	-	35	47	7	38.2	-	-	44.4	0.3	37	38	45	0.3
61807	-	35	47	7	38.2	-	42.8	-	0.3	37	-	45	0.3
61907-2RS1	-	35	55	10	42.2	-	-	52.2	0.6	38.2	41.5	51	0.6
61907-2RZ	-	35	55	10	42.2	-	-	52.2	0.6	38.2	41.5	51	0.6
61907	-	35	55	10	42.2	-	-	52.2	0.6	38.2	-	51	0.6
16007	-	35	62	9	44	-	53	-	0.3	37	-	60	0.3
6007	-	35	62	14	43.7	-	-	55.7	1	39.6	-	57	1
6007-2RS1	6007-RS1	35	62	14	43.7	-	-	55.7	1	39.6	43.7	57	1
6007-2RZ	6007-RZ	35	62	14	43.7	-	-	55.7	1	39.6	43.7	57	1
6007-2Z	6007-Z	35	62	14	43.7	-	-	55.7	1	39.6	43.7	57	1
63007-2RS1	-	35	62	20	43.7	-	-	55.7	1	39.6	43.7	57	1
6207	-	35	72	17	46.9	-	-	62.7	1.1	42	-	65	1
6207-2RSH	6207-RSH	35	72	17	-	43.5	-	64.1	1.1	42	43.2	65	1
6207-2Z	6207-Z	35	72	17	46.9	-	-	62.7	1.1	42	46.8	65	1
6207 ETN9	-	35	72	17	46.1	-	61.7	-	1.1	42	-	65	1

Type Bearing both sides of open or closed seal	One side closed seal	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient	
			Dynamic	Static				$K_r$	$f_o$
			C	$C_0$	$P_u$	r/min			
-	-	kg	kN						
6006	-	0.12	14.49	8.72	0.37	29400	17850	0.025	15
6006-2RS1	6006-RS1	0.12	14.49	8.72	0.37	-	8400	0.025	15
6006-2RZ	6006-RZ	0.12	14.49	8.72	0.37	29400	14700	0.025	15
6006-2Z	6006-Z	0.12	14.49	8.72	0.37	29400	14700	0.025	15
63006-2RS1	-	0.17	13.97	8.72	0.37	-	8400	0.025	15
6206	-	0.2	21.32	11.76	0.5	25200	15750	0.025	14
6206-2RSH	6206-RSH	0.21	21.32	11.76	0.5	-	7875	0.025	14
6206-2RZ	6206-RZ	0.2	21.32	11.76	0.5	25200	12600	0.025	14
6206-2Z	6206-Z	0.21	21.32	11.76	0.5	25200	12600	0.025	14
6206 ETN9	-	0.18	24.57	13.55	0.57	25200	15750	0.025	13
62206-2RS1	-	0.25	20.48	11.76	0.5	-	7875	0.025	14
6306	-	0.35	31.08	16.80	0.7	21000	13650	0.03	13
6306-2RSH	6306-RSH	0.35	31.08	16.80	0.7	-	6615	0.03	13
6306-2RZ	6306-RZ	0.36	31.08	16.80	0.7	21000	11550	0.03	13
6306-2Z	6306-Z	0.36	31.08	16.80	0.7	21000	11550	0.03	13
6306 ETN9	-	0.33	34.13	18.17	0.77	23100	14700	0.03	12
62306-2RS1	-	0.5	29.51	16.80	0.7	-	6615	0.03	13
6406	-	0.75	45.78	24.78	1.05	18900	11550	0.035	12
61807-2RS1	-	0.022	4.58	3.52	0.15	-	8925	0.015	14
61807-2RZ	-	0.03	4.58	3.52	0.15	31500	15750	0.015	14
61807	-	0.029	4.58	3.52	0.15	31500	18900	0.015	14
61907-2RS1	-	0.08	11.34	8.19	0.34	-	7875	0.02	16
61907-2RZ	-	0.08	11.34	8.19	0.34	27300	13650	0.02	16
61907	-	0.08	11.34	8.19	0.34	27300	16800	0.02	16
16007	-	0.11	13.65	8.56	0.39	25200	15750	0.02	14
6007	-	0.15	17.64	10.71	0.46	25200	15750	0.025	15
6007-2RS1	6007-RS1	0.16	17.64	10.71	0.46	-	7350	0.025	15
6007-2RZ	6007-RZ	0.16	17.64	10.71	0.46	25200	12600	0.025	15
6007-2Z	6007-Z	0.16	17.64	10.71	0.46	25200	12600	0.025	15
63007-2RS1	-	0.22	16.70	10.71	0.46	-	7350	0.025	15
6207	-	0.29	28.35	16.07	0.69	21000	13650	0.025	14
6207-2RSH	6207-RSH	0.3	28.35	16.07	0.69	-	6615	0.025	14
6207-2Z	6207-Z	0.3	28.35	16.07	0.69	21000	10500	0.025	14
6207 ETN9	-	0.26	32.76	18.48	0.79	21000	13650	0.025	13

# Deep Groove Ball Bearings

## Single row deep groove ball bearings

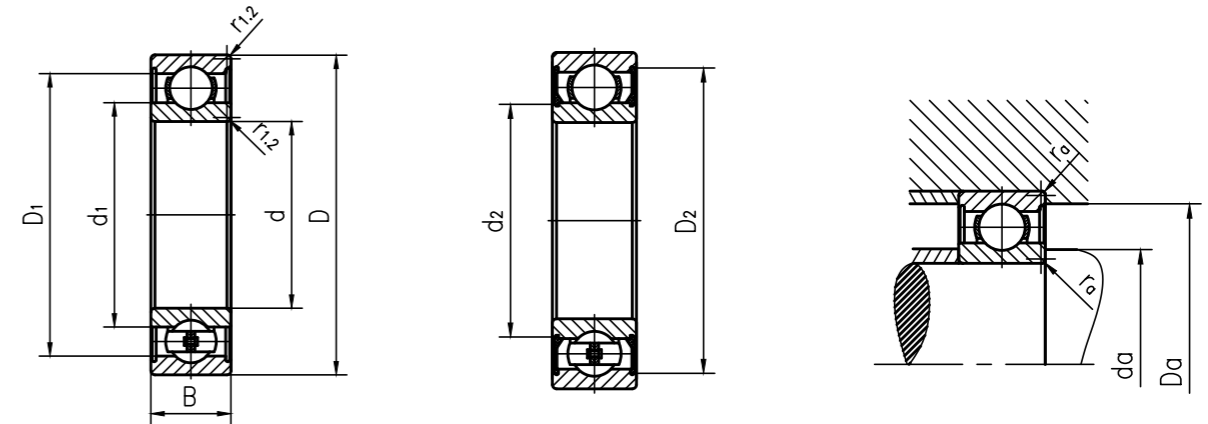


Type Bearing both sides of open or closed seal	One side closed seal	Main dimensions			Dimensions					Shoulder and chamfer dimensions			
		d	D	B	$d_1$ ≈	$d_2$ ≈	$D_1$ ≈	$D_2$ ≈	$r_{1,2}$ Min.	$d_a$ Min.	$d_a$ Max.	$D_a$ Max.	$r_a$ Max.
-	-	mm			mm					mm			
62207-2RS1	-	35	72	23	46.9	-	-	62.7	1.1	42	46.8	65	1
6307	-	35	80	21	49.5	-	-	69.2	1.5	44	-	71	1.5
6307 M	-	35	80	21	49.5	-	-	69.2	1.5	44	-	71	1.5
6307-2RSH	6307-RSH	35	80	21	-	45.9	-	70.2	1.5	44	45.6	71	1.5
6307-2Z	6307-Z	35	80	21	49.5	-	-	69.2	1.5	44	49.5	71	1.5
62307-2RS1	-	35	80	31	49.5	-	-	69.2	1.5	44	49.5	71	1.5
6407	-	35	100	25	57.4	-	79.6	-	1.5	46	-	89	1.5
61808-2RZ	-	40	52	7	43.2	-	-	49.3	0.3	42	43	50	0.3
61808	-	40	52	7	43.2	-	48.1	-	0.3	42	-	50	0.3
61908-2RS1	-	40	62	12	46.9	-	-	57.3	0.6	43.2	46.8	58	0.6
61908-2RZ	-	40	62	12	46.9	-	-	57.3	0.6	43.2	46.8	58	0.6
61908	-	40	62	12	46.9	-	55.6	-	0.6	43.2	-	58	0.6
16008	-	40	68	9	49.4	-	58.6	-	0.3	42	-	66	0.3
6008	-	40	68	15	49.2	-	-	61.1	1	44.6	-	63	1
6008-2RS1	6008-RS1	40	68	15	49.2	-	-	61.1	1	44.6	49.2	63	1
6008-2RZ	6008-RZ	40	68	15	49.2	-	-	61.1	1	44.6	49.2	63	1
6008-2Z	6008-Z	40	68	15	49.2	-	-	61.1	1	44.6	49.2	63	1
63008-2RS1	-	40	68	21	49.2	-	-	61.1	1	44.6	49.2	63	1
6208	-	40	80	18	52.6	-	-	69.8	1.1	47	-	73	1
6208-2RSH	6208-RSH	40	80	18	-	49.1	-	71.5	1.1	47	48.8	73	1
6208-2RZ	6208-RZ	40	80	18	52.6	-	-	69.8	1.1	47	52	73	1
6208-2Z	6208-Z	40	80	18	52.6	-	-	69.8	1.1	47	52	73	1
6208 ETN9	-	40	80	18	52	-	68.8	-	1.1	47	-	73	1
62208-2RS1	-	40	80	23	52.6	-	-	69.8	1.1	47	52	73	1
6308	-	40	90	23	56.1	-	-	77.7	1.5	49	-	81	1.5
6308-2RSH	6308-RSH	40	90	23	-	52.3	-	78.6	1.5	49	52	81	1.5
6308-2RZ	6308-RZ	40	90	23	56.1	-	-	77.7	1.5	49	56	81	1.5
6308-2Z	6308-Z	40	90	23	56.1	-	-	77.7	1.5	49	56	81	1.5
62308-2RS1	-	40	90	33	56.1	-	-	77.7	1.5	49	56	81	1.5
6408	-	40	110	27	62.8	-	87	-	2	53	-	97	2
61809-2RS1	-	45	58	7	48.2	-	-	55.4	0.3	47	49	56	0.3
61809-2RZ	-	45	58	7	48.2	-	-	55.4	0.3	47	49	56	0.3
61809	-	45	58	7	48.2	-	54	-	0.3	47	-	56	0.3

Type Bearing both sides of open or closed seal	One side closed seal	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient	
			Dynamic	Static				$K_r$	$f_0$
-	-	kg	kN		$P_u$	r/min	-	-	
62207-2RS1	-	0.4	26.78	16.07	0.69	-	6615	0.025	14
6307	-	0.46	36.86	19.95	0.86	19950	12600	0.03	13
6307 M	-	0.54	36.86	19.95	0.86	19950	17850	0.03	13
6307-2RSH	6307-RSH	0.46	36.86	19.95	0.86	-	6300	0.03	13
6307-2Z	6307-Z	0.48	36.86	19.95	0.86	19950	9975	0.03	13
62307-2RS1	-	0.68	34.86	19.95	0.86	-	6300	0.03	13
6407	-	0.97	58.07	32.55	1.35	16800	10500	0.035	12
61808-2RZ	-	0.034	4.71	3.94	0.17	27300	13650	0.015	15
61808	-	0.032	4.71	3.94	0.17	27300	16800	0.015	15
61908-2RS1	-	0.12	14.49	10.50	0.45	-	7035	0.02	16
61908-2RZ	-	0.12	14.49	10.50	0.45	25200	12600	0.02	16
61908	-	0.12	14.49	10.50	0.45	25200	14700	0.02	16
16008	-	0.13	14.49	10.71	0.46	23100	14700	0.02	16
6008	-	0.19	18.69	11.55	0.51	23100	14700	0.025	15
6008-2RS1	6008-RS1	0.2	18.69	11.55	0.51	-	6615	0.025	15
6008-2RZ	6008-RZ	0.2	18.69	11.55	0.51	23100	11550	0.025	15
6008-2Z	6008-Z	0.2	18.69	11.55	0.51	23100	11550	0.025	15
63008-2RS1	-	0.27	17.64	11.55	0.51	-	6615	0.025	15
6208	-	0.37	34.13	19.95	0.84	18900	11550	0.025	14
6208-2RSH	6208-RSH	0.37	34.13	19.95	0.84	-	5880	0.025	14
6208-2RZ	6208-RZ	0.38	34.13	19.95	0.84	18900	9450	0.025	14
6208-2Z	6208-Z	0.38	34.13	19.95	0.84	18900	9450	0.025	14
6208 ETN9	-	0.34	37.59	21.84	0.92	18900	11550	0.025	13
62208-2RS1	-	0.47	32.24	19.95	0.84	-	5880	0.025	14
6308	-	0.63	44.42	25.20	1.07	17850	11550	0.03	13
6308-2RSH	6308-RSH	0.64	44.42	25.20	1.07	-	5250	0.03	13
6308-2RZ	6308-RZ	0.65	44.42	25.20	1.07	17850	8925	0.03	13
6308-2Z	6308-Z	0.65	44.42	25.20	1.07	17850	8925	0.03	13
62308-2RS1	-	0.92	43.05	25.20	1.07	-	5250	0.03	13
6408	-	1.25	66.89	38.33	1.61	14700	9450	0.035	12
61809-2RS1	-	0.04	6.96	6.41	0.27	-	7035	0.015	17
61809-2RZ	-	0.04	6.96	6.41	0.27	23100	11550	0.015	17
61809	-	0.04	6.96	6.41	0.27	23100	14700	0.015	17

# Deep Groove Ball Bearings

## Single row deep groove ball bearings



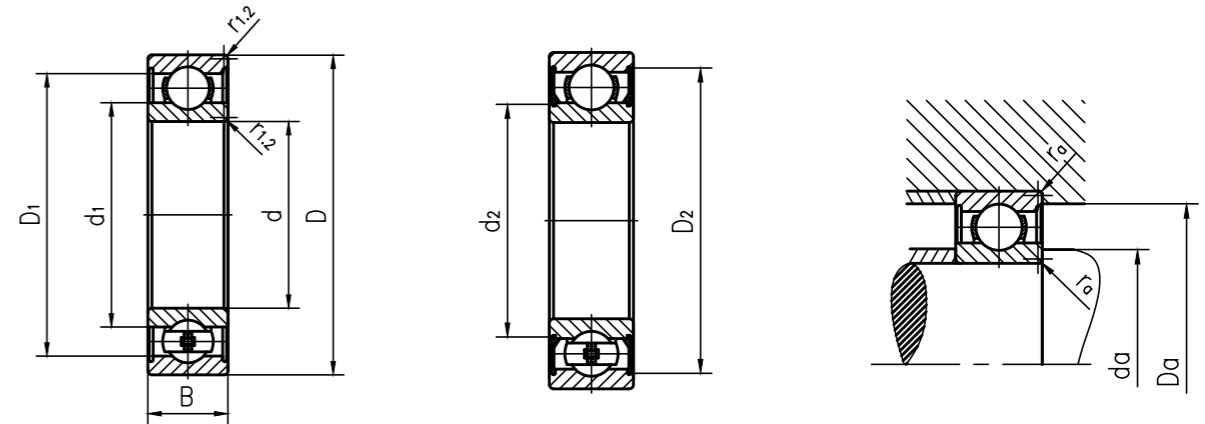
Type Bearing both sides of open or closed seal	One side closed seal	Main dimensions			Dimensions					Shoulder and chamfer dimensions			
		d	D	B	$d_1$ ≈	$d_2$ ≈	$D_1$ ≈	$D_2$ ≈	$r_{1,2}$ Min.	$d_a$ Min.	$d_a$ Max.	$D_a$ Max.	$r_a$ Max.
-	-	mm			mm					mm			
61909-2RS1	-	45	68	12	52.4	-	-	62.8	0.6	48.2	52	64	0.6
61909-2RZ	-	45	68	12	52.4	-	-	62.8	0.6	48.2	52	64	0.6
61909	-	45	68	12	52.4	-	61.2	-	0.6	48.2	-	64	0.6
16009	-	45	75	10	55	-	65	-	0.6	48.2	-	71	0.6
6009	-	45	75	16	54.7	-	-	67.8	1	51	-	69	1
6009-2RS1	6009-RS1	45	75	16	54.7	-	-	67.8	1	51	54	69	1
6009-2Z	6009-Z	45	75	16	54.7	-	-	67.8	1	51	54	69	1
63009-2RS1	-	45	75	23	54.7	-	-	67.8	1	51	54	69	1
6209	-	45	85	19	57.6	-	-	75.2	1.1	52	-	78	1
6209-2RSH	6209-RSH	45	85	19	-	54.1	-	76.5	1.1	52	53	78	1
6209-2Z	6209-Z	45	85	19	57.6	-	-	75.2	1.1	52	57	78	1
62209-2RS1	-	45	85	23	57.6	-	-	75.2	1.1	52	57	78	1
6309	-	45	100	25	62.1	-	-	86.7	1.5	54	-	91	1.5
6309M	-	45	100	25	62.1	-	-	86.7	1.5	54	-	91	1.5
6309-2RSH	6309-RSH	45	100	25	-	58.2	-	87.5	1.5	54	57	91	1.5
6309-2Z	6309-Z	45	100	25	62.1	-	-	86.7	1.5	54	62	91	1.5
62309-2RS1	-	45	100	36	62.1	-	-	86.7	1.5	54	62	91	1.5
6409	-	45	120	29	68.9	-	95.9	-	2	58	-	107	2
61810-2RS1	-	50	65	7	54.6	-	-	61.8	0.3	52	55	63	0.3
61810-2RZ	-	50	65	7	54.6	-	-	61.8	0.3	52	55	63	0.3
61810	-	50	65	7	54.6	-	60.3	-	0.3	52	-	63	0.3
61910-2RS1	-	50	72	12	56.8	-	-	67.3	0.6	54	56	68	0.6
61910-2RZ	-	50	72	12	56.8	-	-	67.3	0.6	54	56	68	0.6
61910	-	50	72	12	56.8	-	65.6	-	0.6	54	-	68	0.6
16010	-	50	80	10	60	-	70	-	0.6	54	-	76	0.6
6010	-	50	80	16	59.7	-	-	72.8	1	55	-	75	1
6010-2RS1	6010-RS1	50	80	16	59.7	-	-	72.8	1	55	59	75	1
6010-2RZ	6010-RZ	50	80	16	59.7	-	-	72.8	1	55	59	75	1
6010-2Z	6010-Z	50	80	16	59.7	-	-	72.8	1	55	59	75	1
63010-2RS1	-	50	80	23	59.7	-	-	72.8	1	55	59	75	1
6210	-	50	90	20	62.5	-	-	81.7	1.1	57	-	83	1
6210M	-	50	90	20	62.5	-	-	81.7	1.1	57	-	83	1
6210-2RSH	6210-RSH	50	90	20	-	58.8	-	82.2	1.1	57	58	83	1
6210-2Z	6210-Z	50	90	20	62.5	-	-	81.7	1.1	57	62	83	1

Type Bearing both sides of open or closed seal	One side closed seal	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient	
			Dynamic	Static				$K_r$	$f_o$
-	-	kg	kN		$P_u$	r/min	-	-	-
61909-2RS1	-	0.14	14.70	11.34	0.49	-	6300	0.02	16
61909-2RZ	-	0.14	14.70	11.34	0.49	21000	10500	0.02	16
61909	-	0.14	14.70	11.34	0.49	21000	13650	0.02	16
16009	-	0.17	17.33	11.34	0.55	21000	12600	0.02	14
6009	-	0.24	23.21	15.33	0.67	21000	12600	0.025	15
6009-2RS1	6009-RS1	0.25	23.21	15.33	0.67	-	5880	0.025	15
6009-2Z	6009-Z	0.25	23.21	15.33	0.67	21000	10500	0.025	15
63009-2RS1	-	0.36	21.84	15.33	0.67	-	5880	0.025	15
6209	-	0.42	36.86	22.68	0.96	17850	11550	0.025	14
6209-2RSH	6209-RSH	0.42	36.86	22.68	0.96	-	5250	0.025	14
6209-2Z	6209-Z	0.43	36.86	22.68	0.97	17850	8925	0.025	14
62209-2RS1	-	0.51	34.86	22.68	0.96	-	5250	0.025	14
6309	-	0.84	58.07	33.08	1.41	15750	9975	0.03	13
6309M	-	0.85	58.07	33.08	1.41	15750	14700	0.03	13
6309-2RSH	6309-RSH	0.85	58.07	33.08	1.41	-	4725	0.03	13
6309-2Z	6309-Z	0.87	58.07	33.08	1.41	15750	7875	0.03	13
62309-2RS1	-	1.2	55.34	33.08	1.41	-	4725	0.03	13
6409	-	1.55	79.91	47.25	2.00	13650	8925	0.035	12
61810-2RS1	-	0.052	7.10	7.14	0.3	-	6300	0.015	17
61810-2RZ	-	0.052	7.10	7.14	0.30	21000	10500	0.015	17
61810	-	0.052	7.10	7.14	0.30	21000	13650	0.015	17
61910-2RS1	-	0.14	15.33	12.39	0.53	-	5880	0.02	16
61910-2RZ	-	0.14	15.33	12.39	0.53	19950	9975	0.02	16
61910	-	0.14	15.33	12.39	0.53	19950	12600	0.02	16
16010	-	0.18	17.64	11.97	0.59	18900	11550	0.02	14
6010	-	0.26	24.05	16.80	0.75	18900	11550	0.025	15
6010-2RS1	6010-RS1	0.27	24.05	16.38	0.75	-	5250	0.025	15
6010-2RZ	6010-RZ	0.27	24.05	16.38	0.75	18900	9450	0.025	15
6010-2Z	6010-Z	0.27	24.05	16.38	0.75	18900	9450	0.025	15
63010-2RS1	-	0.38	22.68	16.38	0.75	-	5250	0.025	15
6210	-	0.46	38.96	24.36	1.03	15750	10500	0.025	14
6210M	-	0.52	38.96	24.36	1.03	15750	14700	0.025	14
6210-2RSH	6210-RSH	0.46	38.96	24.36	1.03	-	5040	0.025	14
6210-2Z	6210-Z	0.47	38.96	24.36	1.03	15750	8400	0.025	14



# Deep Groove Ball Bearings

## Single row deep groove ball bearings

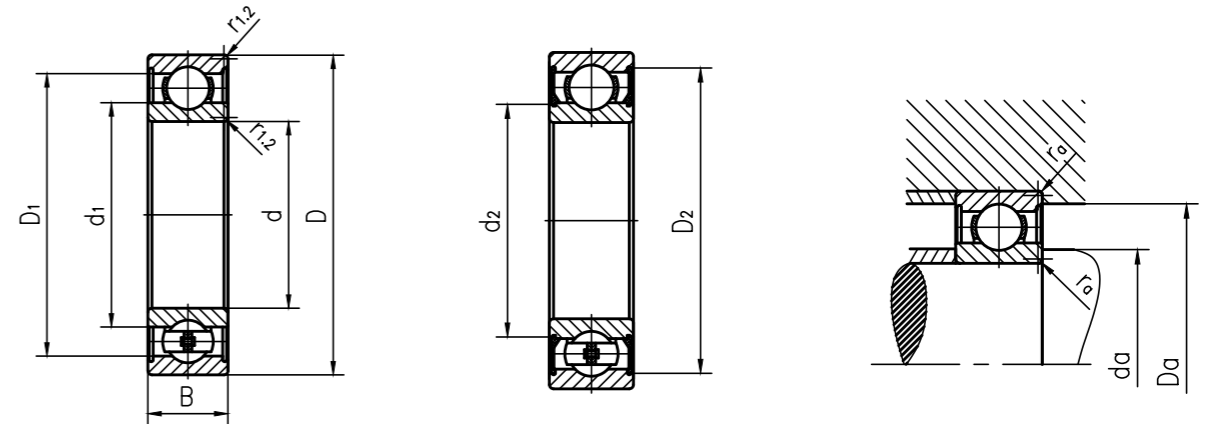


Type Bearing both sides of open or closed seal	One side closed seal	Main dimensions			Dimensions					Shoulder and chamfer dimensions			
		d	D	B	$d_1$ ≈	$d_2$ ≈	$D_1$ ≈	$D_2$ ≈	$r_{1,2}$ Min.	$d_a$ Min.	$d_a$ Max.	$D_a$ Max.	$r_a$ Max.
-	-	mm			mm					mm			
6210-2RZ	6210-RZ	50	90	20	62.5	-	-	81.7	1.1	57	62	83	1
62210-2RS1	-	50	90	23	62.5	-	-	81.7	1.1	57	62	83	1
6310 M	-	50	110	27	68.7	-	-	95.2	2	61	-	99	2
6310-2RSH	6310-RSH	50	110	27	-	64.7	-	95.9	2	61	64	99	2
6310	-	50	110	27	68.7	-	-	95.2	2	61	-	99	2
6310-2Z	6310-Z	50	110	27	68.7	-	-	95.2	2	61	68	99	2
62310-2RS1	-	50	110	40	68.7	-	-	95.2	2	61	68	99	2
6410	-	50	130	31	75.4	-	105	-	2.1	64	-	116	2
61811-2RS1	-	55	72	9	60.3	-	-	68.6	0.3	57	60	70	0.3
61811-2RZ	-	55	72	9	60.3	-	-	68.6	0.3	57	60	70	0.3
61811	-	55	72	9	60.3	-	67	-	0.3	57	-	70	0.3
61911-2RS1	-	55	80	13	63	-	-	74.2	1	60	63	75	1
61911-2RZ	-	55	80	13	63	-	-	74.2	1	60	63	75	1
61911	-	55	80	13	63	-	72.3	-	1	60	-	75	1
16011	-	55	90	11	67	-	78.1	-	0.6	59	-	86	0.6
6011 M	-	55	90	18	66.3	-	-	81.5	1.1	61	-	84	1
6011	-	55	90	18	66.3	-	-	81.5	1.1	61	-	84	1
6011-2RS1	6011-RS1	55	90	18	66.3	-	-	81.5	1.1	61	66	84	1
6011-2Z	6011-Z	55	90	18	66.3	-	-	81.5	1.1	61	66	84	1
6211	-	55	100	21	69	-	-	89.4	1.5	64	-	91	1.5
6211 M	-	55	100	21	69	-	-	89.4	1.5	64	-	91	1.5
6211-2RSH	6211-RSH	55	100	21	-	65.2	-	90.5	1.5	64	64	91	1.5
6211-2Z	6211-Z	55	100	21	69	-	-	89.4	1.5	64	69	91	1.5
62211-2RS1	-	55	100	25	69	-	-	89.4	1.5	64	69	91	1.5
6311	-	55	120	29	75.3	-	-	104	2	66	-	109	2
6311 M	-	55	120	29	75.3	-	-	104	2	66	-	109	2
6311-2RSH	6311-RSH	55	120	29	-	71.1	-	105	2	66	70	109	2
6311-2Z	6311-Z	55	120	29	75.3	-	-	104	2	66	75	109	2
62311-2RS1	-	55	120	43	75.3	-	-	104	2	66	75	109	2
6411	-	55	140	33	81.5	-	114	-	2.1	69	-	126	2
61812-2RS1	-	60	78	10	65.4	-	-	74.5	0.3	62	65	76	0.3
61812-2RZ	-	60	78	10	65.4	-	-	74.5	0.3	62	65	76	0.3
61812	-	60	78	10	65.4	-	72.9	-	0.3	62	-	76	0.3
61912-2RS1	-	60	85	13	68.3	-	-	78.7	1	65	68	80	1

Type Bearing both sides of open or closed seal	One side closed seal	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient	
			Dynamic	Static				$K_r$	$f_o$
-	-	kg	kN		$P_u$	r/min	-	-	-
6210-2RZ	6210-RZ	0.48	38.96	24.36	1.03	15750	8400	0.025	14
62210-2RS1	-	0.54	36.86	24.36	1.03	-	5040	0.025	14
6310 M	-	1.3	68.25	39.90	1.68	13650	8925	0.03	13
6310-2RSH	6310-RSH	1.1	68.25	39.90	1.68	-	4515	0.03	13
6310	-	1.1	68.25	39.90	1.68	13650	8925	0.03	13
6310-2Z	6310-Z	1.1	68.25	39.90	1.68	13650	7035	0.03	13
62310-2RS1	-	1.6	64.89	39.90	1.68	-	4515	0.03	13
6410	-	1.95	91.46	54.60	2.31	12600	7875	0.035	12
61811-2RS1	-	0.083	9.49	9.24	0.39	-	5565	0.015	17
61811-2RZ	-	0.083	9.49	9.24	0.39	19950	9975	0.015	17
61811	-	0.083	9.49	9.24	0.39	19950	12600	0.015	17
61911-2RS1	-	0.19	17.33	14.70	0.63	-	5250	0.02	16
61911-2RZ	-	0.19	17.33	14.70	0.63	17850	8925	0.02	16
61911	-	0.19	17.33	14.70	0.63	17850	11550	0.02	16
16011	-	0.26	21.32	14.70	0.73	16800	10500	0.02	14
6011 M	-	0.44	31.08	22.26	0.95	16800	14700	0.025	15
6011	-	0.38	31.08	22.26	0.95	16800	10500	0.025	15
6011-2RS1	6011-RS1	0.4	31.08	22.26	0.95	-	4725	0.025	15
6011-2Z	6011-Z	0.4	31.08	22.26	0.95	16800	8400	0.025	15
6211	-	0.61	48.51	30.45	1.31	14700	9450	0.025	14
6211 M	-	0.72	48.51	30.45	1.31	14700	13650	0.025	14
6211-2RSH	6211-RSH	0.62	48.51	30.45	1.31	-	4515	0.025	14
6211-2Z	6211-Z	0.64	48.51	30.45	1.31	14700	7350	0.025	14
62211-2RS1	-	0.75	45.78	30.45	1.31	-	4515	0.025	14
6311	-	1.35	77.81	47.25	2.00	12600	8400	0.03	13
6311 M	-	1.65	77.81	47.25	2.00	12600	11550	0.03	13
6311-2RSH	6311-RSH	1.4	77.81	47.25	2.00	-	3990	0.03	13
6311-2Z	6311-Z	1.4	77.81	47.25	2.00	12600	6615	0.03	13
62311-2RS1	-	2.05	75.08	47.25	2.00	-	3990	0.03	13
6411	-	2.35	104.48	65.10	2.73	11550	7350	0.035	12
61812-2RS1	-	0.11	12.50	11.97	0.51	-	5040	0.015	17
61812-2RZ	-	0.11	12.50	11.97	0.51	17850	8925	0.015	17
61812	-	0.11	12.50	11.97	0.51	17850	11550	0.015	17
61912-2RS1	-	0.21	17.33	12.60	0.63	-	4725	0.02	14

# Deep Groove Ball Bearings

## Single row deep groove ball bearings

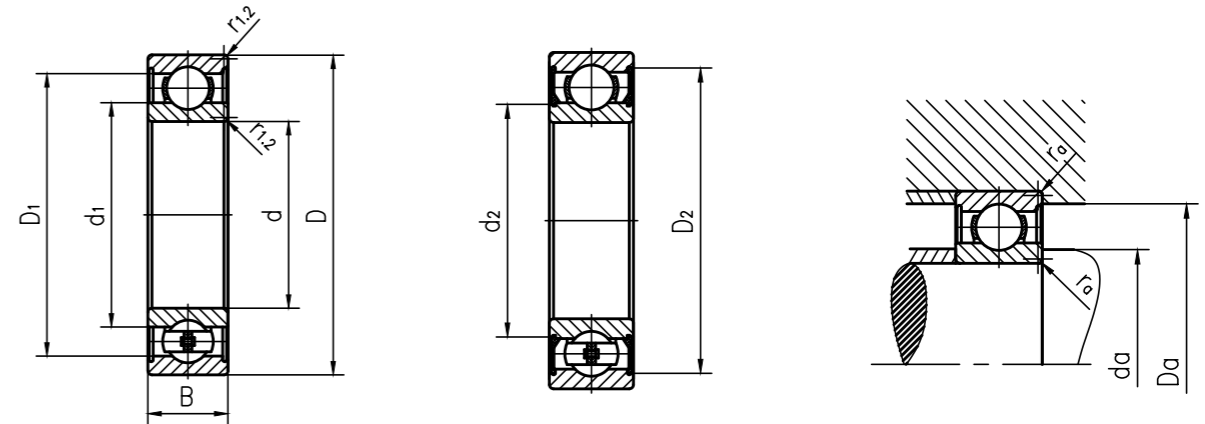


Type Bearing both sides of open or closed seal	One side closed seal	Main dimensions			Dimensions					Shoulder and chamfer dimensions			
		d	D	B	d <sub>1</sub> ≈	d <sub>2</sub> ≈	D <sub>1</sub> ≈	D <sub>2</sub> ≈	r <sub>1,2</sub> Min.	d <sub>a</sub> Min.	d <sub>a</sub> Max.	D <sub>a</sub> Max.	r <sub>a</sub> Max.
-	-	mm			mm					mm			
61912	-	60	85	13	68.3	-	-	78.7	1	65	-	80	1
61912-2RZ	-	60	85	13	68.3	-	-	78.7	1	65	68	80	1
16012	-	60	95	11	72	-	83	-	0.6	64	-	91	0.6
6012	-	60	95	18	71.3	-	-	86.5	1.1	66	-	89	1
6012-2RS1	6012-RS1	60	95	18	71.3	-	-	86.5	1.1	66	71	89	1
6012-2RZ	6012-RZ	60	95	18	71.3	-	-	86.5	1.1	66	71	89	1
6012-2Z	6012-Z	60	95	18	71.3	-	-	86.5	1.1	66	71	89	1
6212	-	60	110	22	75.5	-	-	98	1.5	69	-	101	1.5
6212 M	-	60	110	22	75.5	-	-	98	1.5	69	-	101	1.5
6212-2RSH	6212-RSH	60	110	22	-	71.5	-	99.5	1.5	69	71	101	1.5
6212-2Z	6212-Z	60	110	22	75.5	-	-	98	1.5	69	75	101	1.5
62212-2RS1	-	60	110	28	75.5	-	-	98	1.5	69	75	101	1.5
6312 M	-	60	130	31	81.8	-	-	113	2.1	72	-	118	2
6312-2RSH	6312-RSH	60	130	31	-	77.5	-	113	2.1	72	77	118	2
6312-2Z	6312-Z	60	130	31	81.8	-	-	113	2.1	72	81	118	2
6312	-	60	130	31	81.8	-	-	113	2.1	72	-	118	2
62312-2RS1	-	60	130	46	81.8	-	-	113	2.1	72	81	118	2
6412	-	60	150	35	88.1	-	122	-	2.1	74	-	136	2
61813-2RS1	-	65	85	10	71.4	-	-	80.5	0.6	69	71	81	0.6
61813-2RZ	-	65	85	10	71.4	-	-	80.5	0.6	69	71	81	0.6
61813	-	65	85	10	71.4	-	78.9	-	0.6	69	-	81	0.6
61913-2RS1	-	65	90	13	73	-	-	84.2	1	70	73	85	1
61913-2RZ	-	65	90	13	73	-	-	84.2	1	70	73	85	1
61913	-	65	90	13	73	-	82.3	-	1	70	-	85	1
16013	-	65	100	11	76.5	-	88.4	-	0.6	69	-	96	0.6
6013	-	65	100	18	76.3	-	-	91.5	1.1	71	-	94	1
6013 M	-	65	100	18	76.3	-	-	91.5	1.1	71	-	94	1
6013-2RS1	6013-RS1	65	100	18	76.3	-	-	91.5	1.1	71	76	94	1
6013-2Z	6013-Z	65	100	18	76.3	-	-	91.5	1.1	71	76	94	1
6213 M	-	65	120	23	83.3	-	-	106	1.5	74	-	111	1.5
6213	-	65	120	23	83.3	-	-	106	1.5	74	-	111	1.5
6213-2RS1	6213-RS1	65	120	23	83.3	-	-	106	1.5	74	83	111	1.5
6213-2Z	6213-Z	65	120	23	83.3	-	-	106	1.5	74	83	111	1.5
62213-2RS1	-	65	120	31	83.3	-	-	106	1.5	74	83	111	1.5

Type Bearing both sides of open or closed seal	One side closed seal	Weight kg	Basic load rating kN		Fatigue load limit P <sub>u</sub>	Rated speed reference speed r/min	Maximum speed	Calculate the coefficient	
			Dynamic C	Static C <sub>0</sub>				K <sub>r</sub>	f <sub>0</sub>
-	-	kg	kN			r/min		-	
61912	-	0.2	17.33	12.60	0.63	16800	10500	0.02	14
61912-2RZ	-	0.2	17.33	15.02	0.63	16800	8400	0.02	16
16012	-	0.29	21.84	15.75	0.77	15750	9975	0.02	14
6012	-	0.41	32.24	24.36	1.03	15750	9975	0.025	16
6012-2RS1	6012-RS1	0.43	32.24	24.36	1.03	-	4515	0.025	16
6012-2RZ	6012-RZ	0.43	32.24	24.36	1.03	15750	7875	0.025	16
6012-2Z	6012-Z	0.43	32.24	24.36	1.03	15750	7875	0.025	16
6212	-	0.78	58.07	37.80	1.61	13650	8400	0.025	14
6212 M	-	0.93	58.07	37.80	1.61	13650	8400	0.025	14
6212-2RSH	6212-RSH	0.79	58.07	37.80	1.61	-	4200	0.025	14
6212-2Z	6212-Z	0.81	58.07	37.80	1.61	13650	6615	0.025	14
62212-2RS1	-	1	55.34	37.80	1.61	-	4200	0.025	14
6312 M	-	2.1	89.46	54.60	2.31	11550	7350	0.03	13
6312-2RSH	6312-RSH	1.75	89.46	54.60	2.31	-	3570	0.03	13
6312-2Z	6312-Z	1.8	89.46	54.60	2.31	11550	5880	0.03	13
6312	-	1.7	89.46	54.60	2.31	11550	7350	0.03	13
62312-2RS1	-	2.55	86.00	54.60	2.31	-	3570	0.03	13
6412	-	2.85	113.40	72.98	3.05	10500	6615	0.035	12
61813-2RS1	-	0.13	13.02	13.34	0.57	-	4725	0.015	17
61813-2RZ	-	0.13	13.02	13.34	0.57	16800	8400	0.015	17
61813	-	0.13	13.02	13.34	0.57	16800	10500	0.015	17
61913-2RS1	-	0.22	18.27	16.80	0.71	-	4515	0.02	17
61913-2RZ	-	0.22	18.27	16.80	0.71	15750	7875	0.02	17
61913	-	0.22	18.27	16.80	0.71	15750	9975	0.02	17
16013	-	0.3	23.63	20.58	0.87	14700	9450	0.02	16
6013	-	0.44	33.50	26.25	1.11	14700	9450	0.025	16
6013 M	-	0.44	33.50	26.25	1.11	14700	12600	0.025	16
6013-2RS1	6013-RS1	0.45	33.50	26.25	1.11	-	4200	0.025	16
6013-2Z	6013-Z	0.46	33.50	26.25	1.11	14700	7350	0.025	16
6213 M	-	1.2	61.43	42.53	1.82	12600	10500	0.025	15
6213	-	1	61.43	42.53	1.82	12600	7875	0.025	15
6213-2RS1	6213-RS1	1.05	61.43	42.53	1.82	-	3780	0.025	15
6213-2Z	6213-Z	1.05	61.43	42.53	1.82	12600	6300	0.025	15
62213-2RS1	-	1.4	58.70	42.53	1.82	-	3780	0.025	15

# Deep Groove Ball Bearings

Single row deep groove ball bearings

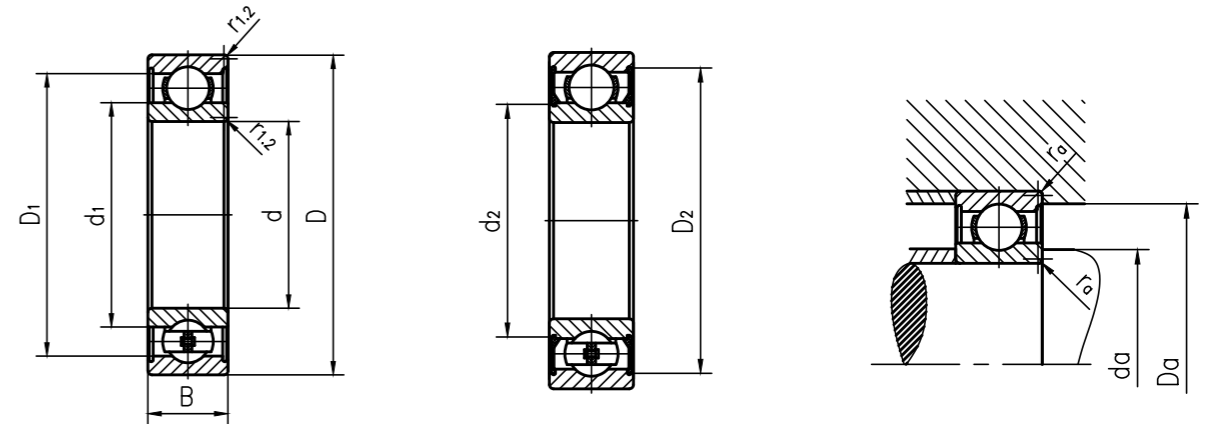


Type Bearing both sides of open or closed seal	One side closed seal	Main dimensions			Dimensions					Shoulder and chamfer dimensions			
		d	D	B	$d_1$ ≈	$d_2$ ≈	$D_1$ ≈	$D_2$ ≈	$r_{1,2}$ Min.	$d_a$ Min.	$d_a$ Max.	$D_a$ Max.	$r_a$ Max.
-	-	mm			mm					mm			
6313 M	-	65	140	33	88.3	-	-	122	2.1	77	-	128	2
6313	-	65	140	33	88.3	-	-	122	2.1	77	-	128	2
6313-2RS1	6313-RS1	65	140	33	88.3	-	-	122	2.1	77	88	128	2
6313-2Z	6313-Z	65	140	33	88.3	-	-	122	2.1	77	88	128	2
62313-2RS1	-	65	140	48	88.3	-	-	122	2.1	77	88	128	2
6413	-	65	160	37	94	-	131	-	2.1	79	-	146	2
61814-2RS1	-	70	90	10	76.4	-	-	85.5	0.6	74	76	86	0.6
61814-2RZ	-	70	90	10	76.4	-	-	85.5	0.6	74	76	86	0.6
61814	-	70	90	10	76.4	-	83.9	-	0.6	74	-	86	0.6
61914	-	70	100	16	79.8	-	-	92.9	1	75	-	95	1
61914-2RS1	-	70	100	16	79.8	-	-	92.9	1	75	79	95	1
61914-2RZ	-	70	100	16	79.8	-	-	92.9	1	75	79	95	1
16014	-	70	110	13	83.3	-	96.8	-	0.6	74	-	106	0.6
6014 M	-	70	110	20	82.8	-	-	99.9	1.1	76	-	104	1
6014	-	70	110	20	82.8	-	-	99.9	1.1	76	-	104	1
6014-2RS1	6014-RS1	70	110	20	82.8	-	-	99.9	1.1	76	82	104	1
6014-2Z	6014-Z	70	110	20	82.8	-	-	99.9	1.1	76	82	104	1
6214 M	-	70	125	24	87	-	-	111	1.5	79	-	116	1.5
6214	-	70	125	24	87	-	-	111	1.5	79	-	116	1.5
6214-2RS1	6214-RS1	70	125	24	87	-	-	111	1.5	79	87	116	1.5
6214-2Z	6214-Z	70	125	24	87	-	-	111	1.5	79	87	116	1.5
62214-2RS1	-	70	125	31	87	-	-	111	1.5	79	87	116	1.5
6314	-	70	150	35	94.9	-	-	130	2.1	82	-	138	2
6314M	-	70	150	35	94.9	-	-	130	2.1	82	-	138	2
6314-2RS1	6314-RS1	70	150	35	94.9	-	-	130	2.1	82	94	138	2
6314-2Z	6314-Z	70	150	35	94.9	-	-	130	2.1	82	94	138	2
62314-2RS1	-	70	150	51	94.9	-	-	130	2.1	82	94	138	2
6414	-	70	180	42	103	-	146	-	3	86	-	164	2.5
61815-2RS1	-	75	95	10	81.7	-	-	90.7	1.3	79	81	91	0.6
61815-2RZ	-	75	95	10	81.7	-	-	90.7	1.3	79	81	91	0.6
61815	-	75	95	10	81.7	-	-	90.7	1.3	79	-	91	0.6
61915	-	75	105	16	84.8	-	-	97.9	1.9	80	-	100	1
61915-2RS1	-	75	105	16	84.7	-	-	98.3	1	80	84	100	1
61915-2RZ	-	75	105	16	84.7	-	-	98.3	1	80	84	100	1

Type Bearing both sides of open or closed seal	One side closed seal	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient	
			Dynamic	Static				$K_r$	$f_o$
-	-	kg	kN		$P_u$	r/min	-		
6313 M	-	2.55	102.38	63.00	2.63	10500	7035	0.03	13
6313	-	2.1	102.38	63.00	2.63	10500	7035	0.03	13
6313-2RS1	6313-RS1	2.15	102.38	63.00	2.63	-	3360	0.03	13
6313-2Z	6313-Z	2.15	102.38	63.00	2.63	10500	5565	0.03	13
62313-2RS1	-	3	96.92	63.00	2.63	-	3360	0.03	13
6413	-	3.35	124.95	81.90	3.31	9975	6300	0.035	12
61814-2RS1	-	0.14	13.02	13.86	0.59	-	4515	0.015	17
61814-2RZ	-	0.14	13.02	13.86	0.59	15750	7875	0.015	17
61814	-	0.14	13.02	13.86	0.59	15750	9450	0.015	17
61914	-	0.34	24.99	19.22	0.95	14700	8925	0.02	14
61914-2RS1	-	0.35	24.99	22.26	0.95	-	4200	0.02	16
61914-2RZ	-	0.35	24.99	22.26	0.95	14700	7350	0.02	16
16014	-	0.44	30.56	26.25	1.11	13650	8400	0.02	16
6014 M	-	0.7	41.69	32.55	1.39	13650	11550	0.025	16
6014	-	0.61	41.69	32.55	1.39	13650	8400	0.025	16
6014-2RS1	6014-RS1	0.63	41.69	32.55	1.39	-	3780	0.025	16
6014-2Z	6014-Z	0.64	41.69	32.55	1.39	13650	6615	0.025	16
6214 M	-	1.3	63.53	47.25	2.00	11550	10500	0.025	15
6214	-	1.1	66.89	47.25	2.00	11550	7350	0.025	15
6214-2RS1	6214-RS1	1.1	66.89	47.25	2.00	-	3570	0.025	15
6214-2Z	6214-Z	1.15	66.89	47.25	2.00	11550	5880	0.025	15
62214-2RS1	-	1.4	63.53	47.25	2.00	-	3570	0.025	15
6314	-	2.55	116.55	71.40	2.89	9975	6615	0.03	13
6314M	-	3.1	116.55	71.40	2.89	9975	6615	0.03	13
6314-2RS1	6314-RS1	2.6	116.55	71.40	2.89	-	3150	0.03	13
6314-2Z	6314-Z	2.65	116.55	71.40	2.89	9975	5250	0.03	13
62314-2RS1	-	3.75	109.20	71.40	2.89	-	3150	0.03	13
6414	-	4.95	150.15	109.20	4.10	8925	5565	0.035	12
61815-2RS1	-	0.15	13.13	11.34	0.61	-	4200	0.015	13
61815-2RZ	-	0.15	13.13	11.34	0.61	14700	7350	0.015	13
61815	-	0.15	13.13	11.34	0.61	14700	8925	0.015	13
61915	-	0.36	25.41	20.27	1.01	13650	8400	0.02	14
61915-2RS1	-	0.37	25.41	23.52	1.01	-	3780	0.02	17
61915-2RZ	-	0.37	25.41	23.52	1.01	13650	6615	0.02	17

# Deep Groove Ball Bearings

## Single row deep groove ball bearings



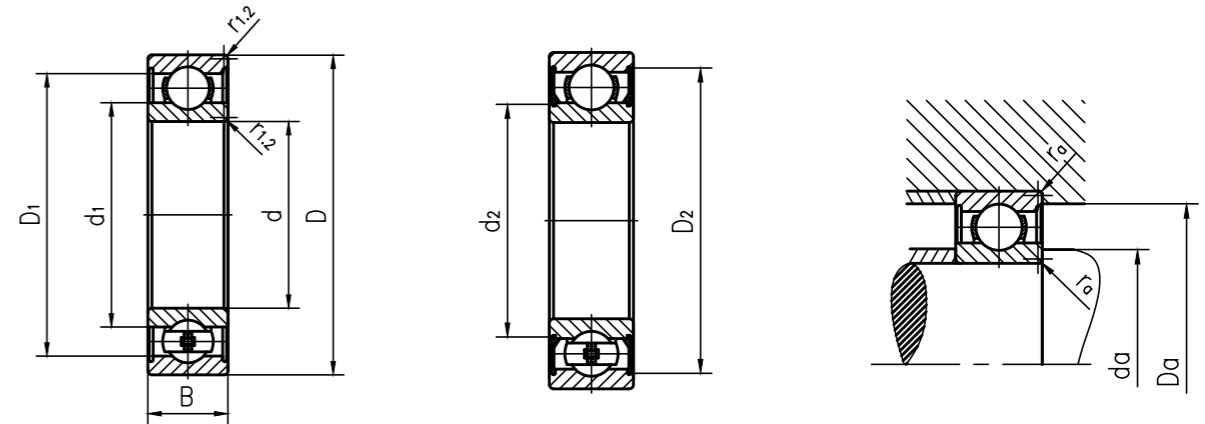
Type Bearing both sides of open or closed seal	One side closed seal	Main dimensions			Dimensions					Shoulder and chamfer dimensions			
		d	D	B	$d_1$ ≈	$d_2$ ≈	$D_1$ ≈	$D_2$ ≈	$r_{1,2}$ Min.	$d_a$ Min.	$d_a$ Max.	$D_a$ Max.	$r_a$ Max.
-	-	mm			mm					mm			
16015	-	75	115	13	88.3	-	102	-	0.6	79	-	111	0.6
6015 M	-	75	115	20	87.8	-	-	105	1.1	81	-	109	1
6015	-	75	115	20	87.8	-	-	105	1.1	81	-	109	1
6015-2RS1	6015-RS1	75	115	20	87.8	-	-	105	1.1	81	87	109	1
6015-2RZ	6015-RZ	75	115	20	87.8	-	-	105	1.1	81	87	109	1
6015-2Z	6015-Z	75	115	20	87.8	-	-	105	1.1	81	87	109	1
6215 M	-	75	130	25	92	-	-	117	1.5	84	-	121	1.5
6215	-	75	130	25	92	-	-	117	1.5	84	-	121	1.5
6215-2RS1	6215-RS1	75	130	25	92	-	-	117	1.5	84	92	121	1.5
6215-2Z	6215-Z	75	130	25	92	-	-	117	1.5	84	92	121	1.5
6315	-	75	160	37	101	-	-	139	2.1	87	-	148	2
6315 M	-	75	160	37	101	-	-	139	2.1	87	-	148	2
6315-2RS1	6315-RS1	75	160	37	101	-	-	139	2.1	87	100	148	2
6315-2Z	6315-Z	75	160	37	101	-	-	139	2.1	87	100	148	2
6415	-	75	190	45	110	-	-	155	3	91	-	174	2.5
61816-2RS1	-	80	100	10	86.7	-	-	95.7	1.3	84	86	96	0.6
61816	-	80	100	10	86.7	-	-	95.7	1.3	84	-	96	0.6
61916-2RS1	-	80	110	16	89.8	-	-	103	1	85	89	105	1
61916-2RZ	-	80	110	16	89.8	-	-	103	1	85	89	105	1
61916	-	80	110	16	89.8	-	-	103	1	85	-	105	1
16016	-	80	125	14	95.3	-	110	-	0.6	84	-	121	0.6
6016	-	80	125	22	94.4	-	-	115	1.1	86	-	119	1
6016-2RS1	6016-RS1	80	125	22	94.4	-	-	115	1.1	86	94	119	1
6016-2Z	6016-Z	80	125	22	94.4	-	-	115	1.1	86	94	119	1
6216	-	80	140	26	101	-	-	127	2	91	-	129	2
6216M	-	80	140	26	101	-	-	127	2	91	-	129	2
6216-2RS1	6216-RS1	80	140	26	101	-	-	127	2	91	100	129	2
6216-2Z	6216-Z	80	140	26	101	-	-	127	2	91	100	129	2
6316 M	-	80	170	39	108	-	-	147	2.1	92	-	158	2
6316	-	80	170	39	108	-	-	147	2.1	92	-	158	2
6316-2RS1	6316-RS1	80	170	39	108	-	-	147	2.1	92	107	158	2
6316-2Z	6316-Z	80	170	39	108	-	-	147	2.1	92	107	158	2
6416	-	80	200	48	116	-	163	-	3	96	-	184	2.5
61817-2RS1	-	85	110	13	93.3	-	-	105	1.9	90	93	105	1

Type Bearing both sides of open or closed seal	One side closed seal	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient	
			Dynamic	Static				$K_r$	$f_0$
		kg	kN		$P_u$	r/min			
			C	$C_0$					
-	-		kN			r/min			
16015	-	0.46	31.71	28.35	1.20	12600	7875	0.02	16
6015 M	-	0.74	43.68	35.18	1.50	12600	10500	0.025	16
6015	-	0.65	43.68	35.18	1.50	12600	7875	0.025	16
6015-2RS1	6015-RS1	0.67	43.68	35.18	1.50	-	3570	0.025	16
6015-2RZ	6015-RZ	0.67	43.68	35.18	1.50	12600	6300	0.025	16
6015-2Z	6015-Z	0.68	43.68	35.18	1.50	12600	6300	0.025	16
6215 M	-	1.4	72.35	51.45	2.14	10500	9975	0.025	15
6215	-	1.2	72.35	51.45	2.14	10500	7035	0.025	15
6215-2RS1	6215-RS1	1.2	72.35	51.45	2.14	-	3360	0.025	15
6215-2Z	6215-Z	1.25	72.35	51.45	2.14	10500	5565	0.025	15
6315	-	3.05	124.95	80.33	3.15	9450	5880	0.03	13
6315 M	-	3.7	124.95	80.33	3.15	9450	5880	0.03	13
6315-2RS1	6315-RS1	3.15	124.95	80.33	3.15	-	2940	0.03	13
6315-2Z	6315-Z	3.15	124.95	80.33	3.15	9450	4725	0.03	13
6415	-	5.8	160.65	119.70	4.36	8400	5250	0.035	12
61816-2RS1	-	0.16	13.34	11.76	0.64	-	3780	0.015	13
61816	-	0.15	13.34	11.76	0.64	13650	8400	0.015	13
61916-2RS1	-	0.4	26.36	21.42	1.07	-	3570	0.02	14
61916-2RZ	-	0.4	26.36	21.42	1.07	12600	6300	0.02	14
61916	-	0.38	26.36	21.42	1.07	12600	7875	0.02	14
16016	-	0.61	36.86	33.08	1.39	11550	7350	0.02	16
6016	-	0.86	51.87	42.00	1.74	11550	7350	0.025	16
6016-2RS1	6016-RS1	0.88	51.87	42.00	1.74	-	3360	0.025	16
6016-2Z	6016-Z	0.89	51.87	42.00	1.74	11550	5880	0.025	16
6216	-	1.45	76.44	57.75	2.31	9975	6300	0.025	15
6216M	-	1.7	76.44	57.75	2.31	9975	8925	0.025	15
6216-2RS1	6216-RS1	1.5	76.44	57.75	2.31	-	3150	0.025	15
6216-2Z	6216-Z	1.55	76.44	57.75	2.31	9975	5040	0.025	15
6316 M	-	4.4	136.50	90.83	3.41	8925	7875	0.03	13
6316	-	3.65	136.50	90.83	3.41	8925	5565	0.03	13
6316-2RS1	6316-RS1	3.7	136.50	90.83	3.41	-	2730	0.03	13
6316-2Z	6316-Z	3.75	136.50	90.83	3.41	8925	4515	0.03	13
6416	-	6.85	171.15	131.25	4.73	7875	5040	0.035	12
61817-2RS1	-	0.28	20.48	17.43	0.92	-	3570	0.015	14



# Deep Groove Ball Bearings

## Single row deep groove ball bearings

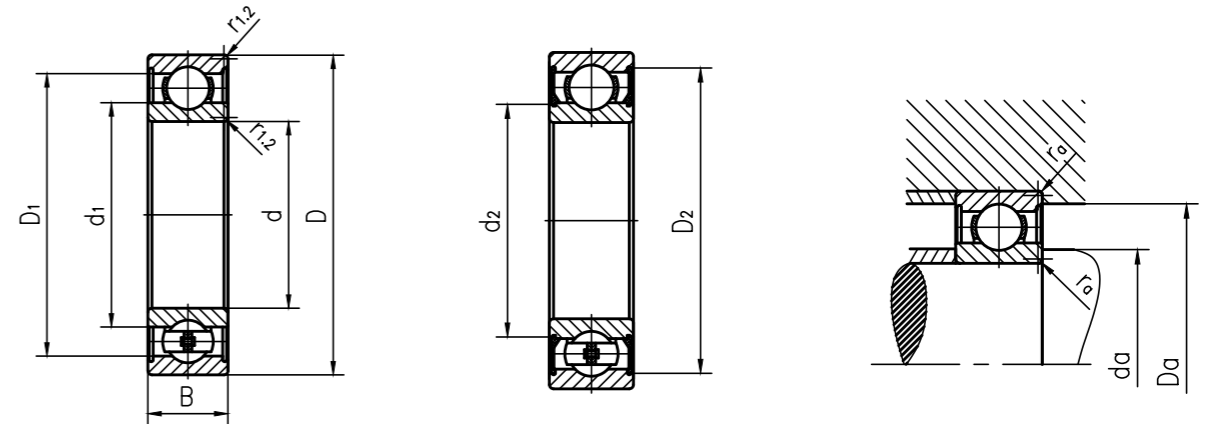


Type Bearing both sides of open or closed seal	One side closed seal	Main dimensions			Dimensions					Shoulder and chamfer dimensions			
		d	D	B	$d_1$ ≈	$d_2$ ≈	$D_1$ ≈	$D_2$ ≈	$r_{1,2}$ Min.	$d_a$ Min.	$d_a$ Max.	$D_a$ Max.	$r_a$ Max.
-	-	mm			mm					mm			
61817-2RZ	-	85	110	13	93.3	-	-	105	1.9	90	93	105	1
61817	-	85	110	13	93.3	-	-	105	1.9	90	-	105	1
61917	-	85	120	18	96.4	-	109	-	1.1	91	-	114	1
16017	-	85	130	14	100	-	115	-	0.6	89	-	126	0.6
6017	-	85	130	22	99.4	-	-	120	1.1	92	-	123	1
6017-2RS1	6017-RS1	85	130	22	99.4	-	-	120	1.1	92	99	123	1
6017-2Z	6017-Z	85	130	22	99.4	-	-	120	1.1	92	99	123	1
6217 M	-	85	150	28	106	-	-	135	2	96	-	139	2
6217	-	85	150	28	106	-	-	135	2	96	-	139	2
6217-2RS1	6217-RS1	85	150	28	106	-	-	135	2	96	105	139	2
6217-2Z	6217-Z	85	150	28	106	-	-	135	2	96	105	139	2
6317	-	85	180	41	114	-	-	156	3	99	-	166	2.5
6317 M	-	85	180	41	114	-	-	156	3	99	-	166	2.5
6317-2RS1	6317-RS1	85	180	41	114	-	-	156	3	99	114	166	2.5
6317-2Z	6317-Z	85	180	41	114	-	-	156	3	99	114	166	2.5
6417	-	85	210	52	123	-	172	-	4	105	-	190	3
61818-2RS1	-	90	115	13	98.3	-	-	110	1	95	98	110	1
61818-2RZ	-	90	115	13	98.3	-	-	110	1	95	98	110	1
61818	-	90	115	13	98.3	-	-	110	1	95	-	110	1
61918	-	90	125	18	101	-	114	-	1.1	96	-	119	1
16018	-	90	140	16	106	-	124	-	1	95	-	135	1
6018 M	-	90	140	24	105	-	-	129	1.5	97	-	133	1.5
6018	-	90	140	24	105	-	-	129	1.5	97	-	133	1.5
6018-2RS1	6018-RS1	90	140	24	105	-	-	129	1.5	97	105	133	1.5
6018-2Z	6018-Z	90	140	24	105	-	-	129	1.5	97	105	133	1.5
6218	-	90	160	30	112	-	-	143	2	101	-	149	2
6218 M	-	90	160	30	112	-	-	143	2	101	-	149	2
6218-2RS1	6218-RS1	90	160	30	112	-	-	143	2	101	112	149	2
6218-2Z	6218-Z	90	160	30	112	-	-	143	2	101	112	149	2
6318 M	-	90	190	43	121	-	-	164	3	104	-	176	2.5
6318	-	90	190	43	121	-	-	164	3	104	-	176	2.5
6318-2RS1	6318-RS1	90	190	43	121	-	-	164	3	104	120	176	2.5
6318-2Z	6318-Z	90	190	43	121	-	-	164	3	104	120	176	2.5
6418	-	90	225	54	132	-	181	-	4	110	-	205	3

Type Bearing both sides of open or closed seal	One side closed seal	Weight kg	Basic load rating kN		Fatigue load limit $P_u$	Rated speed reference speed r/min	Maximum speed	Calculate the coefficient	
			Dynamic C	Static $C_0$				$K_r$	$f_0$
-	-	kg	kN			r/min		-	
61817-2RZ	-	0.28	20.48	17.43	0.92	12600	6300	0.015	14
61817	-	0.26	20.48	17.43	0.92	12600	7875	0.015	14
61917	-	0.55	33.50	31.50	1.31	11550	7350	0.02	16
16017	-	0.64	37.59	35.18	1.44	11550	7035	0.02	17
6017	-	0.9	54.60	45.15	1.85	11550	7035	0.025	16
6017-2RS1	6017-RS1	0.93	54.60	45.15	1.85	-	3150	0.025	16
6017-2Z	6017-Z	0.94	54.60	45.15	1.85	11550	5565	0.025	16
6217 M	-	2	91.46	67.20	2.63	9450	8400	0.025	15
6217	-	1.8	91.46	67.20	2.63	9450	5880	0.025	15
6217-2RS1	6217-RS1	1.9	91.46	67.20	2.63	-	2940	0.025	15
6217-2Z	6217-Z	1.9	91.46	67.20	2.63	9450	4725	0.025	15
6317	-	4.25	147.00	101.33	3.73	8400	5250	0.03	13
6317 M	-	5.2	147.00	101.33	3.73	8400	7875	0.03	13
6317-2RS1	6317-RS1	4.35	147.00	101.33	3.73	-	2520	0.03	13
6317-2Z	6317-Z	4.4	147.00	101.33	3.73	8400	4200	0.03	13
6417	-	8.05	182.70	143.85	4.99	7350	4725	0.035	12
61818-2RS1	-	0.29	20.48	17.85	0.96	-	3360	0.015	13
61818-2RZ	-	0.29	20.48	17.85	0.96	11550	5880	0.015	13
61818	-	0.28	20.48	17.85	0.96	11550	7350	0.015	13
61918	-	0.59	34.86	33.08	1.35	11550	7035	0.02	17
16018	-	0.85	45.78	40.95	1.64	10500	6615	0.02	16
6018 M	-	1.35	63.53	52.50	2.06	10500	8925	0.025	16
6018	-	1.15	63.53	52.50	2.06	10500	6615	0.025	16
6018-2RS1	6018-RS1	1.2	63.53	52.50	2.06	-	2940	0.025	16
6018-2Z	6018-Z	1.2	63.53	52.50	2.06	10500	5250	0.025	16
6218	-	2.2	106.05	77.18	2.94	8925	5565	0.025	15
6218 M	-	2.65	106.05	77.18	2.94	8925	5565	0.025	15
6218-2RS1	6218-RS1	2.3	106.05	77.18	2.94	-	2730	0.025	15
6218-2Z	6218-Z	2.3	106.05	77.18	2.94	8925	4515	0.025	15
6318 M	-	6.1	158.55	113.40	3.99	7875	7350	0.03	13
6318	-	4.95	158.55	113.40	3.99	7875	5040	0.03	13
6318-2RS1	6318-RS1	5.1	158.55	113.40	3.99	-	2520	0.03	13
6318-2Z	6318-Z	5.15	158.55	113.40	3.99	7875	3990	0.03	13
6418	-	9.8	195.30	157.50	5.25	7035	4515	0.035	13

# Deep Groove Ball Bearings

## Single row deep groove ball bearings

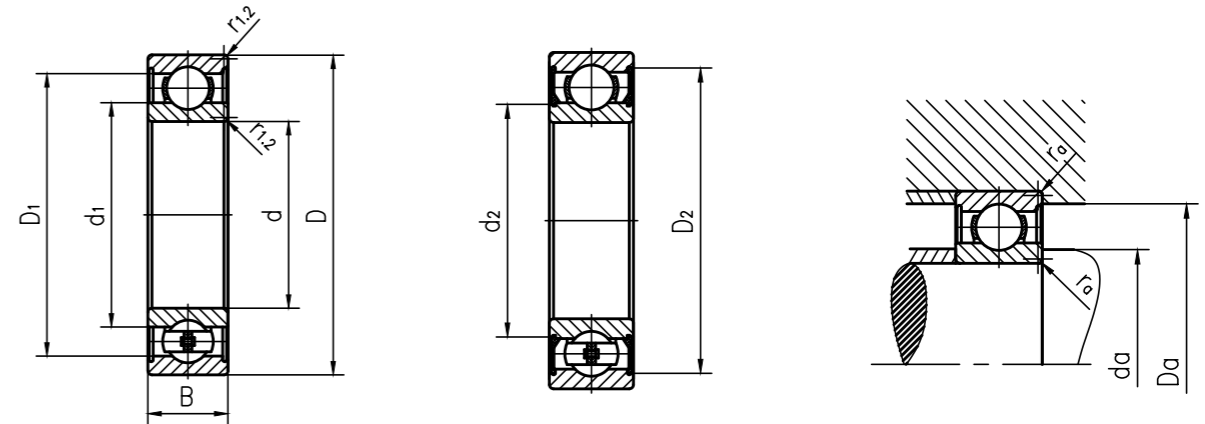


Type Bearing both sides of open or closed seal	One side closed seal	Main dimensions			Dimensions					Shoulder and chamfer dimensions			
		d	D	B	$d_1$ ≈	$d_2$ ≈	$D_1$ ≈	$D_2$ ≈	$r_{1,2}$ Min.	$d_a$ Min.	$d_a$ Max.	$D_a$ Max.	$r_a$ Max.
		mm			mm					mm			
-	-	95	120	13	103	-	-	115	1	100	102	115	1
61819-2RS1	-	95	120	13	103	-	-	115	1	100	-	115	1
61819	-	95	120	13	103	-	-	115	1	100	-	115	1
61919-2RS1	-	95	130	18	106	-	-	122	1.1	101	105	124	1
61919	-	95	130	18	106	-	119	-	1.1	101	-	124	1
16019	-	95	145	16	111	-	-	129	-	100	-	140	1
6019	-	95	145	24	111	-	-	134	1.5	102	-	138	1.5
6019-2RS1	-	95	145	24	111	-	-	134	1.5	102	111	138	1.5
6019-2Z	6019-Z	95	145	24	111	-	-	134	1.5	102	111	138	1.5
6219	-	95	170	32	118	-	-	152	2.1	107	-	158	2
6219 M	-	95	170	32	118	-	-	152	2.1	107	-	158	2
6219-2RS1	6219-RS1	95	170	32	118	-	-	152	2.1	107	118	158	2
6219-2Z	6219-Z	95	170	32	118	-	-	152	2.1	107	118	158	2
6319	-	95	200	45	127	-	-	172	3	109	-	186	2.5
6319 M	-	95	200	45	127	-	-	172	3	109	-	186	2.5
6319-2RS1	6319-RS1	95	200	45	127	-	-	172	3	109	127	186	2.5
6319-2Z	6319-Z	95	200	45	127	-	-	172	3	109	127	186	2.5
61820-2RS1	-	100	125	13	108	-	-	120	1	105	107	120	1
61820-2RZ	-	100	125	13	108	-	-	120	1	105	107	120	1
61820	-	100	125	13	108	-	-	120	1	105	-	120	1
61920	-	100	140	20	112	-	128	-	1.1	106	-	134	1
16020	-	100	150	16	116	-	134	-	1	105	-	145	1
6020M	-	100	150	24	115	-	-	139	1.5	107	-	143	1.5
6020	-	100	150	24	115	-	-	139	1.5	107	-	143	1.5
6020-2RS1	6020-RS1	100	150	24	115	-	-	139	1.5	107	115	143	1.5
6020-2Z	6020-Z	100	150	24	115	-	-	139	1.5	107	115	143	1.5
6220	-	100	180	34	124	-	-	160	2.1	112	-	168	2
6220 M	-	100	180	34	124	-	-	160	2.1	112	-	168	2
6220-2RS1	6220-RS1	100	180	34	124	-	-	160	2.1	112	124	168	2
6220-2Z	6220-Z	100	180	34	124	-	-	160	2.1	112	124	168	2
6320	-	100	215	47	135	-	-	184	3	114	-	201	2.5
6320 M	-	100	215	47	135	-	-	184	3	114	-	201	2.5
6320-2RS1	6320-RS1	100	215	47	135	-	-	184	3	114	135	201	2.5
6320-2Z	6320-Z	100	215	47	135	-	-	184	3	114	135	201	2.5
61821-2RS1	-	105	130	13	112	-	-	125	1	110	112	125	1

Type Bearing both sides of open or closed seal	One side closed seal	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient	
			Dynamic	Static				$K_f$	$f_o$
		kg	kN		$P_u$	r/min			
-	-	0.31	20.90	18.48	0.98	-	3150	0.015	13
61819-2RS1	-	0.31	20.90	18.48	0.98	-	3150	0.015	13
61819	-	0.29	20.90	18.48	0.98	11550	7035	0.015	13
61919-2RS1	-	0.65	35.49	35.18	1.41	-	3150	0.02	17
61919	-	0.61	35.49	35.18	1.41	10500	6615	0.02	17
16019	-	0.89	47.15	43.58	1.71	9975	6300	0.02	16
6019	-	1.2	66.89	56.70	2.18	9975	6300	0.025	16
6019-2RS1	-	1.25	66.89	56.70	2.18	-	2940	0.025	16
6019-2Z	6019-Z	1.25	66.89	56.70	2.18	9975	5040	0.025	16
6219	-	2.65	119.70	85.58	3.15	8400	5250	0.025	14
6219 M	-	3.2	119.70	85.58	3.15	8400	5250	0.025	14
6219-2RS1	6219-RS1	2.7	119.70	85.58	3.15	-	2520	0.025	14
6219-2Z	6219-Z	2.7	119.70	85.58	3.15	8400	4200	0.025	14
6319	-	5.75	166.95	123.90	4.36	7350	4725	0.03	13
6319 M	-	7.05	166.95	123.90	4.36	7350	6615	0.03	13
6319-2RS1	6319-RS1	5.85	166.95	123.90	4.36	-	2310	0.03	13
6319-2Z	6319-Z	5.85	166.95	123.90	4.36	7350	3780	0.03	13
61820-2RS1	-	0.32	18.69	19.22	1	-	3150	0.015	13
61820-2RZ	-	0.32	18.69	19.22	1.00	10500	5565	0.015	13
61820	-	0.3	18.69	19.22	1.00	10500	6615	0.015	13
61920	-	0.83	44.42	43.58	1.71	9975	6300	0.02	16
16020	-	0.94	48.51	46.20	1.79	9975	5880	0.02	17
6020M	-	1.45	66.89	56.70	2.14	9975	7875	0.025	16
6020	-	1.25	66.89	56.70	2.14	9975	5880	0.025	16
6020-2RS1	6020-RS1	1.3	66.89	56.70	2.14	-	2730	0.025	16
6020-2Z	6020-Z	1.3	66.89	56.70	2.14	9975	4725	0.025	16
6220	-	3.2	133.35	97.65	3.52	7875	5040	0.025	14
6220 M	-	3.8	133.35	97.65	3.52	7875	7350	0.025	14
6220-2RS1	6220-RS1	3.3	133.35	97.65	3.52	-	2520	0.025	14
6220-2Z	6220-Z	3.3	133.35	97.65	3.52	7875	3990	0.025	14
6320	-	7.1	182.70	147.00	4.99	7035	4515	0.03	13
6320 M	-	8.7	182.70	147.00	4.99	7035	6300	0.03	13
6320-2RS1	6320-RS1	7.2	182.70	147.00	4.99	-	2100	0.03	13
6320-2Z	6320-Z	7.3	182.70	147.00	4.99	7035	3570	0.03	13
61821-2RS1	-	0.33	21.84	20.58	1.05	-	2940	0.015	13

# Deep Groove Ball Bearings

## Single row deep groove ball bearings

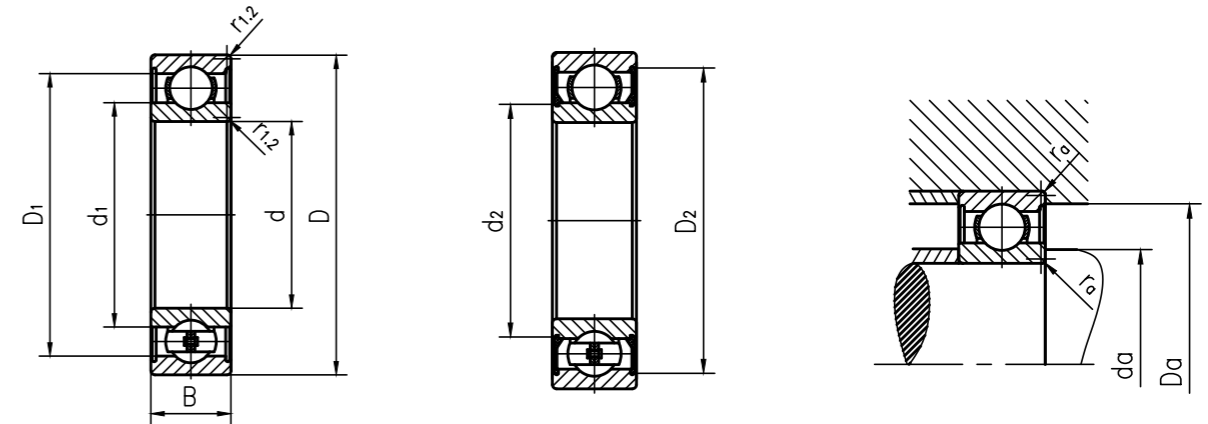


Type Bearing both sides of open or closed seal	One side closed seal	Main dimensions			Dimensions					Shoulder and chamfer dimensions			
		d	D	B	$d_1$ ≈	$d_2$ ≈	$D_1$ ≈	$D_2$ ≈	$r_{1,2}$ Min.	$d_a$ Min.	$d_a$ Max.	$D_a$ Max.	$r_a$ Max.
-	-	mm			mm					mm			
61821-2RZ	-	105	130	13	112	-	-	125	1	110	112	125	1
61821	-	105	130	13	112	-	-	125	1	110	-	125	1
61921	-	105	145	20	117	-	133	-	1.1	111	-	139	1
16021	-	105	160	18	123	-	142	-	1	110	-	155	1
6021	-	105	160	26	122	-	-	147	2	116	-	149	2
6021 M	-	105	160	26	122	-	-	147	2	116	-	149	2
6021-2RS1	6021-RS1	105	160	26	122	-	-	147	2	116	122	149	2
6021-2Z	6021-Z	105	160	26	122	-	-	147	2	116	122	149	2
6221	-	105	190	36	131	-	-	167	2.1	117	-	178	2
6221-2Z	6221-Z	105	190	36	131	-	-	167	2.1	117	131	178	2
6321-2Z	6321-Z	105	225	49	141	-	-	194	3	119	140	211	2.5
6321	-	105	225	49	141	-	188	-	3	119	-	211	2.5
61822-2RS1	-	110	140	16	118	-	-	135	1	115	118	135	1
61822-2RZ	-	110	140	16	118	-	-	135	1	115	118	135	1
61822	-	110	140	16	118	-	-	135	1	115	-	135	1
61922	-	110	150	20	122	-	138	-	1.1	116	-	144	1
61922 MA	-	110	150	20	122	-	-	81.5	1.1	116	-	144	1
16022	-	110	170	19	130	-	150	-	1	115	-	165	1
6022	-	110	170	28	129	-	-	156	2	119	-	161	2
6022 M	-	110	170	28	129	-	-	156	2	119	-	161	2
6022-2RS1	6022-RS1	110	170	28	129	-	-	156	2	119	128	161	2
6022-2Z	6022-Z	110	170	28	129	-	-	156	2	119	128	161	2
6222	-	110	200	38	138	-	-	177	2.1	122	-	188	2
6222-2RS1	6222-RS1	110	200	38	138	-	-	177	2.1	122	137	188	2
6222-2Z	6222-Z	110	200	38	138	-	-	177	2.1	122	137	188	2
6322	-	110	240	50	149	-	200	-	3	124	-	226	2.5
6322 M	-	110	240	50	149	-	200	-	3	124	-	226	2.5
61824-2RS1	-	120	150	16	128	-	-	145	1	125	128	145	1
61824-2RZ	-	120	150	16	128	-	-	145	1	125	128	145	1
61824	-	120	150	16	128	-	-	145	1	125	-	145	1
61924	-	120	165	22	134	-	151	-	1.1	126	-	159	1
61924 MA	-	120	165	22	134	-	152	-	1.1	126	-	159	1
16024	-	120	180	19	139	-	161	-	1	125	-	175	1
6024 MA	-	120	180	28	139	-	-	166	2	129	-	171	2

Type Bearing both sides of open or closed seal	One side closed seal	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient	
			Dynamic	Static				$K_r$	$f_o$
-	-	kg	kN		-	r/min	-		
61821-2RZ	-	0.33	21.84	20.58	1.05	10500	5250	0.015	13
61821	-	0.31	21.84	20.58	1.05	10500	6615	0.015	13
61921	-	0.87	46.41	46.20	1.79	9975	5880	0.02	17
16021	-	1.2	56.70	53.55	1.95	8925	5565	0.02	16
6021	-	1.6	79.91	68.78	2.52	8925	5565	0.025	16
6021 M	-	1.85	79.91	68.78	2.52	8925	7875	0.025	16
6021-2RS1	6021-RS1	1.65	79.91	68.78	2.52	-	2520	0.025	16
6021-2Z	6021-Z	1.65	79.91	68.78	2.52	8925	4515	0.025	16
6221	-	3.8	147.00	109.20	3.83	7350	4725	0.025	14
6221-2Z	6221-Z	3.9	147.00	109.20	3.83	7350	3780	0.025	14
6321-2Z	6321-Z	8.25	191.10	160.65	5.36	6615	3360	0.03	13
6321	-	8.2	191.10	160.65	5.36	6615	4200	0.03	13
61822-2RS1	-	0.6	29.51	27.30	1.31	-	2730	0.015	14
61822-2RZ	-	0.6	29.51	27.30	1.31	9975	4725	0.015	14
61822	-	0.47	29.51	27.30	1.31	9975	5880	0.015	14
61922	-	0.9	45.78	47.25	1.74	9450	5880	0.02	17
61922 MA	-	1.05	45.78	47.25	1.74	9450	7875	0.02	17
16022	-	1.45	63.53	59.85	2.14	8400	5250	0.02	16
6022	-	1.95	89.46	77.18	2.73	8400	5250	0.025	16
6022 M	-	2.3	89.46	77.18	2.73	8400	7350	0.025	16
6022-2RS1	6022-RS1	2	89.46	77.18	2.73	-	2520	0.025	16
6022-2Z	6022-Z	2.05	89.46	77.18	2.73	8400	4200	0.025	16
6222	-	4.45	158.55	123.90	4.20	7035	4515	0.025	14
6222-2RS1	6222-RS1	4.6	158.55	123.90	4.20	-	2100	0.025	14
6222-2Z	6222-Z	4.6	158.55	123.90	4.20	7035	3570	0.025	14
6322	-	9.65	213.15	189.00	5.99	6300	3990	0.03	13
6322 M	-	11.5	213.15	189.00	5.99	6300	5565	0.03	13
61824-2RS1	-	0.65	30.56	29.40	1.35	-	2520	0.015	14
61824-2RZ	-	0.65	30.56	29.40	1.35	8925	4515	0.015	14
61824	-	0.51	30.56	29.40	1.35	8925	5565	0.015	14
61924	-	1.2	58.07	59.85	2.14	8400	5250	0.02	17
61924 MA	-	1.4	58.07	59.85	2.14	8400	7035	0.02	17
16024	-	1.55	66.89	67.20	2.31	7875	5040	0.02	17
6024 MA	-	2.45	92.82	84.00	2.89	7875	6615	0.025	16

# Deep Groove Ball Bearings

## Single row deep groove ball bearings



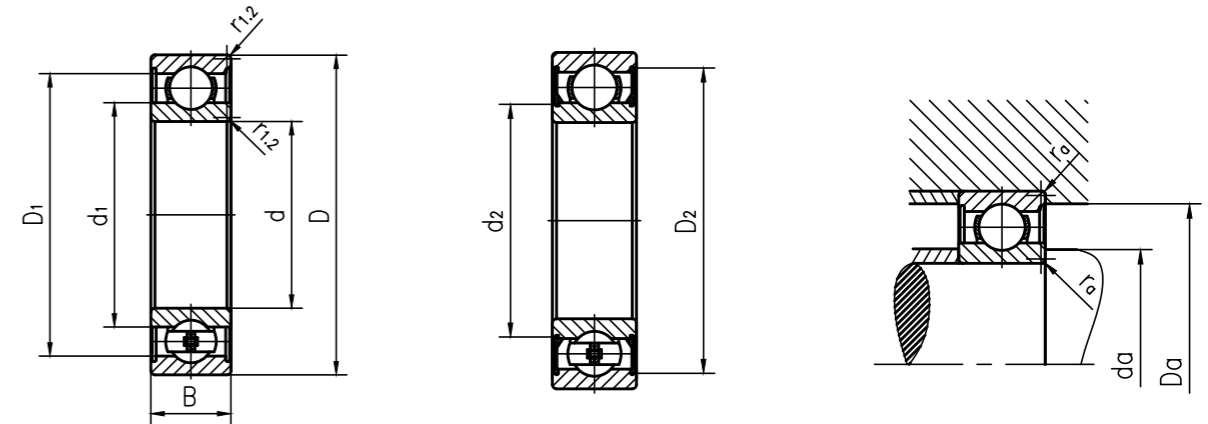
Type Bearing both sides of open or closed seal	One side closed seal	Main dimensions			Dimensions					Shoulder and chamfer dimensions			
		d	D	B	$d_1$ ≈	$d_2$ ≈	$D_1$ ≈	$D_2$ ≈	$r_{1,2}$ Min.	$d_a$ Min.	$d_a$ Max.	$D_a$ Max.	$r_a$ Max.
		mm			mm					mm			
-	-												
6024	-	120	180	28	139	-	-	166	2	129	-	171	2
6024-2RS1	6024-RS1	120	180	28	139	-	-	166	2	129	139	171	2
6024-2Z	6024-Z	120	180	28	139	-	-	166	2	129	139	171	2
6224	-	120	215	40	150	-	185	-	2.1	132	-	203	2
6224 M	-	120	215	40	150	-	185	-	2.1	132	-	203	2
6224-2RS1	6224-RS1	120	215	40	150	-	-	190	2.1	132	150	203	2
6224-2Z	6224-Z	120	215	40	150	-	-	190	2.1	132	150	203	2
6324	-	120	260	55	164	-	215	-	3	134	-	246	2.5
6324 M	-	120	260	55	164	-	215	-	3	134	-	246	2.5
6324-2RS1	6324-RS1	120	260	55	164	-	-	221	3	134	164	246	2.5
6324-2Z	6324-Z	120	260	55	164	-	-	221	3	134	164	246	2.5
61826-2RS1	-	130	165	18	140	-	-	158	1.1	136	139	159	1
61826-2RZ	-	130	165	18	140	-	-	158	1.1	136	139	159	1
61826	-	130	165	18	140	-	-	158	1.1	136	-	159	1
61926	-	130	180	24	145	-	164	-	1.5	137	-	173	1.5
16026	-	130	200	22	153	-	176	-	1.1	136	-	192	1
6026 M	-	130	200	33	152	-	-	182	2	139	-	191	2
6026	-	130	200	33	152	-	-	182	2	139	-	191	2
6026-2RS1	6026-RS1	130	200	33	152	-	-	182	2	139	152	191	2
6026-2Z	6026-Z	130	200	33	152	-	-	182	2	139	152	191	2
6226 M	-	130	230	40	160	-	198	-	3	144	-	216	2.5
6226	-	130	230	40	160	-	198	-	3	144	-	216	2.5
6226-2RS1	6226-RS1	130	230	40	160	-	-	203	3	144	160	216	2.5
6226-2Z	6226-Z	130	230	40	160	-	-	203	3	144	160	216	2.5
6326	-	130	280	58	177	-	232	-	4	147	-	263	3
6326 M	-	130	280	58	177	-	232	-	4	147	-	263	3
61828-2RS1	-	140	175	18	150	-	-	167	1.1	146	150	169	1
61828-2RZ	-	140	175	18	150	-	-	167	1.1	146	150	169	1
61828	-	140	175	18	150	-	-	167	2.5	146	-	169	1
61928	-	140	190	24	156	-	174	-	1.5	147	-	183	1.5
61928 MA	-	140	190	24	156	-	175	-	1.5	147	-	183	1.5
16028	-	140	210	22	163	-	186	-	1.1	146	-	204	1
6028M	-	140	210	33	162	-	-	192	2	149	-	201	2
6028	-	140	210	33	162	-	-	192	2	149	-	201	2

Type Bearing both sides of open or closed seal	One side closed seal	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient	
			Dynamic	Static				$K_r$	$f_o$
		kg	kN		$P_u$	r/min			
-	-								
6024	-	2.1	92.82	84.00	2.89	7875	5040	0.025	16
6024-2RS1	6024-RS1	2.15	92.82	84.00	2.89	-	2310	0.025	16
6024-2Z	6024-Z	2.2	92.82	84.00	2.89	7875	3990	0.025	16
6224	-	5.25	153.30	123.90	4.10	6615	4200	0.025	14
6224 M	-	6.1	153.30	123.90	4.10	6615	5880	0.025	14
6224-2RS1	6224-RS1	5.35	153.30	123.90	4.10	-	1995	0.025	14
6224-2Z	6224-Z	5.35	153.30	123.90	4.10	6615	3360	0.025	14
6324	-	12.5	218.40	195.30	5.99	5880	3570	0.03	14
6324 M	-	14	218.40	195.30	5.99	5880	5250	0.03	14
6324-2RS1	6324-RS1	12.5	218.40	195.30	5.99	-	1785	0.03	14
6324-2Z	6324-Z	12.5	218.40	195.30	5.99	5880	2940	0.03	14
61826-2RS1	-	0.93	39.59	45.15	1.68	-	2310	0.015	16
61826-2RZ	-	0.93	39.59	45.15	1.68	8400	3990	0.015	16
61826	-	0.75	39.59	45.15	1.68	8400	5040	0.015	16
61926	-	1.6	68.25	70.35	2.39	7875	4725	0.02	16
16026	-	2.35	87.36	85.58	2.84	7350	4515	0.02	16
6026 M	-	3.75	117.60	105.00	3.52	7350	5880	0.025	16
6026	-	3.3	117.60	105.00	3.52	7350	4515	0.025	16
6026-2RS1	6026-RS1	3.3	117.60	105.00	3.52	-	2100	0.025	16
6026-2Z	6026-Z	3.35	117.60	105.00	3.52	7350	3570	0.025	16
6226 M	-	6.95	163.80	138.60	4.36	5880	5565	0.025	15
6226	-	5.85	163.80	138.60	4.36	5880	3780	0.025	15
6226-2RS1	6226-RS1	6	163.80	138.60	4.36	-	1890	0.025	15
6226-2Z	6226-Z	6	163.80	138.60	4.36	5880	3150	0.025	15
6326	-	15	240.45	226.80	6.62	5250	3360	0.03	14
6326 M	-	17.5	240.45	226.80	6.62	5250	4725	0.03	14
61828-2RS1	-	0.99	40.95	48.83	1.74	-	2100	0.015	16
61828-2RZ	-	0.99	40.95	48.83	1.74	7875	3780	0.015	16
61828	-	0.82	40.95	48.83	1.74	7875	4725	0.015	16
61928	-	1.7	69.62	75.60	2.48	7350	4515	0.02	15
61928 MA	-	2	69.62	75.60	2.48	7350	5880	0.02	17
16028	-	2.55	84.63	90.83	2.94	7035	4200	0.02	17
6028M	-	4	116.55	113.40	3.62	7035	5565	0.025	16
6028	-	3.45	116.55	113.40	3.62	7035	4200	0.025	16



# Deep Groove Ball Bearings

## Single row deep groove ball bearings

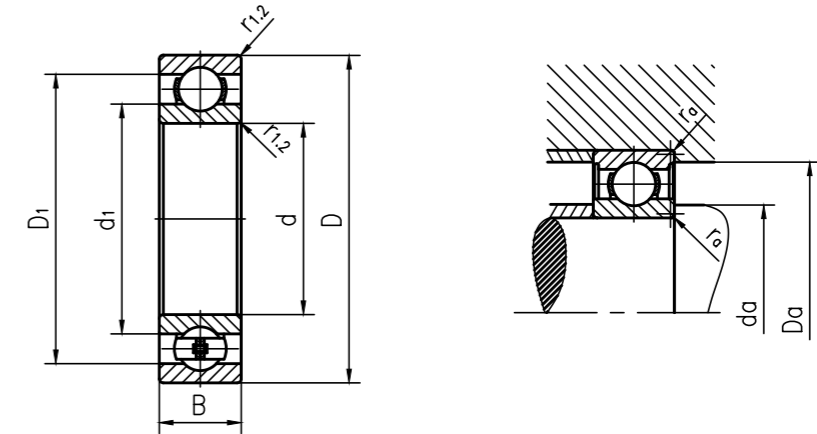


Type Bearing both sides of open or closed seal	One side closed seal	Main dimensions			Dimensions					Shoulder and chamfer dimensions			
		d	D	B	$d_1$ ≈	$d_2$ ≈	$D_1$ ≈	$D_2$ ≈	$r_{1.2}$ Min.	$d_a$ Min.	$d_a$ Max.	$D_a$ Max.	$r_a$ Max.
-	-	mm			mm					mm			
6028-2RS1	6028-RS1	140	210	33	162	-	-	192	2	149	162	201	2
6028-2Z	6028-Z	140	210	33	162	-	-	192	2	149	162	201	2
6228	-	140	250	42	175	-	213	-	3	154	-	236	2.5
6228MA	-	140	250	42	175	-	214	-	3	154	-	236	2.5
6328	-	140	300	62	190	-	249	-	4	157	-	283	3
6328M	-	140	300	62	190	-	249	-	4	157	-	283	3
61830	-	150	190	20	162	-	178	-	2.5	156	-	184	1
61830MA	-	150	190	20	162	-	178	-	1.1	156	-	184	1
61930MA	-	150	210	28	169	-	192	-	2	159	-	201	2
16030	-	150	225	24	174	-	200	-	1.1	156	-	219	1
6030M	-	150	225	35	174	-	-	206	2.1	160	-	215	2
6030	-	150	225	35	174	-	-	206	2.1	160	-	215	2
6030-2RS1	6030-RS1	150	225	35	174	-	-	206	2.1	160	173	215	2
6030-2Z	6030-Z	150	225	35	174	-	-	206	2.1	160	173	215	2
6230	-	150	270	45	190	-	228	-	3	164	-	256	2.5
6230 M	-	150	270	45	190	-	228	-	3	164	-	256	2.5
6330	-	150	320	65	205	-	264	-	4	167	-	303	3
6330M	-	150	320	65	205	-	264	-	4	167	-	303	3
61832	-	160	200	20	172	-	188	-	1.1	166	-	194	1
61932	-	160	220	28	179	-	201	-	2	169	-	211	2
61932 MA	-	160	220	28	179	-	202	-	2	169	-	211	2
16032	-	160	240	25	185	-	214	-	1.5	167	-	233	1.5
6032M	-	160	240	38	185	-	-	219	2.1	169	-	231	2
6032	-	160	240	38	185	-	-	219	2.1	169	-	231	2
6032-2RS1	6032-RS1	160	240	38	185	-	-	219	2.1	169	185	231	2
6032-2Z	6032-Z	160	240	38	185	-	-	219	2.1	169	185	231	2
6232	-	160	290	48	205	-	243	-	3	174	-	276	2.5
6232 M	-	160	290	48	205	-	243	-	3	174	-	276	2.5
6332	-	160	340	68	218	-	281	-	4	177	-	323	3
6332 M	-	160	340	68	218	-	281	-	4	177	-	323	3
61834	-	170	215	22	184	-	202	-	1.1	176	-	209	1
61934 MA	-	170	230	28	189	-	212	-	2	179	-	221	2
16034	-	170	260	28	200	-	229	-	1.5	177	-	253	1.5
6034	-	170	260	42	198	-	232	-	2.1	180	-	250	2

Type Bearing both sides of open or closed seal	One side closed seal	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient	
			Dynamic	Static				$K_r$	$f_o$
-	-	kg	kN		$P_u$	r/min	-	-	
6028-2RS1	6028-RS1	3.55	116.55	113.40	3.62	-	1890	0.025	16
6028-2Z	6028-Z	3.55	116.55	113.40	3.62	7035	3360	0.025	16
6228	-	7.75	173.25	157.50	4.78	5565	3570	0.025	15
6228MA	-	9.4	173.25	157.50	4.78	5565	5040	0.025	15
6328	-	18.5	263.55	257.25	7.46	5040	3150	0.03	14
6328M	-	21	263.55	257.25	7.46	5040	4515	0.03	14
61830	-	1.2	51.24	64.05	2.06	7035	4515	0.015	17
61830MA	-	1.35	51.24	64.05	2.06	7035	4515	0.015	17
61930MA	-	3.05	92.82	97.65	3.05	6615	5565	0.02	16
16030	-	3.15	96.81	102.90	3.20	6300	3990	0.02	17
6030M	-	4.9	131.25	131.25	4.10	6300	5250	0.025	16
6030	-	4.3	131.25	131.25	4.10	6300	3990	0.025	16
6030-2RS1	6030-RS1	4.35	131.25	131.25	4.10	-	1785	0.025	16
6030-2Z	6030-Z	4.4	131.25	131.25	4.10	6300	3150	0.025	16
6230	-	10	182.70	174.30	5.15	5250	3360	0.025	15
6230 M	-	11.5	182.70	174.30	5.15	5250	4725	0.025	15
6330	-	23	289.80	299.25	8.19	4515	2940	0.03	14
6330M	-	25.5	289.80	299.25	8.19	4515	4200	0.03	14
61832	-	1.25	51.87	67.20	2.1	6615	4200	0.015	17
61932	-	2.7	96.92	102.90	3.20	6300	3990	0.02	17
61932 MA	-	3.2	96.92	102.90	3.20	6300	5250	0.02	17
16032	-	3.65	104.48	113.40	3.41	5880	3780	0.02	17
6032M	-	6	150.15	150.15	4.52	5880	5040	0.025	16
6032	-	5.2	150.15	150.15	4.52	5880	3780	0.025	16
6032-2RS1	6032-RS1	5.3	150.15	150.15	4.52	-	1680	0.025	16
6032-2Z	6032-Z	5.4	150.15	150.15	4.52	5880	2940	0.025	16
6232	-	13	195.30	195.30	5.57	4725	3150	0.025	15
6232 M	-	14	195.30	195.30	5.57	4725	4515	0.025	15
6332	-	26	289.80	299.25	8.03	4200	2730	0.03	14
6332 M	-	30	289.80	299.25	8.03	4200	3990	0.03	14
61834	-	1.65	64.89	81.90	2.52	6300	3780	0.015	17
61934 MA	-	3.35	98.28	111.30	3.31	5880	5040	0.02	17
16034	-	5	124.95	135.45	3.94	5565	3360	0.02	16
6034	-	7	176.40	181.65	5.25	5565	3360	0.025	16

# Deep Groove Ball Bearings

Single row deep groove ball bearings

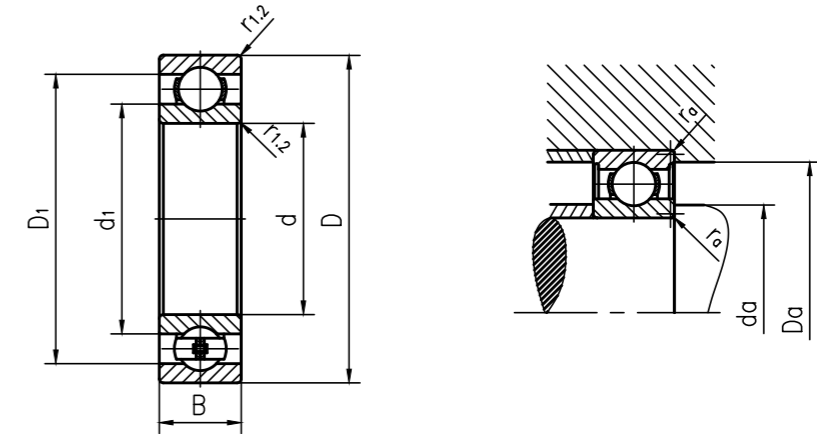


Type Bearing both sides of open or closed seal	One side closed seal	Main dimensions			Dimensions					Shoulder and chamfer dimensions			
		d	D	B	d <sub>1</sub> ≈	d <sub>2</sub> ≈	D <sub>1</sub> ≈	D <sub>2</sub> ≈	r <sub>1,2</sub> Min.	d <sub>a</sub> Min.	d <sub>a</sub> Max.	D <sub>a</sub> Max.	r <sub>a</sub> Max.
		mm			mm					mm			
-	-												
6034M	-	170	260	42	198	-	232	-	2.1	180	-	250	2
6234	-	170	310	52	218	-	259	-	4	187	-	293	3
6234 M	-	170	310	52	218	-	259	-	4	187	-	293	3
6334	-	170	360	72	230	-	299	-	4	187	-	343	3
6334 M	-	170	360	72	230	-	299	-	4	187	-	343	3
61836	-	180	225	22	194	-	211	-	1.1	186	-	219	1
61936	-	180	250	33	202	-	228	-	2	189	-	241	2
61936 MA	-	180	250	33	202	-	229	-	2	189	-	241	2
16036	-	180	280	31	213	-	246	-	2	189	-	271	2
6036	-	180	280	46	212	-	248	-	2.1	190	-	270	2
6036 M	-	180	280	46	212	-	248	-	2.1	190	-	270	2
6236	-	180	320	52	226	-	274	-	4	197	-	303	3
6236 M	-	180	320	52	226	-	274	-	4	197	-	303	3
6336	-	180	380	75	244	-	315	-	4	197	-	363	3
6336 M	-	180	380	75	244	-	315	-	4	197	-	363	3
61838	-	190	240	24	206	-	224	-	1.5	197	-	233	1.5
61938	-	190	260	33	212	-	238	-	2	199	-	251	2
61938 MA	-	190	260	33	212	-	239	-	2	199	-	251	2
16038	-	190	290	31	223	-	256	-	2	199	-	281	2
6038	-	190	290	46	222	-	258	-	2.1	200	-	280	2
6038 M	-	190	290	46	222	-	258	-	2.1	200	-	280	2
6238	-	190	340	55	239	-	290	-	4	207	-	323	3
6238 M	-	190	340	55	239	-	290	-	4	207	-	323	3
6338	-	190	400	78	259	-	331	-	5	210	-	380	4
6338 M	-	190	400	78	259	-	331	-	5	210	-	380	4
61840	-	200	250	24	216	-	234	-	1.5	207	-	243	1.5
61940	-	200	280	38	225	-	255	-	2.1	210	-	270	2
61940 MA	-	200	280	38	225	-	256	-	2.1	210	-	270	2
16040	-	200	310	34	237	-	273	-	2	209	-	301	2
6040	-	200	310	51	235	-	275	-	2.1	210	-	300	2
6040 M	-	200	310	51	235	-	275	-	2.1	210	-	300	2
6240	-	200	360	58	254	-	303	-	4	217	-	343	3
6240 M	-	200	360	58	254	-	303	-	4	217	-	343	3
61844	-	220	270	24	236	-	254	-	1.5	227	-	263	1.5

Type Bearing both sides of open or closed seal	One side closed seal	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient	
			Dynamic	Static				K <sub>r</sub>	f <sub>0</sub>
		kg	kN		P <sub>u</sub>	r/min			
-	-								
6034M	-	8.15	176.40	181.65	5.25	5565	4515	0.025	16
6234	-	16	222.60	235.20	6.41	4515	2940	0.025	15
6234 M	-	17.5	222.60	235.20	6.41	4515	3990	0.025	15
6334	-	31	327.60	357.00	9.24	3990	2520	0.03	14
6334 M	-	35	327.60	357.00	9.24	3990	3570	0.03	14
61836	-	1.75	65.52	85.58	2.57	5880	3570	0.015	17
61936	-	5	124.95	140.70	4.10	5565	3360	0.02	17
61936 MA	-	5	124.95	140.70	4.10	5565	4515	0.02	17
16036	-	6.5	144.90	153.30	4.36	5040	3150	0.02	16
6036	-	9.1	199.50	210.00	5.88	5040	3150	0.025	16
6036 M	-	10.5	199.50	210.00	5.88	5040	4200	0.025	16
6236	-	16	240.45	252.00	6.72	4200	2730	0.025	15
6236 M	-	18	240.45	252.00	6.72	4200	3990	0.025	15
6336	-	36.5	368.55	425.25	10.92	3780	2310	0.03	14
6336 M	-	41	368.55	425.25	10.92	3780	3360	0.03	14
61838	-	2.25	79.91	102.90	2.94	5565	3360	0.015	17
61938	-	4.5	122.85	140.70	3.99	5250	3360	0.02	17
61938 MA	-	5.2	122.85	140.70	3.99	5250	4515	0.02	17
16038	-	6.9	155.40	174.30	4.78	5040	3150	0.02	16
6038	-	9.55	204.75	226.80	6.14	5040	3150	0.025	16
6038 M	-	11	204.75	226.80	6.14	5040	3990	0.025	16
6238	-	19.5	267.75	294.00	7.72	3990	2520	0.025	15
6238 M	-	21.5	267.75	294.00	7.72	3990	3570	0.025	15
6338	-	42	389.55	451.50	11.34	3570	2310	0.03	14
6338 M	-	47.5	389.55	451.50	11.34	3570	3150	0.03	14
61840	-	2.35	79.91	107.10	3.05	5250	3360	0.015	17
61940	-	6.3	155.40	174.30	4.78	5040	3150	0.02	16
61940 MA	-	7.3	155.40	174.30	4.78	5040	3990	0.02	16
16040	-	8.8	176.40	199.50	5.36	4515	2940	0.02	16
6040	-	12.5	226.80	257.25	6.72	4515	2940	0.025	16
6040 M	-	14	226.80	257.25	6.72	4515	3780	0.025	16
6240	-	23.5	283.50	325.50	8.19	3780	2310	0.025	15
6240 M	-	26	283.50	325.50	8.19	3780	3360	0.025	15
61844	-	2.55	81.90	115.50	3.15	4725	2940	0.015	17

# Deep Groove Ball Bearings

## Single row deep groove ball bearings

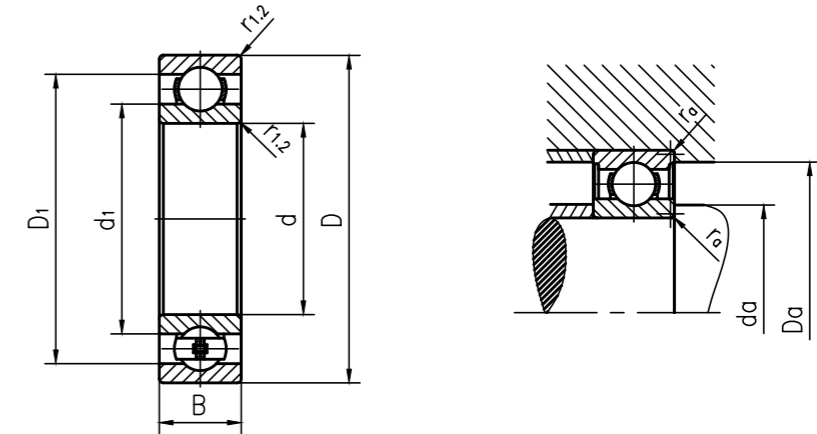


Type Bearing both sides of open or closed seal	One side closed seal	Main dimensions			Dimensions					Shoulder and chamfer dimensions			
		d	D	B	d <sub>1</sub> ≈	d <sub>2</sub> ≈	D <sub>1</sub> ≈	D <sub>2</sub> ≈	r <sub>1,2</sub> Min.	d <sub>a</sub> Min.	d <sub>a</sub> Max.	D <sub>a</sub> Max.	r <sub>a</sub> Max.
-	-	mm			mm					mm			
61944	-	220	300	38	245	-	275	-	2.1	230	-	290	2
61944 MA	-	220	300	38	245	-	276	-	2.1	230	-	290	2
16044	-	220	340	37	261	-	298	-	2.1	230	-	330	2
6044	-	220	340	56	258	-	302	-	3	233	-	327	2.5
6044 M	-	220	340	56	258	-	302	-	3	233	-	327	2.5
6244	-	220	400	65	282	-	335	-	4	237	-	383	3
6244 M	-	220	400	65	282	-	335	-	4	237	-	383	3
6344 M	-	220	460	88	301	-	379	-	5	240	-	440	4
61848	-	240	300	28	259	-	281	-	2	249	-	291	2
61948	-	240	320	38	265	-	295	-	2.1	250	-	310	2
61948 MA	-	240	320	38	265	-	296	-	2.1	250	-	310	2
16048	-	240	360	37	279	-	318	-	2.1	250	-	350	2
16048 MA	-	240	360	37	279	-	321	-	2.1	250	-	350	2
6048	-	240	360	56	277	-	322	-	3	253	-	347	2.5
6048 M	-	240	360	56	277	-	322	-	3	253	-	347	2.5
-	-	240	440	72	309	-	371	-	4	257	-	423	3
6348 M	-	240	500	95	331	-	409	-	5	260	-	480	4
61852	-	260	320	28	279	-	301	-	2	269	-	311	2
61952	-	260	360	46	291	-	329	-	2.1	270	-	350	2
61952 MA	-	260	360	46	291	-	330	-	2.1	270	-	350	2
16052	-	260	400	44	307	-	351	-	3	273	-	387	2.5
16052 MA	-	260	400	44	307	-	353	-	3	273	-	387	2.5
6052	-	260	400	65	304	-	356	-	4	277	-	383	3
6052 M	-	260	400	65	304	-	356	-	4	277	-	383	3
6252 M	-	260	480	80	337	-	403	-	5	280	-	460	4
61856	-	280	350	33	302	-	327	-	2	289	-	341	2
61856MA	-	280	350	33	302	-	328	-	3.8	289	-	341	2
61956	-	280	380	46	311	-	349	-	2.1	291	-	369	2
61956MA	-	280	380	46	311	-	350	-	2.1	291	-	369	2
16056	-	280	420	44	327	-	371	-	3	293	-	407	2.5
16056MA	-	280	420	44	327	-	374	-	3	293	-	407	2.5
6056	-	280	420	65	324	-	376	-	4	296	-	404	3
6056M	-	280	420	65	324	-	376	-	4	296	-	404	3
6256M	-	280	500	80	355	-	425	-	5	300	-	480	4

Type Bearing both sides of open or closed seal	One side closed seal	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient	
			Dynamic	Static				K <sub>r</sub>	f <sub>0</sub>
-	-	kg	kN		P <sub>u</sub>	r/min	-		
61944	-	6.8	158.55	189.00	4.99	4515	2730	0.02	17
61944 MA	-	7.95	158.55	189.00	4.99	4515	3780	0.02	17
16044	-	11.5	182.70	214.20	5.46	4200	2520	0.02	17
6044	-	16	259.35	304.50	7.72	4200	2520	0.025	16
6044 M	-	18.5	259.35	304.50	7.72	4200	3360	0.025	16
6244	-	33.5	310.80	383.25	9.24	3360	2100	0.025	15
6244 M	-	36.5	310.80	383.25	9.24	3360	3150	0.025	15
6344 M	-	73	430.50	546.00	12.60	3150	2730	0.03	14
61848	-	3.9	113.40	157.50	3.99	4200	2730	0.015	17
61948	-	7.3	166.95	210.00	5.36	4200	2520	0.02	17
61948 MA	-	8.55	166.95	210.00	5.36	4200	3360	0.02	17
16048	-	12.5	213.15	267.75	6.62	3780	2310	0.02	17
16048 MA	-	14	213.15	267.75	6.62	3780	3150	0.02	17
6048	-	17	267.75	330.75	8.19	3780	2310	0.025	16
6048 M	-	19.5	267.75	330.75	8.19	3780	3150	0.025	16
-	-	6248 M	375.90	488.25	11.34	3150	2730	0.025	15
6348 M	-	97	464.10	614.25	13.55	2730	2520	0.03	15
61852	-	4.15	116.55	171.15	4.2	3990	2520	0.015	17
61952	-	12	222.60	283.50	6.88	3780	2310	0.02	17
61952 MA	-	14.5	222.60	283.50	6.88	3780	3150	0.02	17
16052	-	18	249.90	325.50	7.56	3360	2100	0.02	16
16052 MA	-	22.5	249.90	325.50	7.56	3360	2940	0.02	16
6052	-	25	305.55	393.75	9.24	3360	2100	0.025	16
6052 M	-	29	305.55	393.75	9.24	3360	2940	0.025	16
6252 M	-	65.5	409.50	556.50	12.39	2730	2520	0.025	15
61856	-	6.25	144.90	210.00	4.99	3570	2310	0.015	17
61856MA	-	7.25	144.90	210.00	4.99	3570	2940	0.015	17
61956	-	12	226.80	299.25	7.04	3360	2100	0.02	17
61956MA	-	15.5	226.80	299.25	7.04	3360	2940	0.02	17
16056	-	19	254.10	351.75	7.88	3150	1995	0.02	17
16056MA	-	23.5	254.10	351.75	7.88	3150	2730	0.02	17
6056	-	26	317.10	425.25	9.77	3150	1995	0.025	16
6056M	-	31	317.10	425.25	9.77	3150	2730	0.025	16
6256M	-	72	444.15	630.00	13.55	2730	2310	0.025	15

# Deep Groove Ball Bearings

Single row deep groove ball bearings



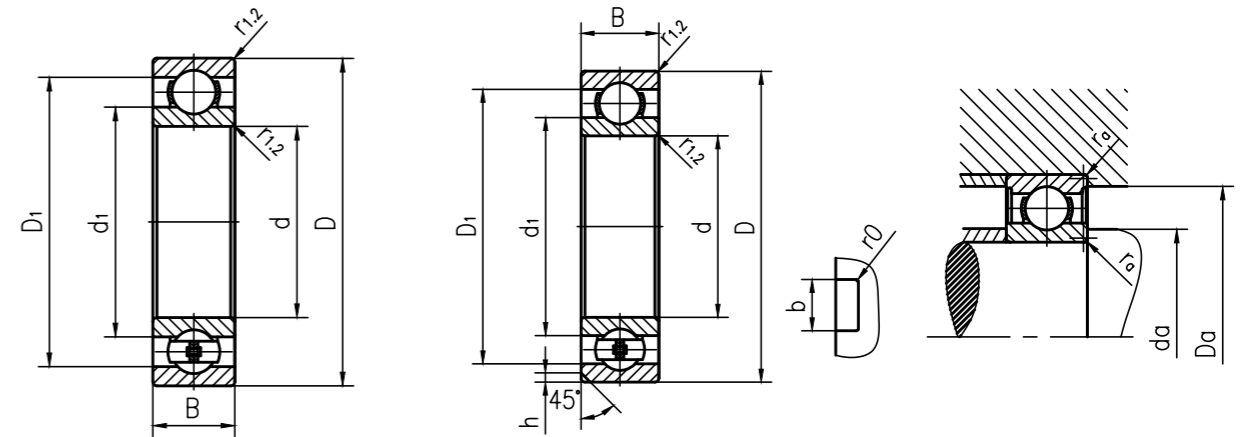
Type Bearing both sides of open or closed seal	One side closed seal	Main dimensions			Dimensions					Shoulder and chamfer dimensions			
		d	D	B	d <sub>1</sub> ≈	d <sub>2</sub> ≈	D <sub>1</sub> ≈	D <sub>2</sub> ≈	r <sub>1,2</sub> Min.	d <sub>a</sub> Min.	d <sub>a</sub> Max.	D <sub>a</sub> Max.	r <sub>a</sub> Max.
-	-	mm			mm					mm			
61860	-	300	380	38	325	-	355	-	2.1	309	-	371	2
61860MA	-	300	380	38	325	-	356	-	2.1	309	-	371	2
61960	-	300	420	56	338	-	382	-	3	313	-	407	2.5
61960MA	-	300	420	56	338	-	384	-	3	313	-	407	2.5
16060MA	-	300	460	50	352	-	407	-	4	315	-	445	3
6060M	-	300	460	74	351	-	409	-	4	315	-	445	3
6260M	-	300	540	85	383	-	457	-	5	320	-	520	4
61864	-	320	400	38	345	-	375	-	2.1	332	-	388	2
61864MA	-	320	400	38	345	-	376	-	2.1	332	-	388	2
61964MA	-	320	440	56	357	-	403	-	3	333	-	427	2.5
16064MA	-	320	480	50	372	-	428	-	4	335	-	465	3
6064M	-	320	480	74	370	-	431	-	4	335	-	465	3
61868	-	340	420	38	365	-	395	-	2.1	352	-	408	2
61868MA	-	340	420	38	365	-	396	-	2.1	352	-	408	2
61968MA	-	340	460	56	378	-	422	-	3	353	-	447	2.5
16068MA	-	340	520	57	398	-	462	-	4	355	-	505	3
6068M	-	340	520	82	397	-	463	-	5	360	-	500	4
61872MA	-	360	440	38	385	-	415	-	2.1	372	-	428	2
61972MA	-	360	480	56	398	-	443	-	3	373	-	467	2.5
16072MA	-	360	540	57	418	-	482	-	4	375	-	525	3
6072M	-	360	540	82	416	-	485	-	5	378	-	522	4
61876MA	-	380	480	46	412	-	449	-	2.1	392	-	468	2
61976MA	-	380	520	65	425	-	476	-	4	395	-	505	3
16076MA	-	380	560	57	443	-	497	-	4	395	-	545	3
6076M	-	380	560	82	437	-	503	-	5	400	-	542	4
61880MA	-	400	500	46	432	-	471	-	2.1	412	-	488	2
61980MA	-	400	540	65	445	-	496	-	4	415	-	525	3
6080M	-	400	600	90	463	-	537	-	5	418	-	582	4
61884MA	-	420	520	46	452	-	491	-	2.1	432	-	508	2
61984MA	-	420	560	65	465	-	516	-	4	435	-	545	3
6084M	-	420	620	90	482	-	557	-	5	438	-	602	4
61888MA	-	440	540	46	472	-	510	-	2.1	452	-	528	2
61988MA	-	440	600	74	492	-	549	-	4	455	-	585	3
6088M	-	440	650	94	506	-	584	-	6	463	-	627	5

Type Bearing both sides of open or closed seal	One side closed seal	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient	
			Dynamic	Static				K <sub>r</sub>	f <sub>0</sub>
-	-	kg	kN			r/min	-		
61860	-	8.9	180.60	257.25	5.88	3360	2100	0.015	17
61860MA	-	10.5	180.60	257.25	5.88	3360	2730	0.015	17
61960	-	19	283.50	393.75	8.72	3150	1995	0.02	16
61960MA	-	24.5	283.50	393.75	8.72	3150	2520	0.02	16
16060MA	-	32	300.30	425.25	9.24	2940	1890	0.02	16
6060M	-	44	375.90	525.00	11.34	2940	2520	0.025	16
6260M	-	88.5	485.10	703.50	14.39	2520	2100	0.025	15
61864	-	9.5	180.60	267.75	5.99	3150	1995	0.015	17
61864MA	-	11	180.60	267.75	5.99	3150	2520	0.015	17
61964MA	-	25.5	289.80	420.00	9.08	2940	2520	0.02	16
16064MA	-	34	295.05	425.25	9.08	2730	2310	0.02	17
6064M	-	46	389.55	567.00	11.97	2730	2310	0.025	16
61868	-	10	186.90	288.75	6.3	2940	1890	0.015	17
61868MA	-	11.5	186.90	288.75	6.30	2940	2520	0.015	17
61968MA	-	26.5	295.05	446.25	9.45	2730	2310	0.02	17
16068MA	-	45	362.25	546.00	11.13	2520	2100	0.02	16
6068M	-	62	444.15	672.00	13.86	2520	2310	0.025	16
61872MA	-	12	191.10	299.25	6.41	2730	2310	0.015	17
61972MA	-	28	305.55	472.50	9.61	2730	2310	0.02	17
16072MA	-	49	368.55	577.50	11.55	1890	1470	0.02	16
6072M	-	64.5	464.10	729.75	14.70	2520	1995	0.025	16
61876MA	-	20	254.10	409.50	8.4	2520	2100	0.015	17
61976MA	-	40	354.90	567.00	11.34	2520	1995	0.02	17
16076MA	-	51	395.85	651.00	12.81	2310	1470	0.02	17
6076M	-	70.5	457.80	729.75	14.39	2310	1890	0.025	16
61880MA	-	20.5	259.35	425.25	8.56	2520	1995	0.015	17
61980MA	-	41.5	362.25	598.50	11.76	2310	1890	0.02	17
6080M	-	87.5	546.00	908.25	17.12	2100	1785	0.025	16
61884MA	-	21.5	263.55	446.25	8.72	2310	1890	0.015	17
61984MA	-	43	368.55	630.00	11.97	2310	1890	0.02	17
6084M	-	91.5	532.35	924.00	17.12	2100	1680	0.025	16
61888MA	-	22.5	267.75	462.00	8.93	2310	1890	0.015	17
61988MA	-	60.5	430.50	756.00	13.86	2100	1680	0.02	17
6088M	-	105	580.65	1013.25	18.48	1995	1575	0.025	16



# Deep Groove Ball Bearings

## Single row deep groove ball bearings

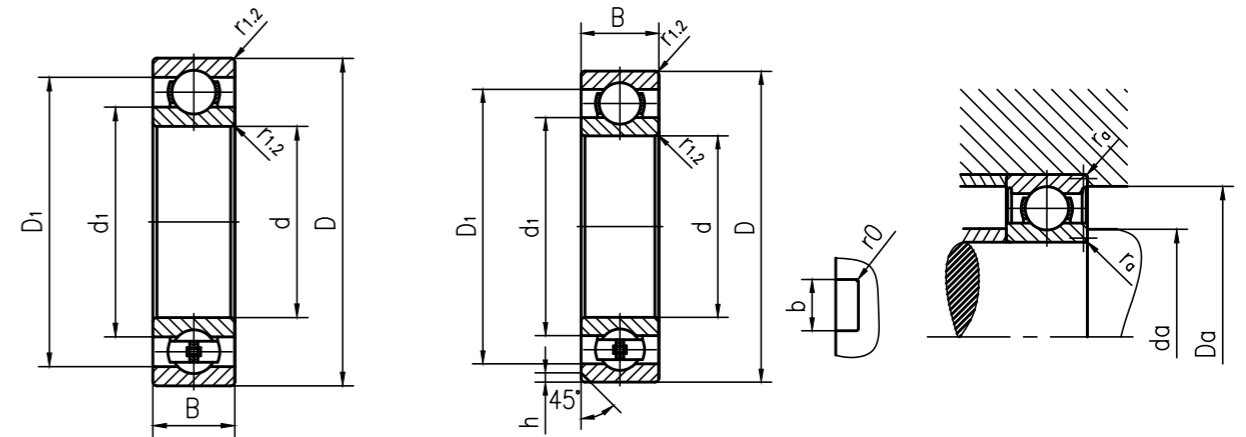


Type Bearing both sides of open or closed seal	One side closed seal	Main dimensions			Dimensions					Shoulder and chamfer dimensions			
		d	D	B	d <sub>1</sub> ≈	d <sub>2</sub> ≈	D <sub>1</sub> ≈	D <sub>2</sub> ≈	r <sub>1,2</sub> Min.	d <sub>a</sub> Min.	d <sub>a</sub> Max.	D <sub>a</sub> Max.	r <sub>a</sub> Max.
-	-	mm			mm					mm			
61892MA	-	460	580	56	498	-	542	-	3	473	-	567	2.5
61992MA	-	460	620	74	511	-	569	-	4	476	-	604	3
6092MB	-	460	680	100	528	-	614	-	6	483	-	657	5
61896MA	-	480	600	56	518	-	564	-	3	493	-	587	2.5
61996MA	-	480	650	78	535	-	595	-	5	498	-	632	4
6096MB	-	480	700	100	550	-	630	-	6	503	-	677	5
618/500MA	-	500	620	56	538	-	582	-	3	513	-	607	2.5
619/500MA	-	500	670	78	555	-	617	-	5	518	-	652	4
60/500N1MAS	-	500	720	100	568	-	650	-	6	523	-	697	5
618/530MA	-	530	650	56	568	-	613	-	3	543	-	637	2.5
619/530MA	-	530	710	82	587	-	653	-	5	548	-	692	4
60/530N1MAS	-	530	780	112	612	-	700	-	6	553	-	757	5
618/560MA	-	560	680	56	598	-	644	-	3	573	-	667	2.5
619/560MA	-	560	750	85	622	-	689	-	5	578	-	732	4
60/560N1MAS	-	560	820	115	648	-	732	-	6	583	-	797	5
618/600MA	-	600	730	60	642	-	688	-	3	613	-	717	2.5
619/600MA	-	600	800	90	663	-	736	-	5	618	-	782	4
60/600MA	-	600	870	118	689	-	781	-	6	623	-	847	5
618/630MA	-	630	780	69	678	-	732	-	4	645	-	765	3
619/630N1MA	-	630	850	100	702	-	778	-	6	653	-	827	5
60/630N1MBS	-	630	920	128	725	-	825	-	7.5	658	-	892	6
618/670MA	-	670	820	69	718	-	772	-	4	685	-	805	3
619/670MA	-	670	900	103	745	-	825	-	6	693	-	877	5
60/670N1MAS	-	670	980	136	771	-	878	-	7.5	698	-	952	6
618/710MA	-	710	870	74	761	-	818	-	4	725	-	855	3
619/710MA	-	710	950	106	790	-	870	-	6	733	-	927	5
60/710MA	-	710	1030	140	811	-	928	-	7.5	738	-	1002	6
618/750MA	-	750	920	78	804	-	866	-	5	768	-	902	4
619/750MA	-	750	1000	112	835	-	919	-	6	773	-	977	5
60/750MA	-	750	1090	150	862	-	978	-	7.5	778	-	1062	6
618/800MA	-	800	980	82	857	-	922	-	5	818	-	962	4
619/800MA	-	800	1060	115	884	-	975	-	6	823	-	1037	5
60/800N1MAS	-	800	1150	155	914	-	1032	-	7.5	828	-	1122	6
618/850MA	-	850	1030	82	907	-	972	-	5	868	-	1012	4

Type Bearing both sides of open or closed seal	One side closed seal	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient	
			Dynamic	Static				K <sub>r</sub>	f <sub>0</sub>
-	-	kg	kN		-	r/min	-		
61892MA	-	35	334.95	598.50	11.13	2100	1680	0.015	17
61992MA	-	62.5	444.15	787.50	14.39	1995	1680	0.02	17
6092MB	-	120	611.10	1113.00	19.95	1890	1575	0.025	16
61896MA	-	36.5	341.25	630.00	11.34	1995	1680	0.015	17
61996MA	-	74	471.45	855.75	15	1890	1575	0.02	17
6096MB	-	125	648.90	1197.00	21	1785	1470	0.025	16
618/500MA	-	40.5	348.60	651.00	11.76	1890	1575	0.015	17
619/500MA	-	81.5	485.10	908.25	16	1785	1470	0.02	17
60/500N1MAS	-	135	635.25	1197.00	20.58	1680	1365	0.025	16
618/530MA	-	39.5	348.60	687.75	11.76	1785	1470	0.015	17
619/530MA	-	90.5	512.40	976.50	16	1680	1365	0.02	17
60/530N1MAS	-	185	682.50	1333.50	21.84	1575	1260	0.025	16
618/560MA	-	42	362.25	729.75	12.39	1680	1365	0.015	17
619/560MA	-	105	518.70	1029.00	17	1575	1260	0.02	17
60/560N1MAS	-	210	696.15	1438.50	23.1	1470	1260	0.025	16
618/600MA	-	52	382.20	803.25	13.13	1575	1260	0.015	17
619/600MA	-	125	614.25	1281.00	20.58	1470	1155	0.02	17
60/600MA	-	230	764.40	1575.00	24.78	1365	1155	0.025	16
618/630MA	-	73	464.10	1013.25	16.07	1470	1155	0.015	17
619/630N1MA	-	160	655.20	1407.00	22.26	1365	1155	0.02	17
60/630N1MBS	-	285	859.95	1848.00	28.35	1260	1050	0.025	16
618/670MA	-	83.5	464.10	1050.00	16.38	1365	1155	0.015	17
619/670MA	-	192	709.80	1575.00	23.52	1260	1050	0.02	17
60/670N1MAS	-	345	949.20	2142.00	31.5	1155	945	0.025	16
618/710MA	-	93.5	498.75	1155.00	17.43	1260	1050	0.015	17
619/710MA	-	220	696.15	1575.00	23.1	1155	945	0.02	17
60/710MA	-	382	1003.80	2310.00	33.08	1050	892.5	0.025	16
618/750MA	-	110	553.35	1312.50	19.22	1155	945	0.015	17
619/750MA	-	255	799.05	1890.00	27	1050	892.5	0.02	17
60/750MA	-	485	1044.75	2478.00	35.18	997.5	840	0.025	16
618/800MA	-	130	586.95	1438.50	20.27	1050	892.5	0.015	17
619/800MA	-	275	873.6	2142.00	29.93	997.5	840	0.02	17
60/800N1MAS	-	523	1060.5	2677.50	36.23	945	787.5	0.025	16
618/850MA	-	140	586.95	1501.50	20.58	997.5	787.5	0.015	17

# Deep Groove Ball Bearings

Single row deep groove ball bearings

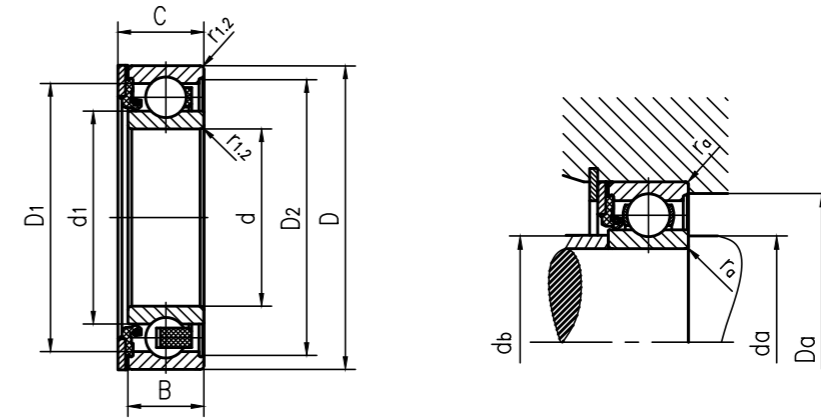


Type Bearing both sides of open or closed seal	One side closed seal	Main dimensions			Dimensions					Shoulder and chamfer dimensions			
		d	D	B	$d_1$ ≈	$d_2$ ≈	$D_1$ ≈	$D_2$ ≈	$r_{1,2}$ Min.	$d_a$ Min.	$d_a$ Max.	$D_a$ Max.	$r_a$ Max.
-	-	mm			mm					mm			
619/850MA	-	850	1120	118	937	-	1033	-	6	873	-	1097	5
618/900MA	-	900	1090	85	960	-	1029	-	5	918	-	1072	4
618/950MA	-	950	1150	90	1015	-	1084	-	5	968	-	1132	4
618/1000MA	-	1000	1220	100	1076	-	1145	-	6	1023	-	1197	5
618/1060MA	-	1060	1280	100	1132	-	1208	-	6	1083	-	1257	5
618/1120MA	-	1120	1360	106	1201	-	1278	-	6	1143	-	1337	5
618/1180MB	-	1180	1420	106	1262	-	1338	-	6	1203	-	1397	5
618/1320MA	-	1320	1600	122	1414	-	1506	-	6	1343	-	1577	5
618/1500TN	-	1500	1820	140	1606	-	1712	-	7.5	1528	-	1792	6

Type Bearing both sides of open or closed seal	One side closed seal	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient	
			Dynamic	Static				$K_r$	$f_0$
-	-	kg	kN			r/min	-		
619/850MA	-	320	894.60	2226.00	30	892.5	787.5	0.02	17
618/900MA	-	167	648.90	1680.00	22.68	892.5	735	0.015	18
618/950MA	-	197	668.85	1816.50	23.52	840	703.5	0.015	18
618/1000MA	-	245	668.85	1890.00	23.94	787.5	630	0.015	17
618/1060MA	-	260	764.40	2226.00	27.83	703.5	588	0.015	18
618/1120MA	-	315	778.05	2310.00	27.83	661.5	556.5	0.015	18
618/1180MB	-	337	799.05	2478.00	28.88	588	504	0.015	18
618/1320MA	-	500	1003.80	3307.50	37.28	504	420	0.015	18
618/1500TN	-	638	1228.50	4357.50	45.15	399	252	0.015	18

# Deep Groove Ball Bearings

icos oil seal bearing unit



Type	Main dimensions				Dimensions				Basic load rating		Fatigue load limit $P_u$	Maximum speed
	d	D	B	C	$d_1$ ≈	$D_1$ ≈	$D_2$ ≈	$r_{1,2}$ Min.	Dynamic C	Static $C_0$		
-	mm	mm	mm	mm	mm	mm	mm	mm	kN	kN	kN	r/min
ICOS-D1B01 TN9	12	32	10	12.6	18.4	-	27.4	0.6	7.4	3.1	0.13	14100
ICOS-D1B02 TN9	15	35	11	13.2	21.7	30.8	30.5	0.6	8.1	3.8	0.16	12100
ICOS-D1B03 TN9	17	40	12	14.2	24.5	35.6	35	0.6	10	4.8	0.20	11100
ICOS-D1B04 TN9	20	47	14	16.2	28.8	42	40.6	1	13.6	6.6	0.28	93100
ICOS-D1B05 TN9	25	52	15	17.2	34.3	47	46.3	1	14.9	7.9	0.34	77100
ICOS-D1B06 TN9	30	62	16	19.4	40.3	55.6	54.1	1	20.5	11.4	0.48	65100

Type	Weight	Shoulder and chamfer dimensions					Calculate the coefficient	
		$d_a, d_b$ Min.	$d_a$ Max.	$d_b$ Max.	$D_a$ Max.	$r_a$ Max.	$k_r$	$f_0$
-	kg	mm					-	
ICOS-D1B01 TN9	0.041	16.2	18.4	18	27.8	0.6	0.025	12
ICOS-D1B02 TN9	0.048	19.2	21.7	21.5	30.8	0.6	0.025	13
ICOS-D1B03 TN9	0.071	21.2	24.5	24	35.8	0.6	0.025	13
ICOS-D1B04 TN9	0.11	25.6	28.8	28.5	41.4	1	0.025	13
ICOS-D1B05 TN9	0.14	30.6	34.3	34	46.4	1	0.025	14
ICOS-D1B06 TN9	0.22	35.6	40.3	40	56	1	0.025	14

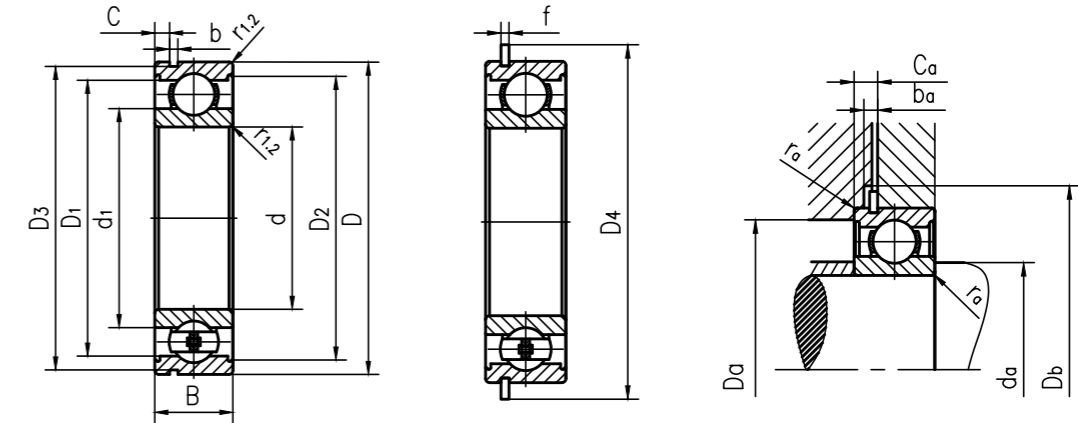






# Deep Groove Ball Bearings

## Single Row Deep Groove Ball bearing with stop groove

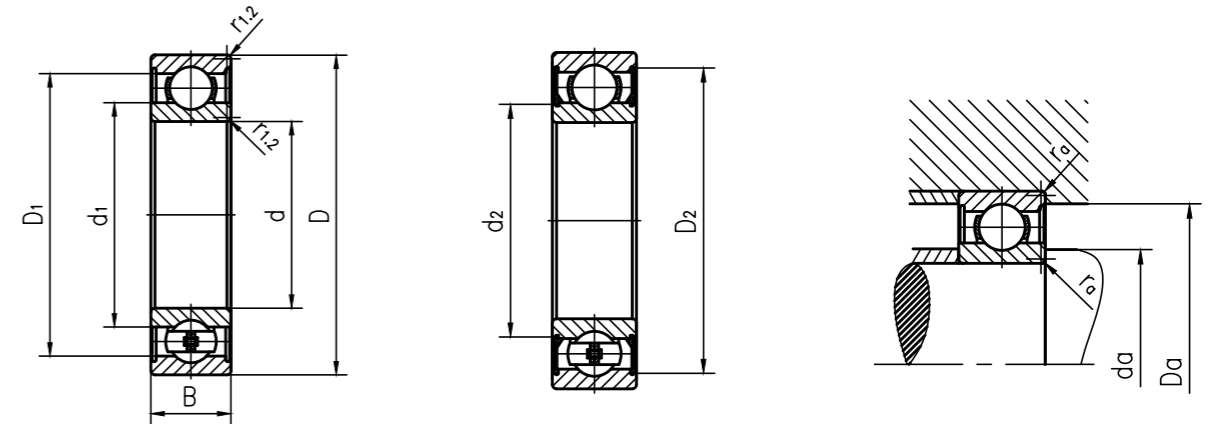


Type	snap rings	Main dimensions			Dimensions										
		d	D	B	d <sub>1</sub> ≈	D <sub>1</sub> ≈	D <sub>2</sub> ≈	D <sub>3</sub>	D <sub>4</sub>	b	f	C	r <sub>1,2</sub> Min.	r <sub>0</sub> Max.	
-		mm			mm										
6315 N	6315 NR	SP 160	75	160	37	101	-	139	155.22	169.7	3.1	2.82	4.9	2.1	0.6
6016 N	6016 NR	SP 125	80	125	22	94.4	-	115	120.22	134.7	3.1	2.82	2.87	1.1	0.6
6216 N	6216 NR	SP 140	80	140	26	101	-	127	135.23	149.7	3.1	2.82	4.9	2	0.6
6017 N	6017 NR	SP 130	85	130	22	99.4	-	120	125.22	139.7	3.1	2.82	2.87	1.1	0.6
6217 N	6217 NR	SP 150	85	150	28	106	-	135	145.24	159.7	3.1	2.82	4.9	2	0.6
6018 N	6018 NR	SP 140	90	140	24	105	-	129	135.23	149.7	3.1	2.82	3.71	1.5	0.6
6218 N	6218 NR	SP 160	90	160	30	112	-	143	155.22	169.7	3.1	2.82	4.9	2	0.6
6219 N	6219 NR	SP 170	95	170	32	118	-	152	163.65	182.9	3.5	3.1	5.69	2.1	0.6
6020 N	6020 NR	SP 150	100	150	24	115	-	139	145.24	159.7	3.1	2.82	3.71	1.5	0.6
6220 N	6220 NR	SP 180	100	180	34	124	-	160	173.66	192.9	3.5	3.1	5.69	2.1	0.6
6021 N	6021 NR	SP 160	105	160	26	122	-	147	155.22	169.7	3.1	2.82	3.71	2	0.6
6022 N	6022 NR	SP 170	110	170	28	129	-	156	163.65	182.9	3.5	3.1	3.71	2	0.6
6024 N	6024 NR	SP 180	120	180	28	139	-	166	173.66	192.9	3.5	3.1	3.71	2	0.6

Type	snap rings	Weight	Shoulder and chamfer dimensions							Basic load rating		Fatigue load limit P <sub>u</sub>	Rated speed reference speed	Maximum speed	Calculate the coefficient			
			d <sub>a</sub> Min.	d <sub>a</sub> Max.	D <sub>a</sub> Max.	D <sub>b</sub> Min.	b <sub>a</sub> Min.	C <sub>a</sub> Max.	r <sub>a</sub> Max.	Dynamic C	Static C <sub>0</sub>				k <sub>r</sub>	f <sub>0</sub>		
-		kg	mm									kN		r/min	-			
6315 N	6315 NR	SP 160	3.05	87	-	148	172	3.5	7.72	2		120.2	77.6	3.03	9200	5700	0.03	13
6016 N	6016 NR	SP 125	0.92	86	-	119	136	3.5	5.69	1		49.9	40.6	1.68	11200	7100	0.025	16
6216 N	6216 NR	SP 140	1.5	91	-	129	151	3.5	7.72	2		73.5	55.8	2.22	9700	6100	0.025	15
6017 N	6017 NR	SP 130	0.94	92	-	123	141	3.5	5.69	1		52.5	43.6	1.78	11200	6800	0.025	16
6217 N	6217 NR	SP 150	1.85	96	-	139	162	3.5	7.72	2		88.0	65.0	2.53	9200	5700	0.025	15
6018 N	6018 NR	SP 140	1.2	97	-	133	151	3.5	6.53	1.5		61.1	50.8	1.98	10200	6400	0.025	16
6218 N	6218 NR	SP 160	2.25	101	-	149	172	3.5	7.72	2		102.0	74.6	2.83	8700	5400	0.025	15
6219 N	6219 NR	SP 170	2.7	107	-	158	185	4	8.79	2		115.1	82.7	3.03	8200	5100	0.025	14
6020 N	6020 NR	SP 150	1.3	107	-	143	162	3.5	6.53	1.5		64.3	54.8	2.06	9700	5700	0.025	16
6220 N	6220 NR	SP 180	3.25	112	-	168	195	4	8.79	2		128.3	94.4	3.38	7700	4900	0.025	14
6021 N	6021 NR	SP 160	1.65	116	-	149	172	3.5	6.53	2		76.9	66.5	2.42	8700	5400	0.025	16
6022 N	6022 NR	SP 170	2.05	119	-	161	185	4	6.81	2		86.1	74.6	2.63	8200	5100	0.025	16
6024 N	6024 NR	SP 180	2.2	129	-	171	195	4	6.81	2		89.3	81.2	2.78	7700	4900	0.025	16

# Deep Groove Ball Bearings

Stainless steel deep groove ball bearing

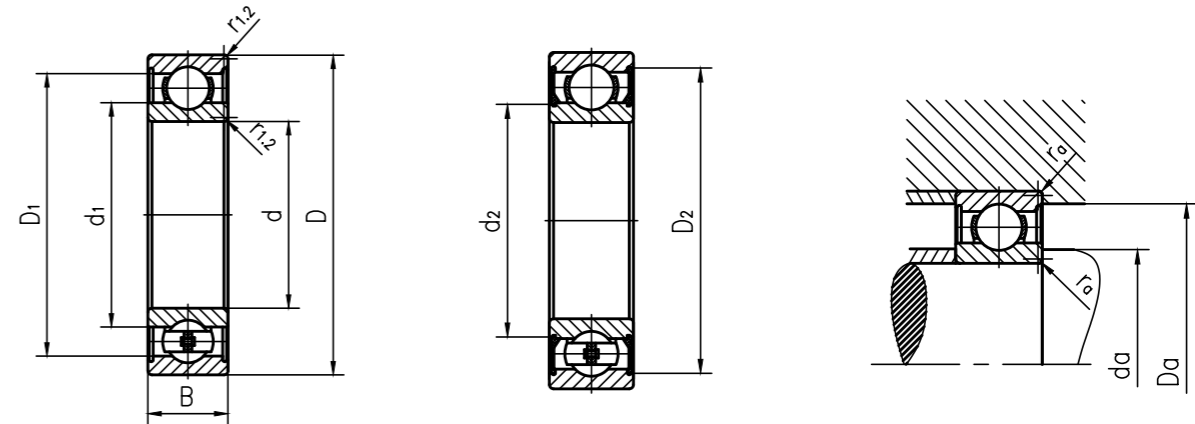


Type	Main dimensions			Dimensions					Shoulder and chamfer dimensions			
	d	D	B	$d_1$	$d_2$	$D_1$	$D_2$	$r_{1,2}$ Min.	$d_a$ Min.	$d_a$ Max.	$D_a$ Max.	$r_a$ Max.
-	mm			mm					mm			
W618/1	1	3	1	1.5	-	2.5	-	0.05	1.4	-	2.6	0.05
W618/1.5	1.5	4	1.2	2.1	-	3.1	-	0.05	2	-	3.6	0.05
W638/1.5-2Z	1.5	4	2	2.1	-	-	3.5	0.05	1.9	2.1	3.6	0.05
W618/2	2	5	1.5	2.7	-	3.9	-	0.08	2.5	-	4.4	0.08
W638/2-2Z	2	5	2.3	2.7	-	-	4.4	0.08	2.5	2.6	4.5	0.08
W639/2-2Z	2	6	3	3	-	-	5.4	0.15	2.9	2.9	5.4	0.15
W638/2.5-2Z	2.5	6	2.6	3.7	-	-	5.4	0.08	3.1	3.6	5.5	0.08
W637/3-2Z	3	6	3	-	3.7	-	5.4	0.1	3.6	3.6	5.5	0.1
W618/3	3	7	2	4.2	-	5.8	-	0.1	3.8	-	6.2	0.1
W638/3-2Z	3	7	3	-	3.8	-	6.4	0.1	3.7	3.8	6.5	0.1
W619/3-2Z	3	8	3	5	-	-	7.4	0.1	3.8	4.9	7.5	0.1
W639/3-2Z	3	8	4	4.3	-	-	7.3	0.15	3.9	4.3	7.3	0.15
W623-2RS1	3	10	4	-	4.3	-	8	0.15	3.9	4.3	8.8	0.15
W623-2Z	3	10	4	-	4.3	-	8	0.15	3.9	4.3	8.8	0.15
W627/4-2Z	4	7	2.5	4.8	-	-	6.5	0.1	4.6	4.7	6.5	0.1
W618/4	4	9	2.5	5.2	-	7.5	-	0.1	4.8	-	8.2	0.1
W638/4-2Z	4	9	4	5.2	-	-	8.1	0.1	4.8	5.1	8.2	0.1
W619/4-2Z	4	11	4	-	5.6	-	9.9	0.15	5.2	5.5	10	0.15
W604-2RS1	4	12	4	-	5.6	-	9.9	0.2	5.3	5.5	10.4	0.2
W604-2Z	4	12	4	-	5.6	-	9.9	0.2	5.3	5.5	10.4	0.2
W604	4	12	4	-	5.6	-	9.9	0.2	5.3	-	10.4	0.2
W624-2RS1	4	13	5	-	6	-	11.4	0.2	5.6	5.9	11.5	0.2
W624-2Z	4	13	5	-	6	-	11.4	0.2	5.6	5.9	11.5	0.2
W634-2RS1	4	16	5	-	6.7	-	13	0.3	6	6.6	14	0.3
W634-2Z	4	16	5	-	6.7	-	13	0.3	6	6.6	14	0.3
W627/5-2Z	5	8	2.5	5.8	-	-	7.5	0.1	5.6	5.7	7.5	0.1
W618/5	5	11	3	6.8	-	9.2	-	0.15	6.2	-	9.8	0.15
W628/5-2Z	5	11	4	6.8	-	-	9.9	0.15	6.2	6.7	10	0.15
W638/5-2Z	5	11	5	-	6.2	-	9.9	0.15	5.9	6.1	10	0.15
W619/5-2RS1	5	13	4	-	6.6	-	11.2	0.2	6.3	6.5	11.4	0.2
W619/5-2Z	5	13	4	-	6.6	-	11.2	0.2	6.3	6.5	11.4	0.2
W619/5	5	13	4	-	6.6	-	11.2	0.2	6.3	-	11.4	0.2
W605-2RS1	5	14	5	-	6.9	-	12.2	0.2	6.6	6.8	12.4	0.2
W605-2Z	5	14	5	-	6.9	-	12.2	0.2	6.6	6.8	12.4	0.2
W625-2RS1	5	16	5	-	7.5	-	13.4	0.3	7	7.4	14	0.3
W625-2Z	5	16	5	-	7.5	-	13.4	0.3	7	7.4	14	0.3
W625	5	16	5	-	7.5	-	13.4	0.3	7	-	14	0.3
W627/6-2Z	6	10	3	7	-	-	9.4	0.1	6.8	6.9	9.5	0.1
W618/6	6	13	3.5	8	-	11	-	0.15	7.2	-	11.8	0.15
W628/6-2RS1	6	13	5	-	7.4	-	11.7	0.15	7.2	7.3	11.8	0.15
W628/6-2Z	6	13	5	-	7.4	-	11.7	0.15	7.2	7.3	11.8	0.15
W619/6-2Z	6	15	5	-	7.5	-	13	0.2	7.3	7.4	13.4	0.2
W619/6	6	15	5	-	7.5	-	13	0.2	7.3	-	13.4	0.2

Type	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient	
		Dynamic	Static				$k_f$	$f_0$
		C	$C_0$	$P_u$	-			
-	g	kN			r/min	-		
W618/1	0.03	0.05	0.012	0.001	240200	150100	0.02	5.6
W618/1.5	0.1	0.06	0.016	0.001	220200	140100	0.02	6.4
W638/1.5-2Z	0.1	0.06	0.016	0.001	220200	110100	0.02	6.4
W618/2	0.1	0.09	0.025	0.001	200200	120100	0.02	6.5
W638/2-2Z	0.2	0.09	0.025	0.001	200200	100100	0.02	6.5
W639/2-2Z	0.31	0.19	0.05	0.002	180200	90100	0.025	6
W638/2.5-2Z	0.31	0.12	0.04	0.002	170200	85100	0.02	7.1
W637/3-2Z	0.31	0.12	0.04	0.002	170200	85100	0.02	7.1
W618/3	0.3	0.18	0.06	0.002	160200	100100	0.02	7.1
W638/3-2Z	0.41	0.18	0.06	0.002	160200	80100	0.02	7.1
W619/3-2Z	0.61	0.23	0.07	0.003	150200	75100	0.025	7.2
W639/3-2Z	0.82	0.32	0.09	0.004	150200	75100	0.025	6.1
W623-2RS1	1.5	0.36	0.11	0.005	-	40100	0.03	6.3
W623-2Z	1.6	0.36	0.11	0.005	140200	70100	0.03	6.3
W627/4-2Z	0.31	0.14	0.05	0.002	150200	75100	0.015	7.6
W618/4	0.6	0.37	0.12	0.005	140200	85100	0.02	6.5
W638/4-2Z	0.93	0.37	0.12	0.005	140200	70100	0.02	6.5
W619/4-2Z	1.65	0.55	0.18	0.008	130200	63100	0.025	6.4
W604-2RS1	2.15	0.55	0.18	0.008	-	36100	0.03	6.4
W604-2Z	2.15	0.55	0.18	0.008	130200	63100	0.03	6.4
W604	2	0.55	0.18	0.008	130200	80100	0.03	6.4
W624-2RS1	3.05	0.75	0.25	0.011	-	32100	0.03	6.4
W624-2Z	2.95	0.75	0.25	0.011	110200	56100	0.03	6.4
W634-2RS1	5.15	0.77	0.27	0.011	-	30100	0.035	6.8
W634-2Z	5.15	0.77	0.27	0.011	100200	50100	0.035	6.8
W627/5-2Z	0.41	0.12	0.05	0.002	140200	70100	0.015	7.8
W618/5	1.2	0.41	0.15	0.006	120200	75100	0.02	7.1
W628/5-2Z	1.55	0.41	0.15	0.006	120200	60100	0.02	7.1
W638/5-2Z	1.85	0.41	0.15	0.006	120200	60100	0.02	7.1
W619/5-2RS1	2.35	0.77	0.34	0.014	-	32100	0.025	11
W619/5-2Z	2.35	0.77	0.34	0.014	110200	56100	0.025	11
W619/5	2.1	0.77	0.34	0.014	110200	70100	0.025	11
W605-2RS1	3.45	0.77	0.26	0.011	-	30100	0.03	6.6
W605-2Z	3.35	0.77	0.26	0.011	110200	53100	0.03	6.6
W625-2RS1	4.85	1.44	0.64	0.027	-	28100	0.03	12
W625-2Z	4.85	1.44	0.64	0.027	100200	50100	0.03	12
W625	4.4	1.44	0.64	0.027	100200	63100	0.03	12
W627/6-2Z	0.72	0.29	0.11	0.005	120200	60100	0.015	7.8
W618/6	1.8	0.62	0.23	0.01	110200	67100	0.02	7
W628/6-2RS1	2.55	0.62	0.23	0.01	-	30100	0.02	7
W628/6-2Z	2.55	0.62	0.23	0.01	110200	53100	0.02	7
W619/6-2Z	3.85	0.77	0.27	0.011	100200	50100	0.025	6.8
W619/6	3.5	0.77	0.27	0.011	100200	63100	0.025	6.8

# Deep Groove Ball Bearings

Stainless steel deep groove ball bearing



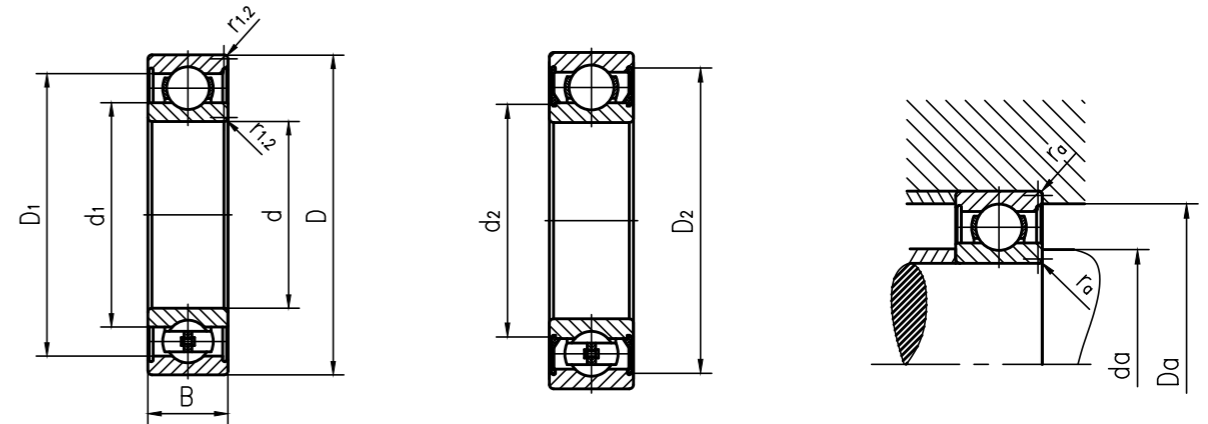
Type	Main dimensions			Dimensions					Shoulder and chamfer dimensions			
	d	D	B	d <sub>1</sub>	d <sub>2</sub>	D <sub>1</sub>	D <sub>2</sub>	r <sub>1,2</sub> Min.	d <sub>a</sub> Min.	d <sub>a</sub> Max.	D <sub>a</sub> Max.	r <sub>a</sub> Max.
-	mm			mm					mm			
W606-2RS1	6	17	6	-	8.2	-	14.8	0.3	7.7	8.1	15	0.3
W606-2Z	6	17	6	-	8.2	-	14.8	0.3	7.7	8.1	15	0.3
W626-2RS1	6	19	6	-	8.5	-	16.5	0.3	8	8.4	17	0.3
W626-2Z	6	19	6	-	8.5	-	16.5	0.3	8	8.4	17	0.3
W626	6	19	6	-	8.5	-	16.5	0.3	8	-	17	0.3
W627/7-2ZS	7	11	3	8	-	-	10.3	0.15	7.9	7.9	10.3	0.15
W618/7	7	14	3.5	9	-	12	-	0.15	8.2	-	12.8	0.15
W628/7-2Z	7	14	5	-	8.5	-	12.7	0.15	8.2	8.4	12.8	0.15
W619/7-2Z	7	17	5	-	9.2	-	14.3	0.3	8.7	9.1	15	0.3
W619/7	7	17	5	-	9.2	-	14.3	0.3	8.7	-	15	0.3
W607-2RS1	7	19	6	-	9	-	16.5	0.3	8.7	8.9	17	0.3
W607-2Z	7	19	6	-	9	-	16.5	0.3	8.7	8.9	17	0.3
W607	7	19	6	-	9	-	16.5	0.3	8.7	-	17	0.3
W627-2RS1	7	22	7	-	10.5	-	19.1	0.3	9	10.4	20	0.3
W627-2Z	7	22	7	-	10.5	-	19.1	0.3	9	10.4	20	0.3
W627	7	22	7	-	10.5	-	19.1	0.3	9	-	20	0.3
W637/8-2Z	8	12	3.5	9	-	-	11.4	0.1	8.6	8.9	11.5	0.1
W618/8	8	16	4	10.5	-	13.5	-	0.2	9.6	-	14.4	0.2
W628/8-2RS1	8	16	5	-	9.6	-	14.2	0.2	9.5	9.6	14.4	0.2
W628/8-2Z	8	16	5	-	9.6	-	14.2	0.2	9.5	9.6	14.4	0.2
W638/8-2Z	8	16	6	-	9.6	-	14.2	0.2	9.5	9.6	14.4	0.2
W619/8-2RS1	8	19	6	-	9.8	-	16.7	0.3	9.7	9.7	17	0.3
W619/8-2Z	8	19	6	-	9.8	-	16.7	0.3	9.7	9.7	17	0.3
W619/8	8	19	6	-	9.8	-	16.7	0.3	9.7	-	17	0.3
W608-2RS1	8	22	7	-	10.5	-	19.1	0.3	10	10.4	20	0.3
W608-2Z	8	22	7	-	10.5	-	19.1	0.3	10	10.4	20	0.3
W608	8	22	7	-	10.5	-	19.1	0.3	10	-	20	0.3
W628-2Z	8	24	8	-	11.9	-	19.9	0.3	10	11.8	22	0.3
W618/9	9	17	4	11.5	-	14.5	-	0.2	10.6	-	15.4	0.2
W628/9-2RS1	9	17	5	-	10.7	-	15.2	0.2	10.3	10.6	15.4	0.2
W628/9-2Z	9	17	5	-	10.7	-	15.2	0.2	10.3	10.6	15.4	0.2
W619/9-2Z	9	20	6	11.6	-	-	17.5	0.3	11	11.1	18	0.3
W619/9	9	20	6	11.6	-	-	17.5	0.3	11	-	18	0.3
W609-2RS1	9	24	7	-	12.1	-	20.5	0.3	11	12	22	0.3
W609-2Z	9	24	7	-	12.1	-	20.5	0.3	11	12	22	0.3
W609	9	24	7	-	12.1	-	20.5	0.3	11	-	22	0.3
W629-2RS1	9	26	8	-	13.9	-	22.4	0.6	13	13.8	22.6	0.6
W629-2Z	9	26	8	-	13.9	-	22.4	0.6	13	13.8	22.6	0.6
W61800-2RS1	10	19	5	-	11.8	-	17.2	0.3	11.5	11.5	17.5	0.3
W61800-2Z	10	19	5	-	11.8	-	17.2	0.3	11.5	11.5	17.5	0.3
W61800	10	19	5	-	11.8	-	17.2	0.3	11.5	-	17.5	0.3
W63800-2Z	10	19	7	-	11.8	-	17.2	0.3	11.5	11.5	17.5	0.3

Type	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient	
		Dynamic	Static				k <sub>r</sub>	f <sub>0</sub>
-	g	kN		P <sub>u</sub>	r/min		-	
C	C <sub>0</sub>							
W606-2RS1	5.8	1.97	0.84	0.036	-	26100	0.03	11
W606-2Z	6	1.97	0.84	0.036	95200	48100	0.03	11
W626-2RS1	7.65	1.55	0.59	0.025	-	24100	0.03	7.9
W626-2Z	7.75	1.55	0.59	0.025	85200	43100	0.03	7.9
W626	7.1	1.55	0.59	0.025	85200	56100	0.03	7.9
W627/7-2ZS	0.72	0.26	0.11	0.004	110200	56100	0.015	8.1
W618/7	2	0.67	0.26	0.011	100200	63100	0.02	7.2
W628/7-2Z	2.75	0.67	0.26	0.011	100200	50100	0.02	7.2
W619/7-2Z	5.1	0.93	0.37	0.016	90200	45100	0.025	7.3
W619/7	4.8	0.93	0.37	0.016	90200	56100	0.025	7.3
W607-2RS1	7.25	1.55	0.59	0.025	-	24100	0.03	7.9
W607-2Z	7.35	1.55	0.59	0.025	85200	43100	0.03	7.9
W607	6.7	1.55	0.59	0.025	85200	56100	0.03	7.9
W627-2RS1	12.5	2.01	0.79	0.034	-	22100	0.03	7.2
W627-2Z	12.5	2.01	0.79	0.034	75200	38100	0.03	7.2
W627	11.5	2.01	0.79	0.034	75200	48100	0.03	7.2
W637/8-2Z	1.05	0.32	0.14	0.006	100200	53100	0.02	8.2
W618/8	3.1	0.72	0.30	0.012	90200	56100	0.02	7.5
W628/8-2RS1	3.85	0.72	0.30	0.012	-	26100	0.02	7.5
W628/8-2Z	3.75	0.72	0.30	0.012	90200	45100	0.02	7.5
W638/8-2Z	4.6	0.72	0.30	0.012	90200	45100	0.02	7.5
W619/8-2RS1	6.65	1.26	0.46	0.02	-	24100	0.025	6.6
W619/8-2Z	6.75	1.26	0.46	0.02	85200	43100	0.025	6.6
W619/8	6.1	1.26	0.46	0.02	85200	53100	0.025	6.6
W608-2RS1	11.5	2.01	0.79	0.034	-	22100	0.03	7.2
W608-2Z	11.5	2.01	0.79	0.034	75200	38100	0.03	7.2
W608	11	2.01	0.79	0.034	75200	48100	0.03	7.2
W628-2Z	17.5	2.49	1.14	0.048	70200	36100	0.03	10
W618/9	3.4	0.77	0.34	0.014	85200	53100	0.02	7.7
W628/9-2RS1	4.2	0.77	0.34	0.014	-	24100	0.02	7.7
W628/9-2Z	4.2	0.77	0.34	0.014	85200	43100	0.02	7.7
W619/9-2Z	7.65	1.97	0.94	0.045	80200	40100	0.025	12
W619/9	7	1.97	0.94	0.045	80200	50100	0.025	12
W609-2RS1	14	2.05	0.83	0.036	-	20100	0.03	7.5
W609-2Z	14	2.05	0.83	0.036	70200	36100	0.03	7.5
W609	13	2.05	0.83	0.036	70200	43100	0.03	7.5
W629-2RS1	19	4.01	1.99	0.083	-	19100	0.03	12
W629-2Z	19	4.01	1.99	0.083	67200	32100	0.03	12
W61800-2RS1	5.2	1.49	0.84	0.036	-	22100	0.02	15
W61800-2Z	5.1	1.49	0.84	0.036	80200	38100	0.02	15
W61800	4.8	1.49	0.84	0.036	80200	48100	0.02	15
W63800-2Z	7.1	1.49	0.84	0.036	80200	38100	0.02	15



# Deep Groove Ball Bearings

Stainless steel deep groove ball bearing

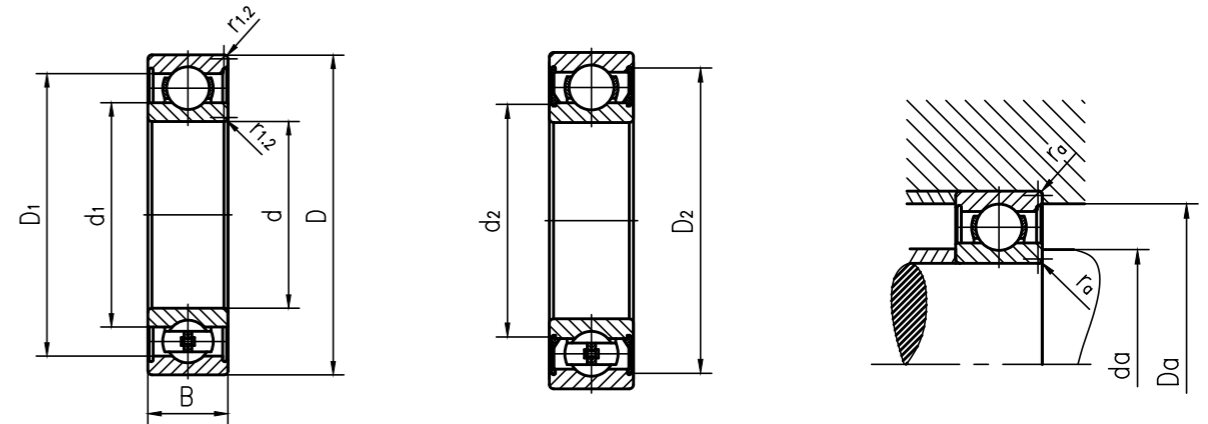


Type	Main dimensions			Dimensions					Shoulder and chamfer dimensions			
	d	D	B	$d_1 \approx$	$d_2 \approx$	$D_1 \approx$	$D_2 \approx$	$r_{1,2}$ Min.	$d_a$ Min.	$d_a$ Max.	$D_a$ Max.	$r_a$ Max.
-	mm			mm					mm			
W61903-2Z	17	30	7	21	-	-	27.8	0.3	19	20.5	28.5	0.3
W61903	17	30	7	21	-	-	27.8	0.3	19	-	28.5	0.3
W6003-2RS1	17	35	10	23.5	-	-	31.9	0.3	19	23	33	0.3
W6003-2Z	17	35	10	23.5	-	-	31.9	0.3	19	23	33	0.3
W6003	17	35	10	23.5	-	-	31.9	0.3	19	-	33	0.3
W6203-2RS1	17	40	12	24.9	-	-	35.8	0.6	21	24.5	37.5	0.6
W6203-2Z	17	40	12	24.9	-	-	35.8	0.6	21	24.5	37.5	0.6
W6203	17	40	12	24.9	-	-	35.8	0.6	21	-	37.5	0.6
W6303-2RS1	17	47	14	27.5	-	-	41.1	1	22	27	42	1
W6303-2Z	17	47	14	27.5	-	-	41.1	1	22	27	42	1
W6303	17	47	14	27.5	-	-	41.1	1	22	-	42	1
W61804-2RS1	20	32	7	-	22.6	-	29.6	0.3	22	22.5	30.5	0.3
W61804-2Z	20	32	7	-	22.6	-	29.6	0.3	22	22.5	30.5	0.3
W61904-2RS1	20	37	9	-	23.6	-	33.5	0.3	22	23.5	35	0.3
W61904	20	37	9	-	23.6	-	33.5	0.3	22	-	35	0.3
W6004-2RS1	20	42	12	27.6	-	-	38.8	0.6	24	27.5	39.5	0.6
W6004-2Z	20	42	12	27.6	-	-	38.8	0.6	24	27.5	39.5	0.6
W6004	20	42	12	27.6	-	-	38.8	0.6	24	-	39.5	0.6
W6204-2RS1	20	47	14	29.5	-	-	41	1	25	29	42	1
W6204-2Z	20	47	14	29.5	-	-	41	1	25	29	42	1
W6204	20	47	14	29.5	-	-	41	1	25	-	42	1
W6304-2RS1	20	52	15	30	-	-	45.4	1.1	26.5	29.5	46	1
W6304-2Z	20	52	15	30	-	-	45.4	1.1	26.5	29.5	46	1
W6304	20	52	15	30	-	-	45.4	1.1	26.5	-	46	1
W61805-2RS1	25	37	7	28.2	-	-	34.2	0.3	27	28	35	0.3
W61805-2Z	25	37	7	28.2	-	-	34.2	0.3	27	28	35	0.3
W61905-2RS1	25	42	9	30.9	-	-	39.5	0.3	27	30.5	40.5	0.3
W6005-2RS1	25	47	12	31.7	-	-	42.8	0.6	29	31.5	44.5	0.6
W6005-2Z	25	47	12	31.7	-	-	42.8	0.6	29	31.5	44.5	0.6
W6005	25	47	12	31.7	-	-	42.8	0.6	29	-	44.5	0.6
W6205-2RS1	25	52	15	34	-	-	45.8	1	30	33.5	47	1
W6205-2Z	25	52	15	34	-	-	45.8	1	30	33.5	47	1
W6205	25	52	15	34	-	-	45.8	1	30	-	47	1
W6305-2RS1	25	62	17	38.1	-	-	53.3	1.1	31.5	38	55	1
W6305-2Z	25	62	17	38.1	-	-	53.3	1.1	31.5	38	55	1
W6305	25	62	17	38.1	-	-	53.3	1.1	31.5	-	55	1
W61806-2RS1	30	42	7	33.1	-	-	39.2	0.3	32	33	40	0.3
W61906-2RS1	30	47	9	35.1	-	-	44.1	0.3	32	35	45	0.3
W61906	30	47	9	35.1	-	-	44.1	0.3	32	-	45	0.3
W6006-2RS1	30	55	13	38	-	-	50	1	35	37.5	50	1
W6006-2Z	30	55	13	38	-	-	50	1	35	37.5	50	1
W6006	30	55	13	38	-	-	50	1	35	-	50	1
W6206-2RS1	30	62	16	40.7	-	-	55.2	1	35	40.5	57	1

Type	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient	
		Dynamic	Static				$k_f$	$f_0$
		C	$C_0$	$P_u$	-	-		
-	g	kN			r/min	-		
W61903-2Z	17	4.01	2.59	0.108	50200	24100	0.025	15
W61903	15.5	4.01	2.59	0.108	50200	32100	0.025	15
W6003-2RS1	38	4.99	3.20	0.137	-	13100	0.03	14
W6003-2Z	38.5	4.99	3.20	0.137	45200	22100	0.03	14
W6003	36	4.99	3.20	0.137	45200	28100	0.03	14
W6203-2RS1	64.5	8.14	4.82	0.20	-	12100	0.03	13
W6203-2Z	65.5	8.14	4.82	0.20	40200	20100	0.03	13
W6203	61.5	8.14	4.82	0.20	40200	26100	0.03	13
W6303-2RS1	112	11.82	6.65	0.28	-	10100	0.035	12
W6303-2Z	113	11.82	6.65	0.28	36200	18100	0.035	12
W6303	107	11.82	6.65	0.28	36200	22100	0.035	12
W61804-2RS1	17	3.15	2.11	0.09	-	13100	0.02	13
W61804-2Z	17	3.15	2.11	0.09	48200	24100	0.02	13
W61904-2RS1	35.5	5.59	3.70	0.156	-	12100	0.025	15
W61904	32.5	5.59	3.70	0.156	43200	26100	0.025	15
W6004-2RS1	64.5	8.14	5.08	0.212	-	11100	0.03	14
W6004-2Z	64.5	8.14	5.08	0.212	38200	19100	0.03	14
W6004	60.5	8.14	5.08	0.212	38200	24100	0.03	14
W6204-2RS1	105	10.91	6.65	0.28	-	10100	0.03	13
W6204-2Z	106	10.91	6.65	0.28	34200	17100	0.03	13
W6204	100	10.91	6.65	0.28	34200	22100	0.03	13
W6304-2RS1	143	13.94	7.92	0.335	-	9600	0.035	12
W6304-2Z	144	13.94	7.92	0.335	34200	17100	0.035	12
W6304	136	13.94	7.92	0.335	34200	20100	0.035	12
W61805-2RS1	21	3.41	2.54	0.108	-	11100	0.02	14
W61805-2Z	21	3.41	2.54	0.108	38200	19100	0.02	14
W61905-2RS1	39.5	6.11	4.57	0.193	-	10100	0.025	15
W6005-2RS1	76.5	8.80	5.94	0.25	-	9600	0.03	15
W6005-2Z	77.5	8.80	5.94	0.25	32200	16100	0.03	15
W6005	71.5	8.80	5.94	0.25	32200	20100	0.03	15
W6205-2RS1	128	11.82	7.76	0.335	-	8600	0.03	14
W6205-2Z	130	11.82	7.76	0.335	30200	15100	0.03	14
W6205	122	11.82	7.76	0.335	30200	19100	0.03	14
W6305-2RS1	234	17.98	11.37	0.48	-	7600	0.035	13
W6305-2Z	235	17.98	11.37	0.48	26200	13100	0.035	13
W6305	224	17.98	11.37	0.48	26200	17100	0.035	13
W61806-2RS1	24	3.62	2.94	0.125	-	9600	0.02	14
W61906-2RS1	47	6.30	5.08	0.212	-	8600	0.025	16
W61906	43.5	6.30	5.08	0.212	30200	19100	0.025	16
W6006-2RS1	112	11.51	8.27	0.355	-	8100	0.03	15
W6006-2Z	113	11.51	8.27	0.355	28200	14100	0.03	15
W6006	105	11.51	8.27	0.355	28200	17100	0.03	15
W6206-2RS1	196	16.67	11.37	0.48	-	7100	0.03	14

# Deep Groove Ball Bearings

Stainless steel deep groove ball bearing

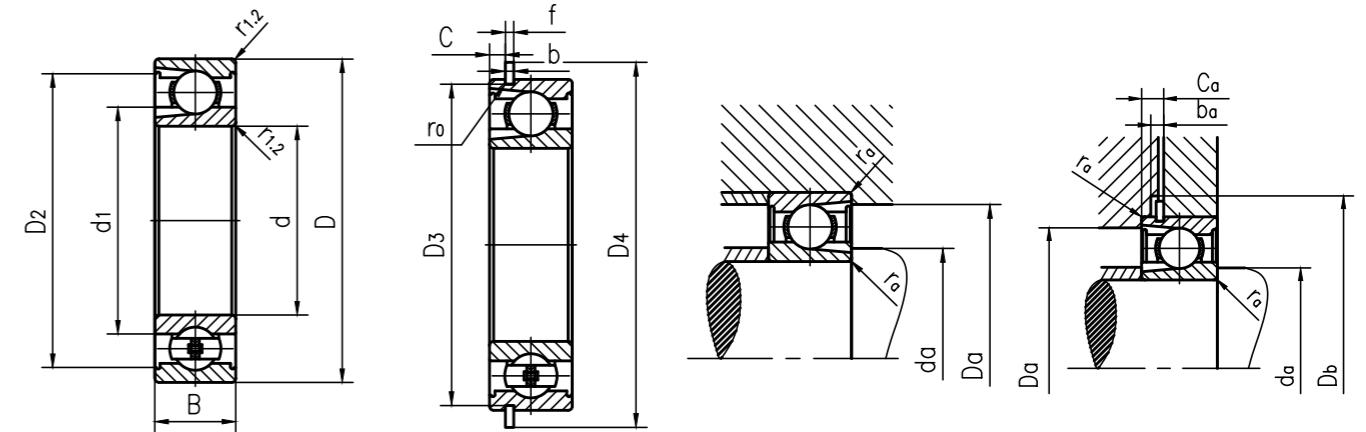


Type	Main dimensions			Dimensions					Shoulder and chamfer dimensions			
	d	D	B	d <sub>1</sub> ≈	d <sub>2</sub> ≈	D <sub>1</sub> ≈	D <sub>2</sub> ≈	r <sub>1,2</sub> Min.	d <sub>a</sub> Min.	d <sub>a</sub> Max.	D <sub>a</sub> Max.	r <sub>a</sub> Max.
-	mm			mm					mm			
W6206-2Z	30	62	16	40.7	-	-	55.2	1	35	40.5	57	1
W6206	30	62	16	40.7	-	-	55.2	1	35	-	57	1
W6306-2RS1	30	72	19	44.9	-	-	62.4	1.1	36.5	44.5	65	1
W6306-2Z	30	72	19	44.9	-	-	62.4	1.1	36.5	44.5	65	1
W6306	30	72	19	44.9	-	-	62.4	1.1	36.5	-	65	1
W61807-2RS1	35	47	7	38.2	-	-	43.7	0.3	37	38	45	0.3
W61907-2RS1	35	55	10	42.2	-	-	52.2	0.6	39	42	52	0.6
W6007-2RS1	35	62	14	44	-	-	57.1	1	40	43.5	57	1
W6007-2Z	35	62	14	44	-	-	57.1	1	40	43.5	57	1
W6007	35	62	14	44	-	-	57.1	1	40	-	57	1
W6207-2RS1	35	72	17	47.6	-	-	64.9	1.1	41.5	46.5	65	1
W6207-2Z	35	72	17	47.6	-	-	64.9	1.1	41.5	46.5	65	1
W6207	35	72	17	47.6	-	-	64.9	1.1	41.5	-	65	1
W6307-2RS1	35	80	21	-	46.7	-	71.6	1.5	43	46.5	73	1.5
W61908-2RS1	40	62	12	46.9	-	-	57.6	0.6	44	46.5	59	0.6
W6008-2RS1	40	68	15	49.2	-	-	62.5	1	45	49	63	1
W6008-2Z	40	68	15	49.2	-	-	62.5	1	45	49	63	1
W6008	40	68	15	49.2	-	-	62.5	1	45	-	63	1
W6208-2RS1	40	80	18	-	50.1	-	70.8	1.1	46.5	50	73	1
W6208-2Z	40	80	18	-	50.1	-	70.8	1.1	46.5	50	73	1
W6208	40	80	18	-	50.1	-	70.8	1.1	46.5	-	73	1
W61909-2RS1	45	68	12	-	50.3	-	63.2	0.6	49	52	64	0.6
W6009-2RS1	45	75	16	54.5	-	-	69	1	50	54	70	1
W6009-2Z	45	75	16	54.5	-	-	69	1	50	54	70	1
W6209-2RS1	45	85	19	-	53.5	-	76.4	1.1	52	53	78	1
W6209-2Z	45	85	19	-	53.5	-	76.4	1.1	52	53	78	1
W61810-2RS1	50	65	7	54.6	-	-	61.6	0.3	52	54	63	0.3
W6010-2RS1	50	80	16	60	-	-	74.6	1	55	59	75	1
W6010-2Z	50	80	16	60	-	-	74.6	1	55	59	75	1
W6210-2RS1	50	90	20	-	60	-	82.2	1.1	55	59	83	1
W6210-2Z	50	90	20	-	60	-	82.2	1.1	55	59	83	1

Type	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient	
		Dynamic	Static				k <sub>t</sub>	f <sub>0</sub>
		C	C <sub>0</sub>	P <sub>u</sub>	r/min	-	-	
-	g	kN			r/min			
W6206-2Z	196	16.67	11.37	0.48	26200	13100	0.03	14
W6206	186	16.67	11.37	0.48	26200	16100	0.03	14
W6306-2RS1	346	23.13	15.23	0.65	-	6400	0.035	13
W6306-2Z	345	23.13	15.23	0.65	22200	11100	0.035	13
W6306	331	23.13	15.23	0.65	22200	14100	0.035	13
W61807-2RS1	29.5	3.75	3.40	0.14	-	8600	0.02	14
W61907-2RS1	73.5	9.45	7.76	0.325	-	7600	0.025	16
W6007-2RS1	147	13.94	10.35	0.44	-	6800	0.03	15
W6007-2Z	148	13.94	10.35	0.44	24200	12100	0.03	15
W6007	138	13.94	10.35	0.44	24200	15100	0.03	15
W6207-2RS1	276	22.32	15.53	0.655	-	6100	0.03	14
W6207-2Z	277	22.32	15.53	0.655	22200	11100	0.03	14
W6207	262	22.32	15.53	0.655	22200	14100	0.03	14
W6307-2RS1	441	28.89	19.29	0.815	-	5700	0.035	13
W61908-2RS1	107	12.02	9.95	0.425	-	6800	0.025	16
W6008-2RS1	182	14.75	11.57	0.49	-	6400	0.03	15
W6008-2Z	183	14.75	11.57	0.49	22200	11100	0.03	15
W6008	172	14.75	11.57	0.49	22200	14100	0.03	15
W6208-2RS1	359	25.35	17.86	0.76	-	5700	0.03	14
W6208-2Z	359	25.35	17.86	0.76	20200	10100	0.03	14
W6208	342	25.35	17.86	0.76	20200	12100	0.03	14
W61909-2RS1	125	12.22	10.96	0.465	-	6100	0.025	16
W6009-2RS1	236	18.38	15.23	0.640	-	5700	0.03	15
W6009-2Z	237	18.38	15.23	0.640	20200	10100	0.03	15
W6209-2RS1	395	28.38	20.71	0.865	-	5100	0.03	14
W6209-2Z	394	28.38	20.71	0.865	18200	9100	0.03	14
W61810-2RS1	51	5.12	5.58	0.236	-	6100	0.02	15
W6010-2RS1	256	19.19	16.85	0.72	-	5100	0.03	16
W6010-2Z	256	19.19	16.85	0.72	18200	9100	0.03	16
W6210-2RS1	449	30.50	23.55	0.99	-	4900	0.03	14
W6210-2Z	453	30.50	23.55	0.99	17200	8600	0.03	14

# Deep Groove Ball Bearings

## Single Row deep groove ball bearing with ball filling notch

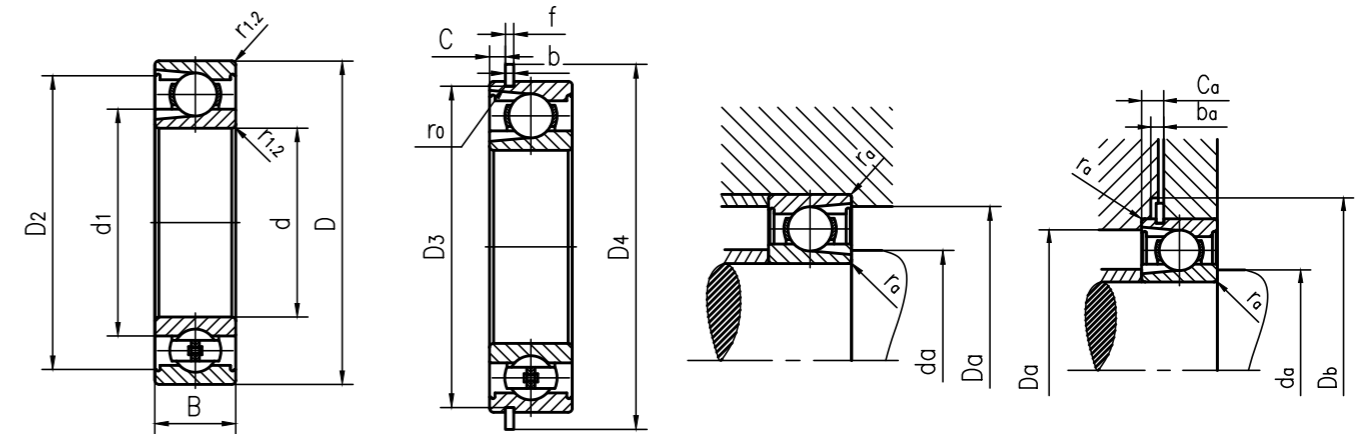


Type			Main dimensions			Dimensions								
Bearings without snap rings	Belt snap rings	snap rings	d	D	B	d <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>4</sub>	b	f	C	r <sub>1,2</sub> Min.	r <sub>0</sub> Max.
305	305NR	SP62	25	62	17	36.6	52.7	59.61	67.7	1.9	1.7	3.28	1.1	0.6
305-Z	305-ZNR	SP62	25	62	17	36.6	52.7	59.61	67.7	1.9	1.7	3.28	1.1	0.6
305-2Z	305-2ZNR	SP62	25	62	17	36.6	52.7	59.61	67.7	1.9	1.7	3.28	1.1	0.6
206	206NR	SP62	30	62	16	40.3	54.06	59.61	67.7	1.9	1.7	3.28	1	0.6
206-Z	206-ZNR	SP62	30	62	16	40.3	54.06	59.61	67.7	1.9	1.7	3.28	1	0.6
206-2Z	206-2ZNRSP	SP62	30	62	16	40.3	54.06	59.61	67.7	1.9	1.7	3.28	1	0.6
306	306NR	SP72	30	72	19	44.6	61.88	68.81	78.6	1.9	1.7	3.28	1.1	0.6
306-Z	306-ZNR	SP72	30	72	19	44.6	61.88	68.81	78.6	1.9	1.7	3.28	1.1	0.6
306-2Z	306-2ZNR	SP72	30	72	19	44.6	61.88	68.81	78.6	1.9	1.7	3.28	1.1	0.6
207	207NR	SP72	35	72	17	46.9	62.69	68.81	78.6	1.9	1.7	3.28	1.1	0.6
207-Z	207-ZNR	SP72	35	72	17	46.9	62.69	68.81	78.6	1.9	1.7	3.28	1.1	0.6
207-2Z	207-2ZNR	SP72	35	72	17	46.9	62.69	68.81	78.6	1.9	1.7	3.28	1.1	0.6
307	307NR	SP80	35	80	21	49.5	69.2	76.81	86.6	1.9	1.7	3.28	1.5	0.6
307-Z	307-ZNR	SP80	35	80	21	49.5	69.2	76.81	86.6	1.9	1.7	3.28	1.5	0.6
307-2Z	307-2ZNR	SP80	35	80	21	49.5	69.2	76.81	86.6	1.9	1.7	3.28	1.5	0.6
208	208NR	SP80	40	80	18	52.6	69.8	76.81	86.6	1.9	1.7	3.28	1.1	0.6
208-Z	208-ZNR	SP80	40	80	18	52.6	69.8	76.81	86.6	1.9	1.7	3.28	1.1	0.6
208-2Z	208-2ZNR	SP80	40	80	18	52.6	69.8	76.81	86.6	1.9	1.7	3.28	1.1	0.6
308	308NR	SP90	40	90	23	56.1	77.7	86.79	96.5	2.7	2.46	3.28	1.5	0.6
308-Z	308-ZNR	SP90	40	90	23	56.1	77.7	86.79	96.5	2.7	2.46	3.28	1.5	0.6
308-2Z	308-2ZNR	SP90	40	90	23	56.1	77.7	86.79	96.5	2.7	2.46	3.28	1.5	0.6
209	209NR	SP85	45	85	19	57.6	75.19	81.81	91.6	1.9	1.7	3.28	1.1	0.6
209-Z	209-ZNR	SP85	45	85	19	57.6	75.19	81.81	91.6	1.9	1.7	3.28	1.1	0.6
209-2Z	209-2ZNR	SP85	45	85	19	57.6	75.19	81.81	91.6	1.9	1.7	3.28	1.1	0.6
309	309NR	SP100	45	100	25	62.1	86.7	96.8	106.5	2.7	2.46	3.28	1.5	0.6
309-Z	309-ZNR	SP100	45	100	25	62.1	86.7	96.8	106.5	2.7	2.46	3.28	1.5	0.6
309-2Z	309-2ZNR	SP100	45	100	25	62.1	86.7	96.8	106.5	2.7	2.46	3.28	1.5	0.6
210	210NR	SP90	50	90	20	62.5	81.61	86.79	96.5	2.7	2.46	3.28	1.1	0.6
210-Z	210-ZNR	SP90	50	90	20	62.5	81.61	86.79	96.5	2.7	2.46	3.28	1.1	0.6
210-2Z	210-2ZNR	SP90	50	90	20	62.5	81.61	86.79	96.5	2.7	2.46	3.28	1.1	0.6

Type			Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Shoulder and chamfer dimensions							Calculate the coefficient
Bearings without snap rings	Belt snap rings	snap rings		Dynamic	Static				C	C <sub>0</sub>	P <sub>u</sub>	d <sub>a</sub> Min.	d <sub>a</sub> Max.	D <sub>a</sub> Max.	D <sub>b</sub> Max.	
			g			kN			r/min	mm						
305	305NR	SP62	0.24	23.1	15.8	0.68	20200	13100	32	-	55	69	2.2	4.98	1	0.05
305-Z	305-ZNR	SP62	0.24	23.1	15.8	0.68	20200	13100	32	32.7	55	69	2.2	4.98	1	0.05
305-2Z	305-2ZNR	SP62	0.24	23.1	15.8	0.68	20200	10500	32	32.7	55	69	2.2	4.98	1	0.05
206	206NR	SP62	0.21	21.1	16.5	0.70	20200	12100	35.6	-	56	69	2.2	4.98	1	0.04
206-Z	206-ZNR	SP62	0.21	21.1	16.5	0.70	20200	12100	35.6	40.2	56	69	2.2	4.98	1	0.04
206-2Z	206-2ZNRSP	SP62	0.21	21.1	16.5	0.70	20200	9700	35.6	40.2	56	69	2.2	4.98	1	0.04
306	306NR	SP72	0.37	30.0	21.9	0.94	18200	11100	37	-	65	80	2.2	4.98	1	0.05
306-Z	306-ZNR	SP72	0.37	30.0	21.9	0.94	18200	11100	37	44.5	65	80	2.2	4.98	1	0.05
306-2Z	306-2ZNR	SP72	0.37	30.0	21.9	0.94	18200	8900	37	44.5	65	80	2.2	4.98	1	0.05
207	207NR	SP72	0.31	27.8	22.3	0.94	17200	10100	42	-	65	80	2.2	4.98	1	0.04
207-Z	207-ZNR	SP72	0.31	27.8	22.3	0.94	17200	10100	42	46.8	65	80	2.2	4.98	1	0.04
207-2Z	207-2ZNR	SP72	0.31	27.8	22.3	0.94	17200	8100	42	46.8	65	80	2.2	4.98	1	0.04
307	307NR	SP80	0.48	35.0	26.9	1.13	16200	9600	44	-	71	88	2.2	4.98	1.5	0.05
307-Z	307-ZNR	SP80	0.48	35.0	26.9	1.13	16200	9600	44	49.4	71	88	2.2	4.98	1.5	0.05
307-2Z	307-2ZNR	SP80	0.48	35.0	26.9	1.13	16200	7700	44	49.4	71	88	2.2	4.98	1.5	0.05
208	208NR	SP80	0.39	33.9	27.4	1.17	15200	9600	47	-	73	88	2.2	4.98	1	0.04
208-Z	208-ZNR	SP80	0.39	33.9	27.4	1.17	15200	9600	47	52	73	88	2.2	4.98	1	0.04
208-2Z	208-2ZNR	SP80	0.39	33.9	27.4	1.17	15200	7700	47	52	73	88	2.2	4.98	1	0.04
308	308NR	SP90	0.64	46.2	36.5	1.55	14200	8600	49	-	81	98	3	5.74	1.5	0.05
308-Z	308-ZNR	SP90	0.64	46.2	36.5	1.55	14200	8600	49	56	81	98	3	5.74	1.5	0.05
308-2Z	308-2ZNR	SP90	0.64	46.2	36.5	1.55	14200	6900	49	56	81	98	3	5.74	1.5	0.05
209	209NR	SP85	0.44	35.6	30.5	1.28	14200	8600	52	-	78	93	2.2	4.98	1	0.04
209-Z	209-ZNR	SP85	0.44	35.6	30.5	1.28	14200	8600	52	57	78	93	2.2	4.98	1	0.04
209-2Z	209-2ZNR	SP85	0.44	35.6	30.5	1.28	14200	6900	52	57	78	93	2.2	4.98	1	0.04
309	309NR	SP100	0.88	55.6	44.7	1.88	13200	7600	54	-	91	108	3	5.74	1.5	0.05
309-Z	309-ZNR	SP100	0.88	55.6	44.7	1.88	13200	7600	54	62	91	108	3	5.74	1.5	0.05
309-2Z	309-2ZNR	SP100	0.88	55.6	44.7	1.88	13200	6100	54	62	91	108	3	5.74	1.5	0.05
210	210NR	SP90	0.5	39.5	35.0	1.47	13200	8100	57	-	83	98	3	5.74	1	0.04
210-Z	210-ZNR	SP90	0.5	39.5	35.0	1.47	13200	8100	57	62	83	98	3	5.74	1	0.04
210-2Z	210-2ZNR	SP90	0.5	39.5	35.0	1.47	13200	6500	57	62	83	98	3	5.74	1	0.04

# Deep Groove Ball Bearings

## Single Row deep groove ball bearing with ball filling notch



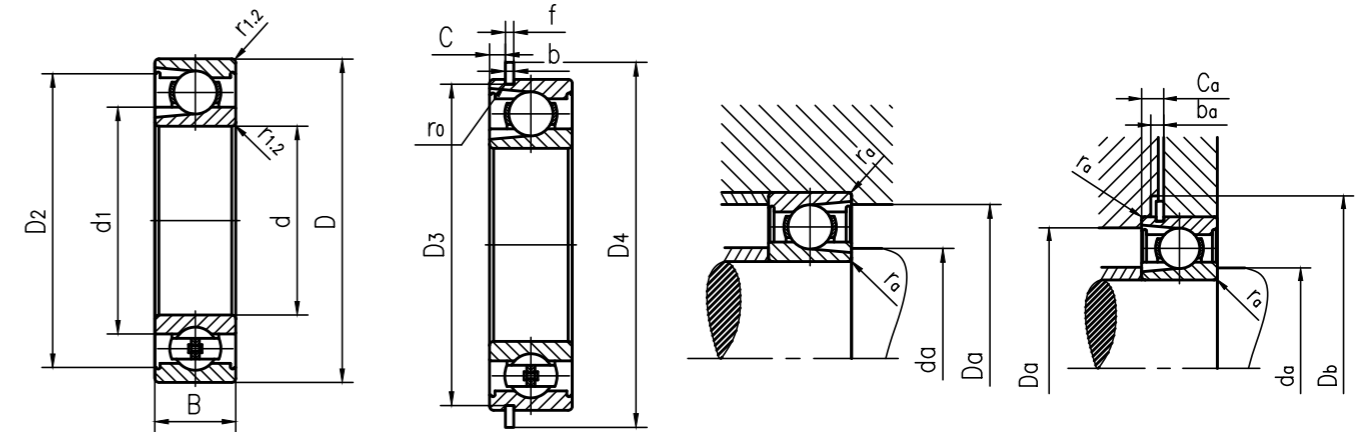
Type			Main dimensions			Dimensions								
Bearings without snap rings	Belt snap rings	snap rings	d	D	B	d <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	D <sub>4</sub>	b	f	C	r <sub>1,2</sub> Min.	r <sub>0</sub> Max.
310	310NR	SP110	50	110	27	68.7	95.2	106.81	116.6	2.7	2.46	3.28	2	0.6
310-Z	310-ZNR	SP110	50	110	27	68.7	95.2	106.81	116.6	2.7	2.46	3.28	2	0.6
310-2Z	310-2ZNR	SP110	50	110	27	68.7	95.2	106.81	116.6	2.7	2.46	3.28	2	0.6
211	211NR	SP100	55	100	21	69	89.4	96.8	106.5	2.7	2.46	3.28	1.5	0.6
211-Z	211-ZNR	SP100	55	100	21	69	89.4	96.8	106.5	2.7	2.46	3.28	1.5	0.6
211-2Z	211-2ZNR	SP100	55	100	21	69	89.4	96.8	106.5	2.7	2.46	3.28	1.5	0.6
311	311NR	SP120	55	120	29	75.3	103.7	115.21	129.7	3.1	2.82	4.06	2	0.6
311-Z	311-ZNR	SP120	55	120	29	75.3	103.7	115.21	129.7	3.1	2.82	4.06	2	0.6
311-2Z	311-2ZNR	SP120	55	120	29	75.3	103.7	115.21	129.7	3.1	2.82	4.06	2	0.6
212	212NR	SP110	60	110	22	75.5	98	106.81	116.6	2.7	2.46	3.28	1.5	0.6
212-Z	212-ZNR	SP110	60	110	22	75.5	98	106.81	116.6	2.7	2.46	3.28	1.5	0.6
212-2Z	212-2ZNR	SP110	60	110	22	75.5	98	106.81	116.6	2.7	2.46	3.28	1.5	0.6
312	312NR	SP130	60	130	31	81.8	112.2	125.22	139.7	3.1	2.82	4.06	2.1	0.6
312-Z	312-ZNR	SP130	60	130	31	81.8	112.2	125.22	139.7	3.1	2.82	4.06	2.1	0.6
312-2Z	312-2ZNR	SP130	60	130	31	81.8	112.2	125.22	139.7	3.1	2.82	4.06	2.1	0.6
213	213NR	SP120	65	120	23	83.3	105.8	115.21	129.7	3.1	2.82	4.06	1.5	0.6
213-Z	213-ZNR	SP120	65	120	23	83.3	105.8	115.21	129.7	3.1	2.82	4.06	1.5	0.6
213-2Z	213-2ZNR	SP120	65	120	23	83.3	105.8	115.21	129.7	3.1	2.82	4.06	1.5	0.6
313	313NR	SP140	65	140	33	88.3	121.3	135.23	149.7	3.1	2.82	4.9	2.1	0.6
313-Z	313-ZNR	SP140	65	140	33	88.3	121.3	135.23	149.7	3.1	2.82	4.9	2.1	0.6
313-2Z	313-2ZNR	SP140	65	140	33	88.3	121.3	135.23	149.7	3.1	2.82	4.9	2.1	0.6
214	214NR	SP125	70	125	24	87	111	120.22	134.7	3.1	2.82	4.06	1.5	0.6
214-Z	214-ZNRSP	SP125	70	125	24	87	111	120.22	134.7	3.1	2.82	4.06	1.5	0.6
214-2Z	214-2ZNRSP	SP125	70	125	24	87	111	120.22	134.7	3.1	2.82	4.06	1.5	0.6
314	314NR	SP150	70	150	35	93.7	129.9	145.24	159.7	3.1	2.82	4.9	2.1	0.6
314-Z	314-ZNR	SP150	70	150	35	93.7	129.9	145.24	159.7	3.1	2.82	4.9	2.1	0.6
314-2Z	314-2ZNR	SP150	70	150	35	93.7	129.9	145.24	159.7	3.1	2.82	4.9	2.1	0.6
215	215NR	SP130	70	130	25	92	116.5	125.22	139.7	3.1	2.82	4.06	1.5	0.6
215-Z	215-ZNR	SP130	70	130	25	92	116.5	125.22	139.7	3.1	2.82	4.06	1.5	0.6
215-2Z	215-2ZNR	SP130	70	130	25	92	116.5	125.22	139.7	3.1	2.82	4.06	1.5	0.6

Type			Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Shoulder and chamfer dimensions							Calculate the coefficient
Bearings without snap rings	Belt snap rings	snap rings		Dynamic	Static				C	C <sub>0</sub>	P <sub>0</sub>	d <sub>a</sub> Min.	d <sub>a</sub> Max.	D <sub>a</sub> Max.	D <sub>b</sub> Max.	
			g			kN			r/min	mm						
310	310NR	SP110	1.15	65.0	52.8	2.22	11200	7100	61	-	99	118	3	5.74	2	0.05
310-Z	310-ZNR	SP110	1.15	65.0	52.8	2.22	11200	7100	61	68	99	118	3	5.74	2	0.05
310-2Z	310-2ZNR	SP110	1.15	65.0	52.8	2.22	11200	5700	61	68	99	118	3	5.74	2	0.05
211	211NR	SP100	0.66	48.9	44.7	1.88	12200	7100	64	-	91	108	3	5.74	1.5	0.04
211-Z	211-ZNR	SP100	0.66	48.9	44.7	1.88	12200	7100	64	68	91	108	3	5.74	1.5	0.04
211-2Z	211-2ZNR	SP100	0.66	48.9	44.7	1.88	12200	5700	64	68	91	108	3	5.74	1.5	0.04
311	311NR	SP120	1.5	80.0	68.0	2.88	10200	6400	66	-	109	131	3.5	6.88	2	0.05
311-Z	311-ZNR	SP120	1.5	80.0	68.0	2.88	10200	6400	66	75	109	131	3.5	6.88	2	0.05
311-2Z	311-2ZNR	SP120	1.5	80.0	68.0	2.88	10200	5100	66	75	109	131	3.5	6.88	2	0.05
212	212NR	SP110	0.85	56.7	50.8	2.14	11200	6800	69	-	101	118	3	5.74	1.5	0.04
212-Z	212-ZNR	SP110	0.85	56.7	50.8	2.14	11200	6800	69	75	101	118	3	5.74	1.5	0.04
212-2Z	212-2ZNR	SP110	0.85	56.7	50.8	2.14	11200	5500	69	75	101	118	3	5.74	1.5	0.04
312	312NR	SP130	1.85	92.2	79.2	3.38	9700	6100	72	-	118	141	3.5	6.88	2	0.05
312-Z	312-ZNR	SP130	1.85	92.2	79.2	3.38	9700	6100	72	81	118	141	3.5	6.88	2	0.05
312-2Z	312-2ZNR	SP130	1.85	92.2	79.2	3.38	9700	4900	72	81	118	141	3.5	6.88	2	0.05
213	213NR	SP120	1.05	61.1	59.4	2.53	10200	6100	74	-	111	131	3.5	6.88	1.5	0.04
213-Z	213-ZNR	SP120	1.05	61.1	59.4	2.53	10200	6100	74	83	111	131	3.5	6.88	1.5	0.04
213-2Z	213-2ZNR	SP120	1.05	61.1	59.4	2.53	10200	4900	74	83	111	131	3.5	6.88	1.5	0.04
313	313NR	SP140	2.3	103.0	91.4	3.79	9200	5400	77	-	128	151	3.5	7.72	2	0.05
313-Z	313-ZNR	SP140	2.3	103.0	91.4	3.79	9200	5400	77	88	128	151	3.5	7.72	2	0.05
313-2Z	313-2ZNR	SP140	2.3	103.0	91.4	3.79	9200	4400	77	88	128	151	3.5	7.72	2	0.05
214	214NR	SP125	1.15	66.7	66.5	2.78	9700	5700	79	-	116	136	3.5	6.88	1.5	0.04
214-Z	214-ZNRSP	SP125	1.15	66.7	66.5	2.78	9700	5700	79	87	116	136	3.5	6.88	1.5	0.04
214-2Z	214-2ZNRSP	SP125	1.15	66.7	66.5	2.78	9700	4600	79	87	116	136	3.5	6.88	1.5	0.04
314	314NR	SP150	2.75	115.1	103.5	4.19	8200	5100	82	-	138	162	3.5	7.72	2	0.05
314-Z	314-ZNR	SP150	2.75	115.1	103.5	4.19	8200	5100	82	93	138	162	3.5	7.72	2	0.05
314-2Z	314-2ZNR	SP150	2.75	115.1	103.5	4.19	8200	4100	82	93	138	162	3.5	7.72	2	0.05
215	215NR	SP130	1.25	72.8	73.1	3.03	9200	5400	84	-	121	141	3.5	6.88	1.5	0.04
215-Z	215-ZNR	SP130	1.25	72.8	73.1	3.03	9200	5400	84	92	121	141	3.5	6.88	1.5	0.04
215-2Z	215-2ZNR	SP130	1.25	72.8	73.1	3.03	9200	4400	84	92	121	141	3.5	6.88	1.5	0.04



# Deep Groove Ball Bearings

## Single Row deep groove ball bearing with ball filling notch

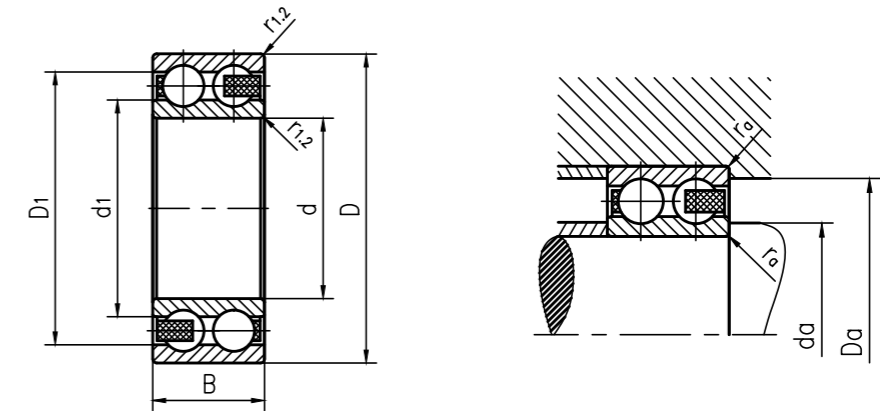


Type			Main dimensions			Dimensions								
Bearings without snap rings	Belt snap rings	snap rings	d	D	B	d <sub>1</sub> =	D <sub>2</sub> =	D <sub>3</sub>	D <sub>4</sub>	b	f	C	r <sub>1,2</sub> Min.	r <sub>0</sub> Max.
315	-	-	70	160	37	99.7	138.4	-	-	-	-	-	2.1	-
315-Z	-	-	70	160	37	99.7	138.4	-	-	-	-	-	2.1	-
315-2Z	-	-	70	160	37	99.7	138.4	-	-	-	-	-	2.1	-
216	216NR	SP140	80	140	26	95.8	126.5	135.23	149.7	3.1	2.82	4.9	2	0.6
216-Z	216-ZNR	SP140	80	140	26	95.8	126.5	135.23	149.7	3.1	2.82	4.9	2	0.6
216-2Z	216-2ZNR	SP140	80	140	26	95.8	126.5	135.23	149.7	3.1	2.82	4.9	2	0.6
316	-	-	80	170	39	106	146.9	-	-	-	-	-	2.1	-
316-Z	-	-	80	170	39	106	146.9	-	-	-	-	-	2.1	-
316-2Z	-	-	80	170	39	106	146.9	-	-	-	-	-	2.1	-
217	217NR	SP150	85	150	28	104	134.3	145.24	159.7	3.1	2.82	4.9	2	0.6
217-Z	-	-	85	150	28	104	134.3	-	-	-	-	-	2	-
217-2Z	-	-	85	150	28	104	134.3	-	-	-	-	-	2	-
317	-	-	85	180	41	112	155.4	-	-	-	-	-	3	-
317-Z	-	-	85	180	41	112	155.4	-	-	-	-	-	3	-
317-2Z	-	-	85	180	41	112	155.4	-	-	-	-	-	3	-
218	218NR	SP160	90	160	30	110	142.6	155.22	169.7	3.1	2.82	4.9	2	0.6
218-Z	-	-	90	160	30	110	142.6	-	-	-	-	-	2	-
218-2Z	-	-	90	160	30	110	142.6	-	-	-	-	-	2	-
318	-	-	90	190	43	119	163.9	-	-	-	-	-	3	-
318-Z	-	-	90	190	43	119	163.9	-	-	-	-	-	3	-
318-2Z	-	-	90	190	43	119	163.9	-	-	-	-	-	3	-
219	219NR	SP170	95	170	32	116	151.3	163.85	182.9	3.5	3.1	5.69	2.1	0.6
219-Z	-	-	95	170	32	116	151.3	-	-	-	-	-	2.1	-
219-2Z	-	-	95	170	32	116	151.3	-	-	-	-	-	2.1	-
220	-	-	100	180	34	123	159.9	-	-	-	-	-	2.1	-
220-Z	-	-	100	180	34	123	159.9	-	-	-	-	-	2.1	-
220-2Z	-	-	100	180	34	123	159.9	-	-	-	-	-	2.1	-

Type			Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Shoulder and chamfer dimensions							Calculate the coefficient
Bearings without snap rings	Belt snap rings	snap rings		Dynamic	Static				d <sub>a</sub> Min.	d <sub>a</sub> Max.	D <sub>a</sub> Max.	D <sub>b</sub> Max.	b <sub>a</sub> Min.	C <sub>a</sub> Max.	r <sub>a</sub> Max.	
						C	C <sub>0</sub>	P <sub>0</sub>	mm							-
315	-	-	3.25	126.3	117.7	4.60	7700	4900	87	-	148	-	-	-	2	0.05
315-Z	-	-	3.25	126.3	117.7	4.60	7700	4900	87	99	148	-	-	-	2	0.05
315-2Z	-	-	3.25	126.3	117.7	4.60	7700	3940	87	99	148	-	-	-	2	0.05
216	216NR	SP140	1.55	88.9	86.3	3.48	8700	5100	89	-	129	151	3.5	7.72	2	0.04
216-Z	216-ZNR	SP140	1.55	88.9	86.3	3.48	8700	5100	89	88	129	151	3.5	7.72	2	0.04
216-2Z	216-2ZNR	SP140	1.55	88.9	86.3	3.48	8700	4100	89	88	129	151	3.5	7.72	2	0.04
316	-	-	3.95	139.4	130.9	4.95	7200	4400	92	-	158	-	-	-	2	0.05
316-Z	-	-	3.95	139.4	130.9	4.95	7200	4400	92	105	158	-	-	-	2	0.05
316-2Z	-	-	3.95	139.4	130.9	4.95	7200	3540	92	105	158	-	-	-	2	0.05
217	217NR	SP150	1.95	97.8	101.5	3.94	7700	4900	96	-	139	162	3.5	7.72	2	0.04
217-Z	-	-	1.95	97.8	101.5	3.94	7700	4900	96	96	139	-	-	-	2	0.04
217-2Z	-	-	1.95	97.8	101.5	3.94	7700	4000	96	96	139	-	-	-	2	0.04
317	-	-	4.6	148.5	148.2	5.35	6900	4100	98	-	167	-	-	-	2.5	0.05
317-Z	-	-	4.6	148.5	148.2	5.35	6900	4100	98	112	167	-	-	-	2.5	0.05
317-2Z	-	-	4.6	148.5	148.2	5.35	6900	3300	98	112	167	-	-	-	2.5	0.05
218	218NR	SP160	2.35	113.1	115.7	4.34	7200	4400	100	-	150	172	3.5	7.72	2	0.04
218-Z	-	-	2.35	113.1	115.7	4.34	7200	4400	100	110	150	-	-	-	2	0.04
218-2Z	-	-	2.35	113.1	115.7	4.34	7200	4400	100	110	150	-	-	-	2	0.04
318	-	-	5.4	158.6	162.4	5.76	6500	4100	103	-	177	-	-	-	2.5	0.05
318-Z	-	-	5.4	158.6	162.4	5.76	6500	4100	103	118	177	-	-	-	2.5	0.05
318-2Z	-	-	5.4	158.6	162.4	5.76	6500	3300	103	118	177	-	-	-	2.5	0.05
219	219NR	SP170	2.7	122.2	123.8	4.55	6900	4100	107	-	158	185	4	8.79	2	0.04
219-Z	-	-	2.7	122.2	123.8	4.55	6900	4100	107	116	158	-	-	-	2	0.04
219-2Z	-	-	2.7	122.2	123.8	4.55	6900	4100	107	116	158	-	-	-	2	0.04
220	-	-	3.45	135.3	142.1	5.05	6500	4100	112	-	168	-	-	-	2	0.04
220-Z	-	-	3.45	135.3	142.1	5.05	6500	4100	112	122	168	-	-	-	2	0.04
220-2Z	-	-	3.45	135.3	142.1	5.05	6500	4100	112	122	168	-	-	-	2	0.04

# Deep Groove Ball Bearings

## Double row deep groove ball bearing



Type	Main dimensions			Dimensions			Shoulder and chamfer dimensions		
	d	D	B	d <sub>1</sub> ≈	D <sub>1</sub> ≈	r <sub>1,2</sub> Min.	d <sub>a</sub> Min.	D <sub>a</sub> Max.	r <sub>a</sub> Max.
-	mm			mm			mm		
4200ATN9	10	30	14	16.7	23.3	0.6	14.2	25.8	0.6
4201ATN9	12	32	14	18.3	25.7	0.6	16.2	27.8	0.6
4301ATN9	12	37	17	20.5	28.5	1	17.6	31.4	1
4202ATN9	15	35	14	21.5	29	0.6	19.2	30.8	0.6
4302ATN9	15	42	17	24.5	32.5	1	20.6	36.4	1
4203ATN9	17	40	16	24.3	32.7	0.6	21.2	35.8	0.6
4303ATN9	17	47	19	28.7	38.3	1	22.6	41.4	1
4204ATN9	20	47	18	29.7	38.3	1	25.6	41.4	1
4304ATN9	20	52	21	31.8	42.2	1.1	27	45	1
4205ATN9	25	52	18	34.2	42.8	1	30.6	46.4	1
4305ATN9	25	62	24	37.3	49.7	1.1	32	55	1
4206ATN9	30	62	20	40.9	51.1	1	35.6	56	1
4306ATN9	30	72	27	43.9	58.1	1.1	37	65	1
4207ATN9	35	72	23	47.5	59.5	1.1	42	65	1
4307ATN9	35	80	31	49.5	65.4	1.5	44	71	1.5
4208ATN9	40	80	23	54	66	1.1	47	73	1
4308ATN9	40	90	33	56.9	73.1	1.5	49	81	1.5
4209ATN9	45	85	23	59.5	71.5	1.1	52	78	1
4309ATN9	45	100	36	63.5	81.5	1.5	54	91	1.5
4210ATN9	50	90	23	65.5	77.5	1.1	57	83	1
4310ATN9	50	110	40	70	90	2	61	99	2
4211ATN9	55	100	25	71.2	83.8	1.5	64	91	1.5
4311ATN9	55	120	43	76.5	98.5	2	66	109	2
4212ATN9	60	110	28	75.6	90.4	1.5	69	101	1.5
4312ATN9	60	130	46	83.1	107	2.1	72	118	2
4213ATN9	65	120	31	82.9	99.1	1.5	74	111	1.5
4313ATN9	65	140	48	89.6	115	2.1	77	128	2
4214ATN9	70	125	31	89.4	106	1.5	79	116	1.5
4215ATN9	75	130	31	96.9	114	1.5	84	121	1.5
4315ATN9	75	160	55	103	132	2.1	87	148	2
4216ATN9	80	140	33	102	120	2	91	129	2
4217ATN9	85	150	36	105	125	2	96	139	2
4218ATN9	90	160	40	114	136	2	101	149	2

Type	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient	
		Dynamic	Static				k <sub>r</sub>	f <sub>0</sub>
		C	C <sub>0</sub>	P <sub>u</sub>	r/min	-	-	
-	g	kN			r/min	-	-	
4200ATN9	0.049	9.3	5.3	0.23	40200	22100	0.05	12
4201ATN9	0.052	10.7	6.3	0.26	36200	20100	0.05	12
4301ATN9	0.092	13.1	7.9	0.33	34200	18100	0.06	12
4202ATN9	0.059	12.0	7.6	0.32	32200	17100	0.05	13
4302ATN9	0.12	14.9	9.6	0.41	28200	15100	0.06	13
4203ATN9	0.09	14.9	9.6	0.41	28200	15100	0.05	13
4303ATN9	0.16	19.7	13.4	0.57	24200	13100	0.06	13
4204ATN9	0.14	18.0	12.7	0.54	24200	13100	0.05	14
4304ATN9	0.21	23.6	16.2	0.69	22200	12100	0.06	13
4205ATN9	0.17	19.2	14.8	0.63	20200	11100	0.05	14
4305ATN9	0.34	32.2	22.7	0.96	18200	10100	0.06	13
4206ATN9	0.29	26.3	21.1	0.89	17200	9600	0.05	14
4306ATN9	0.5	41.4	30.5	1.28	16200	8600	0.06	13
4207ATN9	0.4	35.5	28.9	1.21	15200	8100	0.05	14
4307ATN9	0.68	51.2	38.6	1.65	14200	7600	0.06	13
4208ATN9	0.5	37.5	33.0	1.38	13200	7100	0.05	15
4308ATN9	0.95	56.5	45.7	1.92	12200	6800	0.06	14
4209ATN9	0.54	39.4	36.5	1.55	12200	6800	0.05	15
4309ATN9	1.25	69.6	56.8	2.42	11200	6100	0.06	14
4210ATN9	0.58	41.4	40.6	1.72	11200	6100	0.05	15
4310ATN9	1.7	82.7	70.5	2.93	10200	5400	0.06	14
4211ATN9	0.8	45.3	44.7	1.92	10200	5700	0.05	16
4311ATN9	2.15	98.5	84.2	3.48	9200	5100	0.06	14
4212ATN9	1.1	57.8	55.8	2.38	9700	5400	0.05	15
4312ATN9	2.65	113.1	99.5	4.19	8700	4600	0.06	14
4213ATN9	1.45	68.3	68.0	2.83	8700	4900	0.05	15
4313ATN9	3.25	122.2	107.6	4.55	8200	4400	0.06	14
4214ATN9	1.5	70.9	74.6	3.13	8200	4400	0.05	15
4215ATN9	1.6	73.5	81.2	3.38	7700	4100	0.05	16
4315ATN9	4.8	163.8	150.15	7.50	6900	3700	0.06	14
4216ATN9	2	84.63	94.5	9.50	6902	3702	0.05	16
4217ATN9	2.55	98.28	107.1	11.50	6904	3704	0.05	15
4218ATN9	3.2	117.6	128.1	13.50	6906	3706	0.05	15

## Single Row Angular Contact Ball Bearings

Single row angular contact ball bearings are non-separable bearings, usually composed of inner rings, outer rings, steel balls, cage and other components. Single row angular ball bearings can only bear axial loads acting in one direction. This type bearings usually be used in pairs with another set of single row angular contact ball bearings. The dimensions of the shoulders on both sides of the inner and outer rings are designed asymmetrically, so that more steel balls can be loaded to improve the bearing capacity of the bearing.

## Radial and Axial Load Capacity

Single row angular contact ball bearings can load large radial force and one-way axial force. The axial load capacity of this type of bearing depends on the size of the contact angle. The larger the contact angle, the greater the axial force it can load. Angular contact ball bearings usually have a contact angle of 40°, so they can load very large axial loads.

## Universal Matching Bearings

Single row angular contact ball bearings can be combined into back-to-back DB, face-to-face DF, and series connection DT according to the needs of use. There are three axial clearances can provide CA, CB, and CC. When there is a demand for preload, three different preload groups can be provided - light preload GA, medium preload GB, and heavy preload GC.

## Seals

Generally single row angular contact ball bearings do not have seals, please contact KMR when there is a need for seals.

## Cages

Depending on different bearing series and sizes, the cage materials of single row angular contact ball bearings are divided into glass fiber reinforced nylon cages, stamped brass cages,

and machined brass cages. All of them are guided by steel balls.

## Operating Temperature

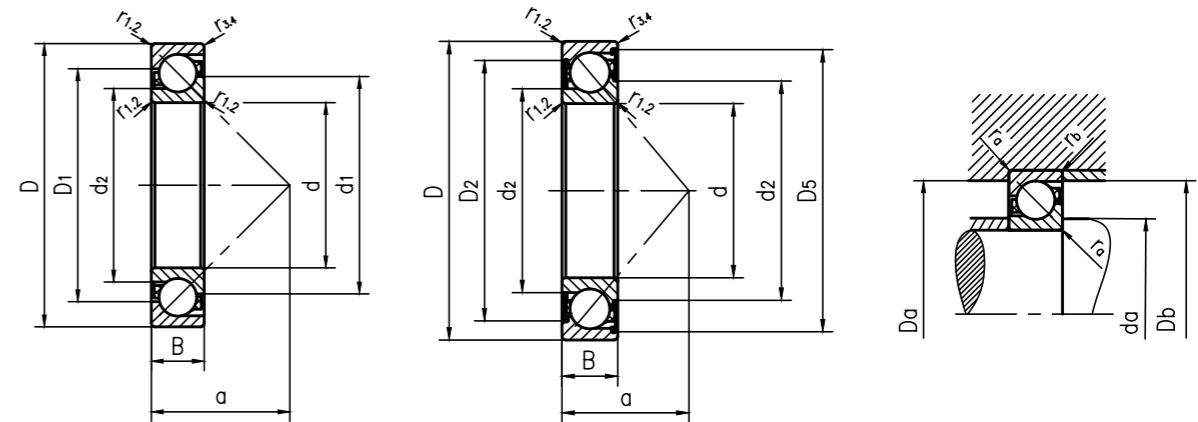
The operating temperature of single row angular contact ball bearings is -30°C~+150°C. Limited by the working temperature of the cage material, the upper limit of the operating temperature of single row angular contact ball bearings with glass fiber reinforced nylon cage is +120°C.



## Suffixes for Designs

Suffix	Meaning
A	Single row bearing, 30° contact angle
AB	Single row inch bearing, 20° contact angle
AC	Single row bearing, 25° contact angle
B	Single row bearing, 40° contact angle
N1	One locating slot (notch) in one outer ring side face
N2	Two locating slots (notches) in one outer ring side face, 180° apart
CA	Bearing for universal matching Two bearings arranged back-to-back or face-to-face have axial internal clearance smaller than Normal (CB)
CB	Bearing for universal matching Two bearings arranged back-to-back or face-to-face have Normal axial internal clearance
CC	Bearing for universal matching Two bearings arranged back-to-back or face-to-face have axial internal clearance greater than Normal (CB)
G	Bearing for universal matching Two bearings arranged back-to-back or face-to-face have axial internal clearance
GA	Bearing for universal matching Two bearings arranged back-to-back or face-to-face have light preload
GB	Bearing for universal matching Two bearings arranged back-to-back or face-to-face have moderate preload
GC	Bearing for universal matching Two bearings arranged back-to-back or face-to-face have heavy preload
F	Machined steel cage, ball centred
J	Stamped steel cage, ball centred (single row bearing)
M	Machined brass cage, ball centred; different designs are identified by a number following the M, e g M2
Y	Stamped brass cage, ball centred
P5	Dimensional and geometrical tolerances to class P5
P6	Dimensional and geometrical tolerances to class P6
DB	Two bearings matched for mounting back-to-back
DF	Two bearings matched for mounting face-to-face
DT	Two bearings matched for mounting in tandem

# Single row angular contact ball bearing

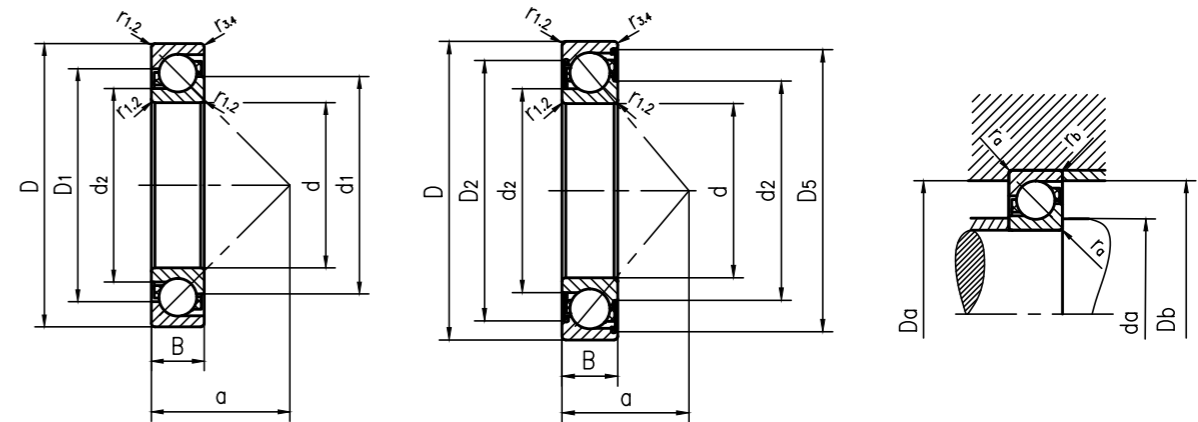


Type		Main dimensions			Dimensions						
Universal paired bearings	Basic design/sealed bearings	d	D	B	d <sub>1</sub> ≈	d <sub>2</sub> ≈	D <sub>1</sub> , D <sub>2</sub> ≈	D <sub>5</sub> ≈	r <sub>1.2</sub> Min.	r <sub>3.4</sub> Min.	α
-		mm			mm						
7200BECBP	7200BEP	10	30	9	18.3	14.5	22.9	-	0.6	0.3	13
7201 BECBP	7201 BEP	12	32	10	20.2	16.5	25	-	0.6	0.3	14
-	7301 BE-2RZP	12	37	12	21.9	16.9	29.5	33.5	1	0.6	16.3
-	7301 BEP	12	37	12	21.7	16.9	28.3	-	1	0.6	16.3
-	7202 BE-2RZP	15	35	11	22.7	18.9	28.5	32.4	0.6	0.3	16
-	7202 BEP	15	35	11	22.7	18.9	27.8	-	0.6	0.3	16
7202 BECBP	-	15	35	11	22.7	18.9	27.8	-	0.6	0.3	16
7202 ACCBM	-	15	35	11	22.8	18.8	27.6	-	0.6	0.3	16
-	7302 BE-2RZP	15	42	13	26	20.7	33.8	38.6	1	0.6	18.6
7302 BECBP	7302 BEP	15	42	13	26	20.7	32.6	-	1	0.6	18.6
-	7203 BE	17	40	12	26.2	21.6	34	36.5	0.6	0.6	18
-	7203 BEP	17	40	12	26.2	21.6	31.2	-	0.6	0.6	18
7203 BECBP	-	17	40	12	26.2	21.6	31.2	-	0.6	0.6	18
7203 BECBM	-	17	40	12	26.2	21.6	31.2	-	0.6	0.6	18
-	7203 BEY	17	40	12	26.2	21.6	31.2	-	0.6	0.6	18
7203 ACCBM	-	17	40	12	26	21.5	31.4	-	0.6	0.6	12
-	7303 BE-2RZP	17	47	14	28.6	22.8	37.4	42.6	1	0.6	20.4
7303 BECBP	7303 BEP	17	47	14	28.6	22.8	36.2	-	1	0.6	20.4
-	7204 BE-2RZP	20	47	14	30.8	25.8	37.7	43.2	1	0.6	21
-	7204 BEP	20	47	14	30.8	25.8	37	-	1	0.6	21
7204 BECBP	-	20	47	14	30.8	25.8	37	-	1	0.6	21
7204 BECBPH	-	20	47	14	30.8	25.8	37	-	1	0.6	21
7204 BECBBY	-	20	47	14	30.8	25.8	37	-	1	0.6	21

Type		Shoulder and chamfer dimensions						Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient	
Universal paired bearings	Basic design/sealed bearings	d <sub>a</sub> Min.	d <sub>a</sub> Max.	D <sub>a</sub> Max.	D <sub>b</sub> Max.	r <sub>a</sub> Max.	r <sub>b</sub> Max.		Dynamic	Static				P <sub>0</sub>	r/min
-		mm							kg	kN		-			
7200BECBP	7200BEP	14.2	-	25.8	27.6	0.6	0.3	0.03	7.37	3.52	0.15	31500	31500	0.00022	0.095
7201 BECBP	7201 BEP	16.2	-	27.8	30	0.6	0.3	0.036	7.99	3.99	0.17	29400	27300	0.00028	0.095
-	7301 BE-2RZP	17.2	21.5	31.4	32.8	1	0.6	0.06	11.13	5.25	0.22	27300	21000	0.00054	0.1
-	7301 BEP	17.2	-	31.4	32.8	1	0.6	0.06	11.13	5.25	0.22	27300	21000	0.00054	0.1
-	7202 BE-2RZP	19.2	22.5	30.8	32.6	0.6	0.3	0.045	8.74	4.62	0.19	25200	21000	0.00038	0.095
-	7202 BEP	19.2	-	30.8	32.6	0.6	0.3	0.045	8.74	4.62	0.19	25200	21000	0.00038	0.095
7202 BECBP	-	19.2	-	30.8	32.6	0.6	0.3	0.045	9.24	4.88	0.21	25200	27300	0.00038	0.095
7202 ACCBM	-	19.2	-	30.8	32.6	0.6	0.3	0.045	10.71	5.46	0.24	27300	42000	0.00016	0.095
-	7302 BE-2RZP	21	22.5	36	38	1	0.6	0.082	13.65	7.04	0.29	23100	17850	0.00091	0.1
7302 BECBP	7302 BEP	21	-	36	38	1	0.6	0.08	13.65	7.04	0.29	23100	21000	0.00091	0.1
-	7203 BE	21.2	26.2	35.8	35.8	0.6	0.6	0.063	10.92	5.78	0.25	23100	17850	0.00063	0.095
-	7203 BEP	21.2	-	35.8	35.8	0.6	0.6	0.065	10.92	5.78	0.25	23100	21000	0.00063	0.095
7203 BECBP	-	21.2	-	35.8	35.8	0.6	0.6	0.065	11.55	6.14	0.26	23100	23100	0.00063	0.095
7203 BECBM	-	21.2	-	35.8	35.8	0.6	0.6	0.065	11.55	6.14	0.26	23100	29400	0.00063	0.095
-	7203 BEY	21.2	-	35.8	35.8	0.6	0.6	0.065	11.66	6.41	0.27	23100	21000	0.00069	0.095
7203 ACCBM	-	21.2	-	35.8	35.8	0.6	0.6	0.065	13.13	7.04	0.3	25200	35700	0.00025	0.095
-	7303 BE-2RZP	22.6	28	41.4	42.8	1	0.6	0.11	16.7	8.72	0.37	21000	15750	0.00014	0.1
7303 BECBP	7303 BEP	22.6	-	41.4	42.8	1	0.6	0.11	16.7	8.72	0.37	21000	19950	0.00014	0.1
-	7204 BE-2RZP	25.6	30	41.4	42.8	1	0.6	0.15	13.97	8.03	0.34	19950	14700	0.00011	0.095
-	7204 BEP	25.6	-	41.4	42.8	1	0.6	0.11	13.97	8.03	0.34	19950	18900	0.00011	0.095
7204 BECBP	-	25.6	-	41.4	42.8	1	0.6	0.11	15.02	8.56	0.36	19950	19950	0.00011	0.095
7204 BECBPH	-	25.6	-	41.4	42.8	1	0.6	0.11	15.02	8.56	0.36	19950	19950	0.00011	0.095
7204 BECBBY	-	25.6	-	41.4	42.8	1	0.6	0.11	15.02	8.56	0.36	19950	19950	0.00011	0.095



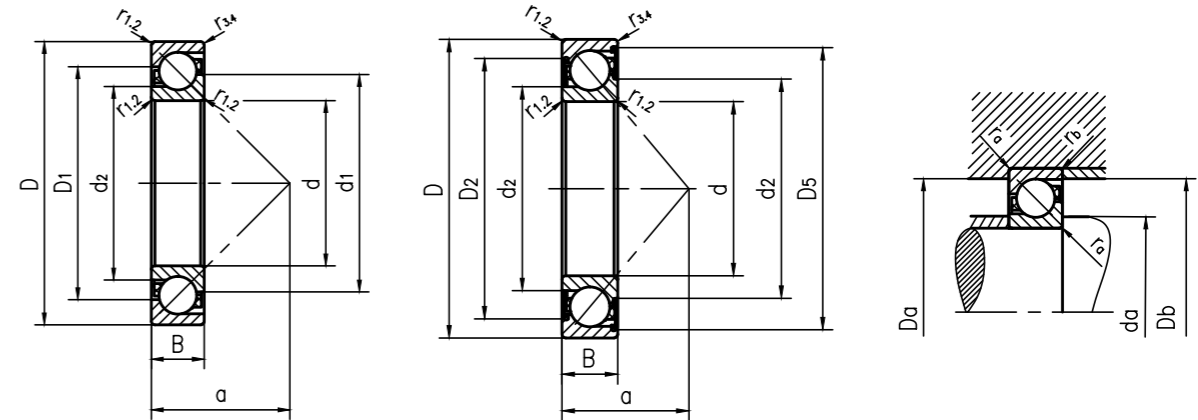
# Single row angular contact ball bearing



Type		Main dimensions			Dimensions						
Universal paired bearings	Basic design/sealed bearings	d	D	B	d <sub>1</sub> ≈	d <sub>2</sub> ≈	D <sub>1</sub> , D <sub>2</sub> ≈	D <sub>5</sub> ≈	r <sub>1,2</sub> Min.	r <sub>3,4</sub> Min.	α
-		mm			mm						
7204 BECBM	-	20	47	14	30.8	25.8	37	-	1	0.6	21
7204 ACCB	-	20	47	14	30.7	25.7	36.7	-	1	0.6	14
-	7304 BE-2RZP	20	52	15	33.1	26.7	41.6	48.1	1.1	0.6	22.8
-	7304 BEP	20	52	15	33.1	26.7	40.5	-	1.1	0.6	22.8
7304 BECBP	-	20	52	15	33.1	26.7	40.5	-	1.1	0.6	22.8
7304 BECBPH	-	20	52	15	33.1	26.7	40.5	-	1.1	0.6	22.8
7304 BECBM	-	20	52	15	33.1	26.7	40.5	-	1.1	0.6	22.8
7304 BECBY	-	20	52	15	33.1	26.7	40.5	-	1.1	0.6	22.8
7304 ACCBM	-	20	52	15	32.9	26.6	40.4	-	1.1	0.6	15
-	7205 BE-2RZP	25	52	15	36.1	30.8	42.7	48	1	0.6	24
-	7205 BEP	25	52	15	36.1	30.8	41.6	-	1	0.6	24
-	7205 BEY	25	52	15	36.1	30.8	41.6	-	1	0.6	24
7205 BECBP	-	25	52	15	36.1	30.8	41.5	-	1	0.6	24
7205 BECBY	-	25	52	15	36.1	30.8	41.5	-	1	0.6	24
7205 BECBM	-	25	52	15	36.1	30.8	41.5	-	1	0.6	24
7205 BECBPH	-	25	52	15	36.1	30.8	41.5	-	1	0.6	24
7205 ACCBM	-	25	52	15	35.8	30.7	41.7	-	1	0.6	16
-	7305 BE-2RZP	25	62	17	39.7	32.3	50.5	56.9	1.1	0.6	26.8
-	7305 BEP	25	62	17	39.7	32.3	48.3	-	1.1	0.6	26.8
-	7305 BEY	25	62	17	39.7	32.3	48.3	-	1.1	0.6	26.8
7305 BECBP	-	25	62	17	39.7	32.3	48.3	-	1.1	0.6	26.8
7305 BECBPH	-	25	62	17	39.7	32.3	48.3	-	1.1	0.6	26.8
7305 BECBY	-	25	62	17	39.7	32.3	48.3	-	1.1	0.6	26.8

Type		Shoulder and chamfer dimensions							Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient	
Universal paired bearings	Basic design/sealed bearings	d <sub>a</sub> Min.	d <sub>a</sub> Max.	D <sub>a</sub> Max.	D <sub>b</sub> Max.	r <sub>a</sub> Max.	r <sub>b</sub> Max.	Dynamic		Static	P <sub>0</sub>				A	K <sub>r</sub>
-		mm								kg						
7204 BECBM	-	25.6	-	41.4	42.8	1	0.6	0.11	15.02	8.56	0.36	19950	25200	0.00011	0.095	
7204 ACCB	-	25.6	-	41.4	42.8	1	0.6	0.11	16.8	9.77	0.41	21000	31500	0.00046	0.095	
-	7304 BE-2RZP	27	3.5	45	47.8	1	0.6	0.14	18.27	9.98	0.42	17850	13650	0.0091	0.1	
-	7304 BEP	27	-	45	47.8	1	0.6	0.14	18.27	9.98	0.42	17850	16800	0.0091	0.1	
7304 BECBP	-	27	-	45	47.8	1	0.6	0.14	19.95	10.5	0.45	17850	18900	0.0091	0.1	
7304 BECBPH	-	27	-	45	47.8	1	0.6	0.14	19.95	10.5	0.45	17850	18900	0.0091	0.1	
7304 BECBM	-	27	-	45	47.8	1	0.6	0.14	19.95	10.5	0.45	17850	23100	0.0091	0.1	
7304 BECBY	-	27	-	45	47.8	1	0.6	0.14	21.42	11.76	0.5	17850	18900	0.00212	0.1	
7304 ACCBM	-	27	-	45	47.8	1	0.6	0.14	21.84	11.76	0.5	19950	27300	0.00771	0.1	
-	7205 BE-2RZP	30.6	35.5	46.4	47.8	1	0.6	0.13	15.54	9.77	0.42	16800	12600	0.00159	0.095	
-	7205 BEP	30.6	-	46.4	47.8	1	0.6	0.13	15.54	9.77	0.42	16800	15750	0.00159	0.095	
-	7205 BEY	30.6	-	46.4	47.8	1	0.6	0.13	15.54	9.77	0.42	16800	15750	0.00159	0.095	
7205 BECBP	-	30.6	-	46.4	47.8	1	0.6	0.13	16.38	10.5	0.45	16800	17850	0.00159	0.095	
7205 BECBY	-	30.6	-	46.4	47.8	1	0.6	0.13	16.38	10.5	0.45	16800	17850	0.00159	0.095	
7205 BECBM	-	30.6	-	46.4	47.8	1	0.6	0.13	16.38	10.5	0.45	16800	21000	0.00159	0.095	
7205 BECBPH	-	30.6	-	46.4	47.8	1	0.6	0.13	16.38	10.5	0.45	16800	17850	0.00159	0.095	
7205 ACCBM	-	30.6	-	46.4	47.8	1	0.6	0.13	18.9	11.97	0.51	17850	27300	0.00656	0.095	
-	7305 BE-2RZP	32	39	55	57	1	0.6	0.23	25.41	14.7	0.63	14700	11550	0.00391	0.1	
-	7305 BEP	32	-	55	57	1	0.6	0.23	25.41	14.7	0.63	14700	14700	0.00391	0.1	
-	7305 BEY	32	-	55	57	1	0.6	0.23	25.41	14.7	0.63	14700	14700	0.00391	0.1	
7305 BECBP	-	32	-	55	57	1	0.6	0.23	27.83	16.07	0.69	14700	15750	0.00391	0.1	
7305 BECBPH	-	32	-	55	57	1	0.6	0.23	27.83	16.07	0.69	14700	15750	0.00391	0.1	
7305 BECBY	-	32	-	55	57	1	0.6	0.23	27.83	16.07	0.69	14700	15750	0.00391	0.1	

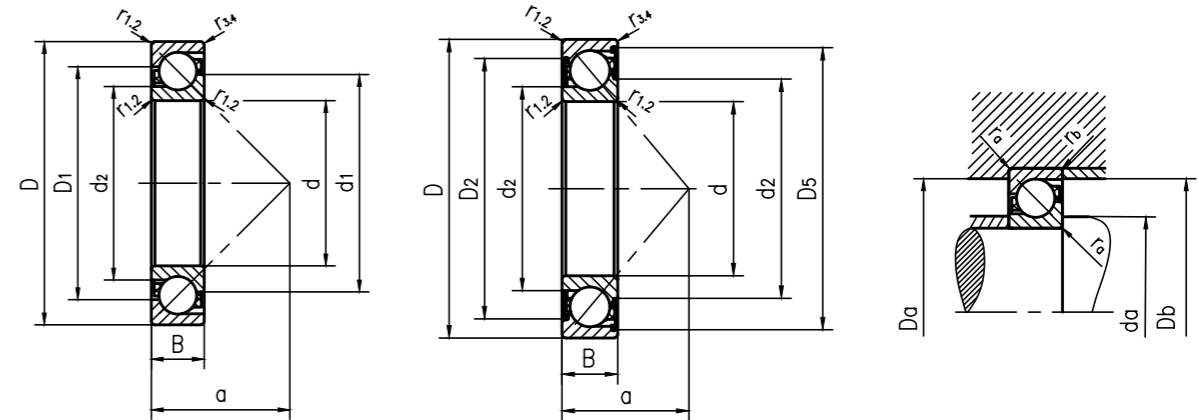
# Single row angular contact ball bearing



Type		Main dimensions			Dimensions						
Universal paired bearings	Basic design/sealed bearings	d	D	B	d <sub>1</sub> ≈	d <sub>2</sub> ≈	D <sub>1</sub> , D <sub>2</sub> ≈	D <sub>5</sub> ≈	r <sub>1.2</sub> Min.	r <sub>3.4</sub> Min.	α
-		mm			mm						
7305 BECBM	-	25	62	17	39.7	32.3	48.3	-	1.1	0.6	26.8
7305 ACCBM	-	25	62	17	39.5	32.2	48.1	-	1.1	0.6	18
-	7206 BE-2RZP	30	62	16	42.6	36.1	51.8	57.6	1	0.6	27.3
-	7206 BEP	30	62	16	42.6	36.1	50.1	-	1	0.6	27.3
7206 BECBP	-	30	62	16	42.6	36.1	50.1	-	1	0.6	27.3
7206 BECBPH	-	30	62	16	42.6	36.1	50.1	-	1	0.6	27.3
7206 BECBM	-	30	62	16	42.6	36.1	50.1	-	1	0.6	27.3
7206 BECBY	-	30	62	16	42.6	36.1	50.1	-	1	0.6	27.3
7206 ACCBM	-	30	62	16	42.4	35.9	50.1	-	1	0.6	18
-	7306 BE-2RZP	30	72	19	46.5	37.9	58.8	66.45	1.1	0.6	31
-	7306 BEP	30	72	19	46.5	37.9	56.6	-	1.1	0.6	31
7306 BECBP	-	30	72	19	46.5	37.9	56.6	-	1.1	0.6	31
7306 BEGAPH	-	30	72	19	46.5	37.9	56.6	-	1.1	0.6	31
7306 BECBM	-	30	72	19	46.5	37.9	56.6	-	1.1	0.6	31
7306 BECBY	-	30	72	19	46.5	37.9	56.6	-	1.1	0.6	31
7306 ACCBM	-	30	72	19	46.3	37.8	56.4	-	1.1	0.6	21
-	7308 ACCBM	35	72	17	49.6	41.9	59.9	67.7	1.1	0.6	31
-	7207 BEP	35	72	17	49.6	41.9	58.3	-	1.1	0.6	31
7207 BECBP	-	35	72	17	49.6	41.9	58.3	-	1.1	0.6	31
7207 BECBM	-	35	72	17	49.6	41.9	58.3	-	1.1	0.6	31
7207 BECBY	-	35	72	17	49.6	41.9	58.3	-	1.1	0.6	31
7207 ACCBM	-	35	72	17	49.4	41.9	58.3	-	1.1	0.6	20
-	7307 BE-2RZP	35	80	21	52.5	43.6	65.1	74.3	1.5	1	35

Type		Shoulder and chamfer dimensions						Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient		
Universal paired bearings	Basic design/sealed bearings	d <sub>a</sub> Min.	d <sub>a</sub> Max.	D <sub>a</sub> Max.	D <sub>b</sub> Max.	r <sub>a</sub> Max.	r <sub>b</sub> Max.		Dynamic	Static				P <sub>0</sub>	A	K <sub>r</sub>
-		mm							kg	kN						
7305 BECBM	-	32	-	55	57	1	0.6	0.23	27.83	16.07	0.69	14700	19950	0.00391	0.1	
7305 ACCBM	-	32	-	55	57	1	0.6	0.23	30.45	17.85	0.76	15750	23100	0.00158	0.1	
-	7206 BE-2RZP	35.6	42	56	57	1	0.6	0.26	23.63	15.02	0.64	13650	10500	0.0037	0.095	
-	7206 BEP	35.6	-	56	57	1	0.6	0.2	23.63	15.02	0.64	13650	13650	0.0037	0.095	
7206 BECBP	-	35.6	-	56	57	1	0.6	0.2	25.2	16.38	0.69	13650	14700	0.0037	0.095	
7206 BECBPH	-	35.6	-	56	57	1	0.6	0.2	25.2	16.38	0.69	13650	14700	0.0037	0.095	
7206 BECBM	-	35.6	-	56	57	1	0.6	0.2	25.2	16.38	0.69	13650	18900	0.0037	0.095	
7206 BECBY	-	35.6	-	56	57	1	0.6	0.2	26.78	17.85	0.75	13650	14700	0.00408	0.095	
7206 ACCBM	-	35.6	-	56	57	1	0.6	0.2	28.88	18.17	0.77	15750	21000	0.00155	0.095	
-	7306 BE-2RZP	37	46	65	67	1	0.6	0.35	34.13	20.27	0.86	12600	9975	0.0074	0.1	
-	7306 BEP	37	-	65	67	1	0.6	0.34	34.13	20.27	0.86	12600	12600	0.0074	0.1	
7306 BECBP	-	37	-	65	67	1	0.6	0.34	37.28	22.26	0.95	12600	13650	0.0074	0.1	
7306 BEGAPH	-	37	-	65	67	1	0.6	0.34	37.28	22.26	0.95	12600	13650	0.0074	0.1	
7306 BECBM	-	37	-	65	67	1	0.6	0.34	37.28	22.26	0.95	12600	16800	0.0074	0.1	
7306 BECBY	-	37	-	65	67	1	0.6	0.34	39.38	24.36	1.03	12600	13650	0.00814	0.1	
7306 ACCBM	-	37	-	65	67	1	0.6	0.34	40.95	24.78	1.05	13650	19950	0.003	0.1	
-	7308 ACCBM	42	49	65	67	1	0.6	0.35	30.56	19.95	0.86	11550	9450	0.00674	0.095	
-	7207 BEP	42	-	65	67	1	0.6	0.28	30.56	19.95	0.86	11550	11550	0.00674	0.095	
7207 BECBP	-	42	-	65	67	1	0.6	0.28	32.55	21.84	0.92	11550	12600	0.00674	0.095	
7207 BECBM	-	42	-	65	67	1	0.6	0.28	32.55	21.84	0.92	11550	15750	0.00674	0.095	
7207 BECBY	-	42	-	65	67	1	0.6	0.28	34.13	23.52	1	11550	12600	0.0073	0.095	
7207 ACCBM	-	42	-	65	67	1	0.6	0.28	34.13	24.36	1.03	12600	18900	0.00277	0.095	
-	7307 BE-2RZP	44	52	71	74	1.5	1	0.45	40.95	25.73	1.09	11550	8925	0.0111	0.1	

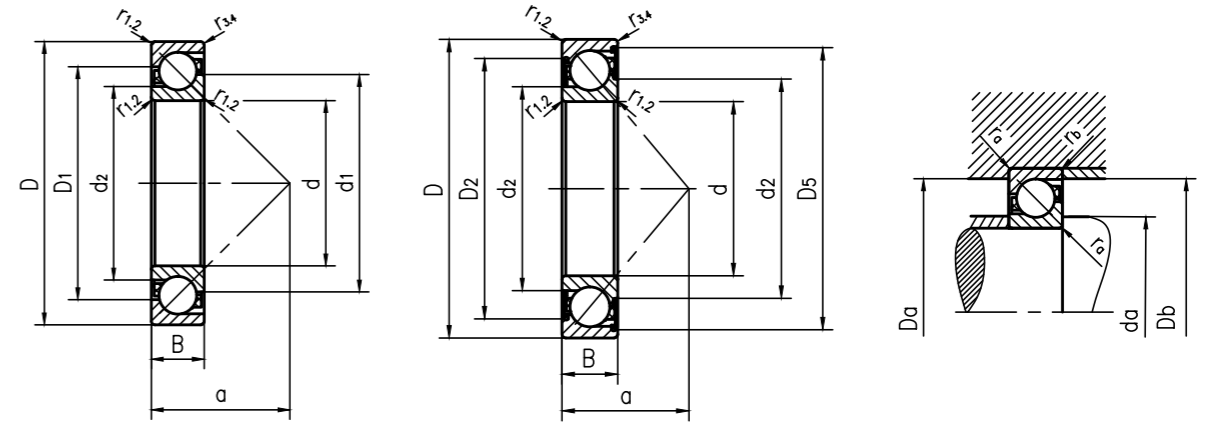
# Single row angular contact ball bearing



Type		Main dimensions			Dimensions						
Universal paired bearings	Basic design/sealed bearings	d	D	B	d <sub>1</sub>	d <sub>2</sub>	D <sub>1</sub> , D <sub>2</sub>	D <sub>5</sub>	r <sub>1,2</sub> Min.	r <sub>3,4</sub> Min.	α
-		mm			mm						
-	7307 BEP	35	80	21	52.5	43.6	63.5	-	1.5	1	35
7307 BECBP	-	35	80	21	52.5	43.6	63.5	-	1.5	1	35
7307 BECBBY	-	35	80	21	52.5	43.6	63.5	-	1.5	1	35
7307 BEGAPH	-	35	80	21	52.5	43.6	63.5	-	1.5	1	35
7307 BECBM	-	35	80	21	52.5	43.6	63.5	-	1.5	1	35
7307 ACCBM	-	35	80	21	52.5	43.5	63.2	-	1.5	1	23
-	7208 BE-2RZP	40	80	18	56.2	48	67.2	75.3	1.1	0.6	34
-	7208 BEP	40	80	18	56.2	48	65.6	-	1.1	0.6	34
7208 BECBP	-	40	80	18	56.2	48	65.6	-	1.1	0.6	34
7208 BECBPH	-	40	80	18	56.2	48	65.6	-	1.1	0.6	34
7208 BECBM	-	40	80	18	56.2	48	65.6	-	1.1	0.6	34
7208 BECBBY	-	40	80	18	56.2	48	65.6	-	1.1	0.6	34
7208 ACCBM	-	40	80	18	56	48	65.6	-	1.1	0.6	23
-	7308 BE-2RZP	40	90	23	59.7	49.5	73.9	83	1.5	1	39
-	7308 BEP	40	90	23	59.7	49.5	71.6	-	1.5	1	39
7308 BECBP	-	40	90	23	59.7	49.5	71.6	-	1.5	1	39
7308 BEGAPH	-	40	90	23	59.7	49.5	71.6	-	1.5	1	39
7308 BECBM	-	40	90	23	59.5	49.5	71.6	-	1.5	1	39
7308 BECBBY	-	40	90	23	59.5	49.5	71.6	-	1.5	1	39
7308 ACCBM	-	40	90	23	59.7	49.5	71.4	-	1.5	1	26
-	7209BE-2RZP	45	85	19	60.8	52.6	71.8	79.9	1.1	0.6	37
7209BECBP	-	45	85	19	60.8	52.6	70.2	-	1.1	0.6	37
7209BEGAPH	-	45	85	19	60.8	52.6	70.2	-	1.1	0.6	37
7209BECBM	-	45	85	19	60.8	52.6	70.2	-	1.1	0.6	37

Type		Shoulder and chamfer dimensions						Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient	
Universal paired bearings	Basic design/sealed bearings	d <sub>a</sub> Min.	d <sub>a</sub> Max.	D <sub>a</sub> Max.	D <sub>b</sub> Max.	r <sub>a</sub> Max.	r <sub>b</sub> Max.		Dynamic	Static				P <sub>u</sub>	A
-		mm							kg	kN			r/min	-	
-	7307 BEP	44	-	71	74	1.5	1	0.45	40.95	25.73	1.09	11550	10500	0.0111	0.1
7307 BECBP	-	44	-	71	74	1.5	1	0.45	43.58	27.83	1.2	11550	11550	0.0111	0.1
7307 BECBBY	-	44	-	71	74	1.5	1	0.45	43.58	27.83	1.2	11550	11550	0.0111	0.1
7307 BEGAPH	-	44	-	71	74	1.5	1	0.45	43.58	27.83	1.2	11550	11550	0.0111	0.1
7307 BECBM	-	44	-	71	74	1.5	1	0.45	43.58	27.83	1.2	11550	14700	0.0111	0.1
7307 ACCBM	-	44	-	71	74	1.5	1	0.45	48.83	31.5	1.33	11550	17850	0.00453	0.1
-	7208 BE-2RZP	47	55	73	75	1	0.6	0.42	36.23	25.2	1.07	10500	8400	0.0102	0.095
-	7208 BEP	47	-	73	75	1	0.6	0.37	36.23	25.2	1.07	10500	10500	0.0102	0.095
7208 BECBP	-	47	-	73	75	1	0.6	0.37	38.33	27.3	1.16	10500	11550	0.0102	0.095
7208 BECBPH	-	47	-	73	75	1	0.6	0.37	38.33	27.3	1.16	10500	11550	0.0102	0.095
7208 BECBM	-	47	-	73	75	1	0.6	0.37	38.33	27.3	1.16	10500	13650	0.0102	0.095
7208 BECBBY	-	47	-	73	75	1	0.6	0.37	40.95	29.4	1.26	10500	11550	0.0109	0.095
7208 ACCBM	-	47	-	73	75	1	0.6	0.37	43.58	30.45	1.31	11550	16800	0.00419	0.095
-	7308 BE-2RZP	49	59	81	84	1.5	1	0.62	48.51	32.03	1.35	9975	7875	0.0173	0.1
-	7308 BEP	49	-	81	84	1.5	1	0.62	48.51	32.03	1.35	9975	9450	0.0173	0.1
7308 BECBP	-	49	-	81	84	1.5	1	0.62	52.5	34.13	1.44	9975	10500	0.0173	0.1
7308 BEGAPH	-	49	-	81	84	1.5	1	0.62	52.5	34.13	1.44	9975	10500	0.0173	0.1
7308 BECBM	-	49	-	81	84	1.5	1	0.68	52.5	34.13	1.44	9975	12600	0.0173	0.1
7308 BECBBY	-	49	-	81	84	1.5	1	0.64	55.65	37.28	1.58	9975	10500	0.0189	0.1
7308 ACCBM	-	49	-	81	84	1.5	1	0.68	58.8	37.8	1.61	10500	15750	0.00707	0.1
-	7209BE-2RZP	52	60	78	80	1	0.6	0.52	37.59	27.3	1.18	9975	7875	0.012	0.095
7209BECBP	-	52	-	78	80	1	0.6	0.42	39.9	29.93	1.28	9975	10500	0.012	0.095
7209BEGAPH	-	52	-	78	80	1	0.6	0.42	39.9	29.93	1.28	9975	10500	0.012	0.095
7209BECBM	-	52	-	78	80	1	0.6	0.42	39.9	29.93	1.28	9975	12600	0.012	0.095

# Single row angular contact ball bearing

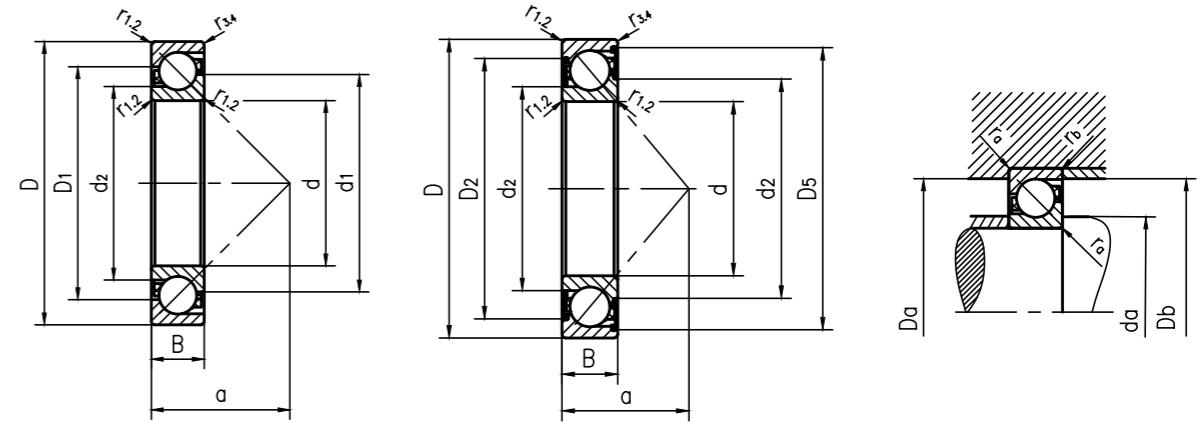


Type		Main dimensions			Dimensions						
Universal paired bearings	Basic design/sealed bearings	d	D	B	d <sub>1</sub>	d <sub>2</sub>	D <sub>1</sub> , D <sub>2</sub>	D <sub>5</sub>	r <sub>1.2</sub> Min.	r <sub>3.4</sub> Min.	α
-		mm			mm						
7209BECBY	-	45	85	19	60.8	52.6	70.2	-	1.1	0.6	37
7209ACCBM	-	45	85	19	60.6	52.6	70.1	-	1.1	0.6	24
-	7309BE-2RZP	45	100	25	66.5	55.2	81.4	90.8	1.5	1	43
-	7309BEP	45	100	25	66.5	55.2	79.9	-	1.5	1	43
7309BECBP	-	45	100	25	66.5	55.2	79.9	-	1.5	1	43
7309BEGAPH	-	45	100	25	66.5	55.2	79.9	-	1.5	1	43
7309BECBM	-	45	100	25	66.5	55.2	79.9	-	1.5	1	43
7309BECBY	-	45	100	25	66.5	55.2	79.9	-	1.5	1	43
7309ACCBM	-	45	100	25	66.3	55.2	79.6	-	1.5	1	29
-	7210BE-2RZP	50	90	20	65.7	57.6	76.8	84.9	1.1	0.6	39
-	7210BEP	50	90	20	65.7	57.6	75.2	-	1.1	0.6	39
7210BECBP	-	50	90	20	65.7	57.6	75.2	-	1.1	0.6	39
7210BECBPH	-	50	90	20	65.7	57.6	75.2	-	1.1	0.6	39
7210BECBM	-	50	90	20	65.7	57.6	75.2	-	1.1	0.6	39
7210BECBY	-	50	90	20	65.7	57.6	75.2	-	1.1	0.6	39
7210ACCBM	-	50	90	20	65.6	57.6	75.1	-	1.1	0.6	26
-	7310BE-2RZP	50	110	27	73.8	61.1	91.6	101	2	1	47
7310BECBP	-	50	110	27	73.8	61.1	88.8	-	2	1	47
7310BEGAPH	-	50	110	27	73.8	61.1	88.8	-	2	1	47
7310BECBM	-	50	110	27	73.8	61.1	88.8	-	2	1	47
7310BECBY	-	50	110	27	73.8	61.1	88.8	-	2	1	47
7310ACCBM	-	50	110	27	73.6	61.1	88.4	-	2	1	32

Type		Shoulder and chamfer dimensions						Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient		
Universal paired bearings	Basic design/sealed bearings	d <sub>a</sub> Min.	d <sub>a</sub> Max.	D <sub>a</sub> Max.	D <sub>b</sub> Max.	r <sub>a</sub> Max.	r <sub>b</sub> Max.		Dynamic	Static				P <sub>0</sub>	A	K <sub>f</sub>
-		mm							kg	kN						
7209BECBY	-	52	-	78	80	1	0.6	0.42	42	32.03	1.35	9975	10500	0.0128	0.095	
7209ACCBM	-	52	-	78	80	1	0.6	0.42	46.2	33.6	1.44	10500	15750	0.00496	0.095	
-	7309BE-2RZP	54	66	91	94	1.5	1	0.85	58.7	39.38	1.68	8925	7035	0.0268	0.1	
-	7309BEP	54	-	91	94	1.5	1	0.82	58.7	39.38	1.68	8925	8400	0.0268	0.1	
7309BECBP	-	54	-	91	94	1.5	1	0.82	64.05	42.53	1.82	8925	9450	0.0268	0.1	
7309BEGAPH	-	54	-	91	94	1.5	1	0.82	64.05	42.53	1.82	8925	9450	0.0268	0.1	
7309BECBM	-	54	-	91	94	1.5	1	0.91	64.05	42.53	1.82	8925	11550	0.0268	0.1	
7309BECBY	-	54	-	91	94	1.5	1	0.87	67.2	47.25	2	8925	9450	0.0292	0.1	
7309ACCBM	-	54	-	91	94	1.5	1	0.91	71.4	47.78	2.03	9450	13650	0.0109	0.1	
-	7210BE-2RZP	57	65	83	85	1	0.6	0.55	39.59	29.93	1.28	9450	7350	0.014	0.095	
-	7210BEP	57	-	83	85	1	0.6	0.47	39.59	29.93	1.28	9450	8925	0.014	0.095	
7210BECBP	-	57	-	83	85	1	0.6	0.47	42	32.55	1.39	9450	9450	0.014	0.095	
7210BECBPH	-	57	-	83	85	1	0.6	0.47	42	32.55	1.39	9450	9450	0.014	0.095	
7210BECBM	-	57	-	83	85	1	0.6	0.47	42	32.55	1.39	9450	11550	0.014	0.095	
7210BECBY	-	57	-	83	85	1	0.6	0.47	43.58	35.18	1.47	9450	9450	0.015	0.095	
7210ACCBM	-	57	-	83	85	1	0.6	0.47	47.78	37.28	1.58	9975	14700	0.00584	0.095	
-	7310BE-2RZP	61	73	99	104	2	1	1.2	72.35	49.88	2.1	7875	6300	0.0418	0.1	
7310BECBP	-	61	-	99	104	2	1	1.1	78.75	53.55	2.27	7875	8400	0.0418	0.1	
7310BEGAPH	-	61	-	99	104	2	1	1.1	78.75	53.55	2.27	7875	8400	0.0418	0.1	
7310BECBM	-	61	-	99	104	2	1	1.1	78.75	53.55	2.27	7875	10500	0.0418	0.1	
7310BECBY	-	61	-	99	104	2	1	1.15	81.9	58.8	2.48	7875	8400	0.0456	0.1	
7310ACCBM	-	61	-	99	104	2	1	1.1	87.15	59.85	2.52	8400	12600	0.017	0.1	



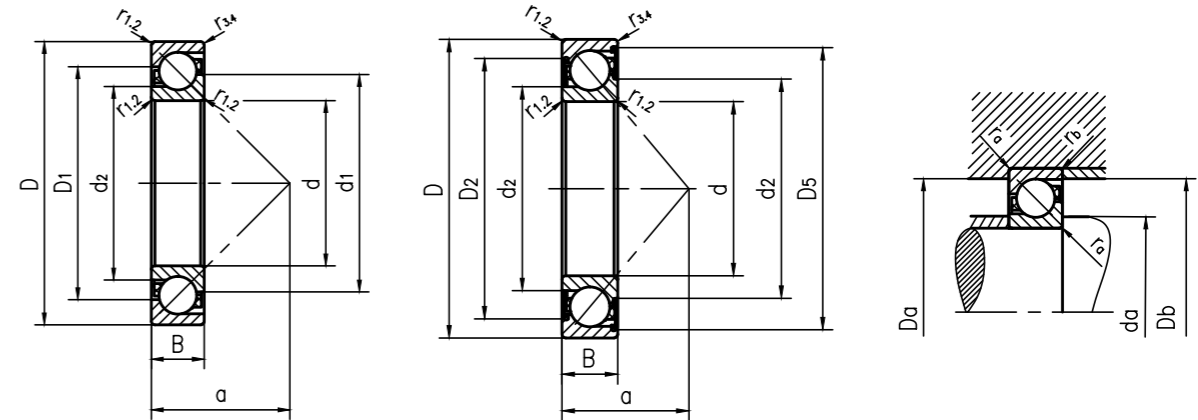
# Single row angular contact ball bearing



Type		Main dimensions			Dimensions						
Universal paired bearings	Basic design/sealed bearings	d	D	B	d <sub>1</sub> ≈	d <sub>2</sub> ≈	D <sub>1</sub> , D <sub>2</sub> ≈	D <sub>5</sub> ≈	r <sub>1,2</sub> Min.	r <sub>3,4</sub> Min.	α
-		mm			mm						
-	7211BE-2RZP	55	100	21	72.5	63.6	85.1	94.3	1.5	1	43
-	7211BEP	55	100	21	72.5	63.6	83.7	-	1.5	1	43
7211BECBP	-	55	100	21	72.4	63.6	83.7	-	1.5	1	43
7211BECBPH	-	55	100	21	72.4	63.6	83.7	-	1.5	1	43
7211BECBM	-	55	100	21	72.4	63.6	83.7	-	1.5	1	43
7211BECBY	-	55	100	21	72.4	63.6	83.7	-	1.5	1	43
7211ACCBM	-	55	100	21	72.6	63.6	83.2	-	1.5	1	28
-	7311BEP	55	120	29	80.3	66.6	96.6	-	2	1	51
7311BECBP	-	55	120	29	80.3	66.6	96.6	-	2	1	51
7311BECBPH	-	55	120	29	80.3	66.6	96.6	-	2	1	51
7311BECBM	-	55	120	29	80.3	66.6	96.6	-	2	1	51
7311BECBY	-	55	120	29	80.3	66.6	96.6	-	2	1	51
7311ACCBM	-	55	120	29	80.1	66.6	96.2	-	2	1	34
-	7212BEP	60	110	22	79.6	69.3	91.6	-	1.5	1	47
7212BECBP	-	60	110	22	79.6	69.3	91.6	-	1.5	1	47
7212BECBPH	-	60	110	22	79.6	69.3	91.6	-	1.5	1	47
7212BECBY	-	60	110	22	79.6	69.3	91.6	-	1.5	1	47
7212BECBM	-	60	110	22	79.6	69.3	91.6	-	1.5	1	46
7212ACCBM	-	60	110	22	79.5	69.2	91.5	-	1.5	1	30
-	7312BEP	60	130	31	87.2	72.6	105	-	2.1	1.1	55
7312BECBP	-	60	130	31	87.2	72.6	105	-	2.1	1.1	55
7312BECBPH	-	60	130	31	87.2	72.6	105	-	2.1	1.1	55
7312BECBY	-	60	130	31	87.2	72.6	105	-	2.1	1.1	55

Type		Shoulder and chamfer dimensions						Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient	
Universal paired bearings	Basic design/sealed bearings	d <sub>a</sub> Min.	d <sub>a</sub> Max.	D <sub>a</sub> Max.	D <sub>b</sub> Max.	r <sub>a</sub> Max.	r <sub>b</sub> Max.		Dynamic	Static				P <sub>u</sub>	A
-		mm							kg	kN		r/min			
-	7211BE-2RZP	64	72	91	94	1.5	1	0.62	48.51	37.8	1.61	8400	6615	0.022	0.095
-	7211BEP	64	-	91	94	1.5	1	0.62	48.51	37.8	1.61	8400	7875	0.022	0.095
7211BECBP	-	64	-	91	94	1.5	1	0.62	51.45	42	1.74	8400	8400	0.022	0.095
7211BECBPH	-	64	-	91	94	1.5	1	0.62	51.45	42	1.74	8400	8400	0.022	0.095
7211BECBM	-	64	-	91	94	1.5	1	0.62	51.45	42	1.74	8400	10500	0.022	0.095
7211BECBY	-	64	-	91	94	1.5	1	0.62	53.55	44.63	1.89	8400	8400	0.0235	0.095
7211ACCBM	-	64	-	91	94	1.5	1	0.62	59.85	47.25	2	8925	12600	0.00917	0.095
-	7311BEP	66	-	109	114	2	1	1.4	83.27	57.75	2.44	7350	7035	0.0574	0.1
7311BECBP	-	66	-	109	114	2	1	1.4	89.25	63	2.68	7350	7350	0.0574	0.1
7311BECBPH	-	66	-	109	114	2	1	1.4	89.25	63	2.68	7350	7350	0.0574	0.1
7311BECBM	-	66	-	109	114	2	1	1.4	89.25	63	2.68	7350	9450	0.0574	0.1
7311BECBY	-	66	-	109	114	2	1	1.4	94.5	68.78	2.89	7350	7350	0.0627	0.1
7311ACCBM	-	66	-	109	114	2	1	1.4	101.33	70.35	2.99	7875	11550	0.0234	0.1
-	7212BEP	69	-	101	104	1.5	1	0.8	60.06	47.78	2.03	7350	7350	0.0344	0.095
7212BECBP	-	69	-	101	104	1.5	1	0.8	64.05	52.5	2.23	7350	7875	0.0344	0.095
7212BECBPH	-	69	-	101	104	1.5	1	0.8	64.05	52.5	2.23	7350	7875	0.0344	0.095
7212BECBY	-	69	-	101	104	1.5	1	0.8	64.05	52.5	2.23	7350	7875	0.0344	0.095
7212BECBM	-	69	-	101	104	1.5	1	0.8	64.05	52.5	2.23	7350	9975	0.0344	0.095
7212ACCBM	-	69	-	101	104	1.5	1	0.8	72.98	58.8	2.48	8400	11550	0.0143	0.095
-	7312BEP	72	-	118	123	2	1	1.75	100.38	72.98	3.15	6615	6300	0.0846	0.1
7312BECBP	-	72	-	118	123	2	1	1.75	109.2	80.33	3.36	6615	7035	0.0846	0.1
7312BECBPH	-	72	-	118	123	2	1	1.75	109.2	80.33	3.36	6615	7035	0.0846	0.1
7312BECBY	-	72	-	118	123	2	1	1.75	109.2	80.33	3.36	6615	7035	0.0846	0.1

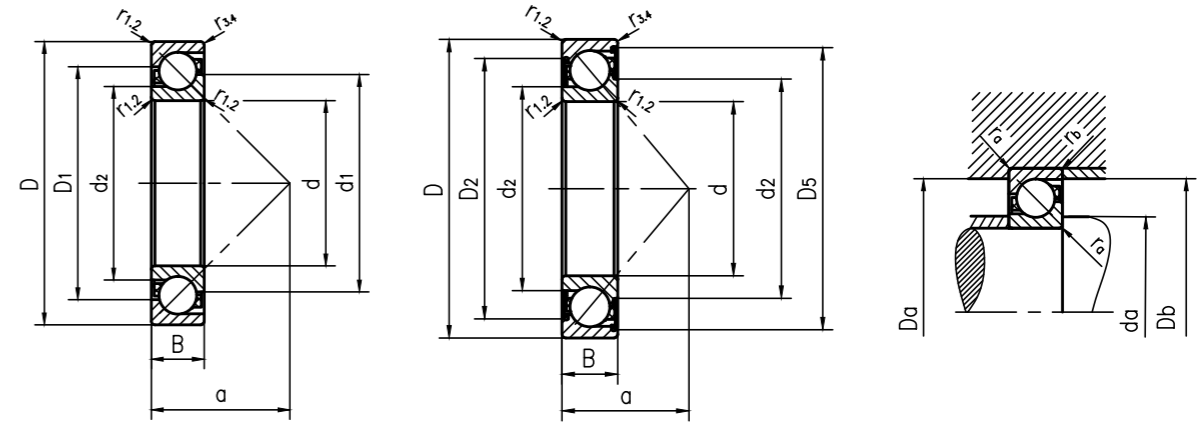
# Single row angular contact ball bearing



Type		Main dimensions			Dimensions						
Universal paired bearings	Basic design/sealed bearings	d	D	B	d <sub>1</sub> ≈	d <sub>2</sub> ≈	D <sub>1</sub> , D <sub>2</sub> ≈	D <sub>5</sub> ≈	r <sub>1.2</sub> Min.	r <sub>3.4</sub> Min.	α
-		mm			mm						
7312BECBM	-	60	130	31	87.2	72.6	105	-	2.1	1.1	55
7312ACCBM	-	60	130	31	87.1	72.6	105	-	2.1	1.1	37
-	7213BEP	65	120	23	86.3	75.4	100	-	1.5	1	50
7213BECBP	-	65	120	23	86.3	75.4	99.5	-	1.5	1	50
7213BECBY	-	65	120	23	86.3	75.4	99.5	-	1.5	1	50
7213BEGAPH	-	65	120	23	86.3	75.4	100	-	1.5	1	50
7213BECBM	-	65	120	23	86.3	75.4	99.5	-	1.5	1	50
7213ACCBM	-	65	120	23	86.5	75.5	99.5	-	1.5	1	33
-	7313BEP	65	140	33	94.1	78.4	113	-	2.1	1.1	60
7313BECBP	-	65	140	33	94.1	78.4	113	-	2.1	1.1	60
7313BECBPH	-	65	140	33	94.1	78.4	113	-	2.1	1.1	60
7313BECBY	-	65	140	33	94.1	78.4	113	-	2.1	1.1	60
7313BECBM	-	65	140	33	94.1	78.4	113	-	2.1	1.1	60
7313ACCBM	-	65	140	33	94	78.4	113	-	2.1	1.1	40
-	7214BEP	70	125	24	91.5	80.2	105	-	1.5	1	53
7214BECBP	-	70	125	24	91.5	80.2	105	-	1.5	1	53
7214BECBPH	-	70	125	24	91.5	80.2	105	-	1.5	1	53
7214BECBM	-	70	125	24	91.5	80.2	105	-	1.5	1	53
7214BECBY	-	70	125	24	91.5	80.2	105	-	1.5	1	53
7214ACCBM	-	70	125	24	91.4	80.2	105	-	1.5	1	34
-	7314BEP	70	150	35	101	84.4	122	-	2.1	1.1	64
7314BECBP	-	70	150	35	101	84.4	122	-	2.1	1.1	64
7314BECBPH	-	70	150	35	101	84.4	122	-	2.1	1.1	64

Type		Shoulder and chamfer dimensions						Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient	
Universal paired bearings	Basic design/sealed bearings	d <sub>a</sub> Min.	d <sub>a</sub> Max.	D <sub>a</sub> Max.	D <sub>b</sub> Max.	r <sub>a</sub> Max.	r <sub>b</sub> Max.		Dynamic	Static				P <sub>u</sub>	A
-		mm							kg	kN		r/min			
7312BECBM	-	72	-	118	123	2	1	1.75	109.2	80.33	3.36	6615	8925	0.0846	0.1
7312ACCBM	-	72	-	118	123	2	1	1.75	121.8	89.25	3.78	7350	10500	0.0345	0.1
-	7213BEP	74	-	111	114	1.5	1	1	69.62	56.7	2.39	7035	6615	0.0478	0.095
7213BECBP	-	74	-	111	114	1.5	1	1	72.98	59.85	2.57	7035	7035	0.0478	0.095
7213BECBY	-	74	-	111	114	1.5	1	1	72.98	59.85	2.57	7035	7035	0.0478	0.095
7213BEGAPH	-	74	-	111	114	1.5	1	1	72.98	59.85	2.57	7035	7035	0.0478	0.095
7213BECBM	-	74	-	111	114	1.5	1	1	72.98	59.85	2.57	7035	8925	0.0478	0.095
7213ACCBM	-	74	-	111	114	1.5	1	1	85.58	68.78	2.94	7350	10500	0.0199	0.095
-	7313BEP	77	-	128	133	2	1	2.15	113.4	84	3.52	6300	5880	0.112	0.1
7313BECBP	-	77	-	128	133	2	1	2.15	121.8	90.83	3.83	6300	6615	0.112	0.1
7313BECBPH	-	77	-	128	133	2	1	2.15	121.8	90.83	3.83	6300	6615	0.112	0.1
7313BECBY	-	77	-	128	133	2	1	2.15	121.8	90.83	3.83	6300	6615	0.112	0.1
7313BECBM	-	77	-	128	133	2	1	2.15	121.8	90.83	3.83	6300	8400	0.112	0.1
7313ACCBM	-	77	-	128	133	2	1	2.15	138.6	101.33	4.25	6615	9975	0.0456	0.1
-	7214BEP	79	-	116	119	1.5	1	1.1	70.98	58.8	2.48	6615	6300	0.0529	0.095
7214BECBP	-	79	-	116	119	1.5	1	1.1	75.6	63	2.68	6615	6615	0.0529	0.095
7214BECBPH	-	79	-	116	119	1.5	1	1.1	75.6	63	2.68	6615	6615	0.0529	0.095
7214BECBM	-	79	-	116	119	1.5	1	1.1	75.6	63	2.68	6615	8400	0.0529	0.095
7214BECBY	-	79	-	116	119	1.5	1	1.1	78.75	67.2	2.84	6615	6615	0.0564	0.095
7214ACCBM	-	79	-	116	119	1.5	1	1.1	87.15	71.4	3.05	7035	10500	0.022	0.095
-	7314BEP	82	-	138	143	2	1	2.65	124.95	94.5	3.83	5880	5565	0.145	0.1
7314BECBP	-	82	-	138	143	2	1	2.65	133.35	102.9	4.1	5880	5880	0.145	0.1
7314BECBPH	-	82	-	138	143	2	1	2.65	133.35	102.9	4.1	5880	5880	0.145	0.1

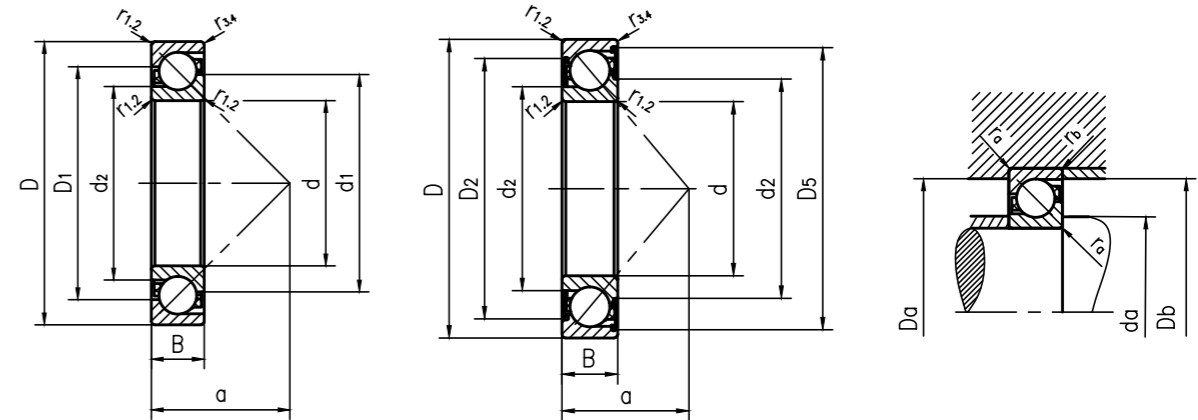
# Single row angular contact ball bearing



Type		Main dimensions			Dimensions						
Universal paired bearings	Basic design/sealed bearings	d	D	B	d <sub>1</sub> ≈	d <sub>2</sub> ≈	D <sub>1</sub> , D <sub>2</sub> ≈	D <sub>5</sub> ≈	r <sub>1,2</sub> Min.	r <sub>3,4</sub> Min.	α
-		mm			mm						
7314BECBY	-	70	150	35	101	84.4	122	-	2.1	1.1	64
7314BEGAPH	-	70	150	35	101	84.4	122	-	2.1	1.1	64
7314BECBM	-	70	150	35	101	84.4	122	-	2.1	1.1	64
7314ACCBM	-	70	150	35	100	84.4	121	-	2.1	1.1	43
-	7215BEP	75	130	25	96.3	85.2	111	-	1.5	1	56
7215BECBM	-	75	130	25	96.3	85.2	111	-	1.5	1	56
7215BECBP	-	75	130	25	96.3	85.2	111	-	1.5	1	56
7215BECBPH	-	75	130	25	96.3	85.2	111	-	1.5	1	56
7215BECBY	-	75	130	25	96.3	85.2	111	-	1.5	1	56
-	7315BEP	75	160	37	108	91.1	129	-	2.1	1.1	68
7315BECBP	-	75	160	37	108	91.1	129	-	2.1	1.1	68
7315BECBY	-	75	160	37	108	91.1	129	-	2.1	1.1	68
7315BEGAPH	-	75	160	37	108	91.1	129	-	2.1	1.1	68
7315BECBM	-	75	160	37	108	91.1	129	-	2.1	1.1	68
-	7216BEP	80	140	26	103	91.4	118	-	2	1	59
7216BECBP	-	80	140	26	103	91.4	118	-	2	1	59
7216BECBPH	-	80	140	26	103	91.4	118	-	2	1	59
7216BECBY	-	80	140	26	103	91.4	118	-	2	1	59
7216BEGAPH	-	80	140	26	103	91.4	118	-	2	1	59
7216BECBM	-	80	140	26	103	91.4	118	-	2	1	59
-	7316BEP	80	170	39	115	97	137	-	2.1	1.1	72
-	7316BEM	80	170	39	115	97	137	-	2.1	1.1	72
7316BECBP	-	80	170	39	115	97	137	-	2.1	1.1	72

Type		Shoulder and chamfer dimensions						Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient		
Universal paired bearings	Basic design/sealed bearings	d <sub>a</sub> Min.	d <sub>a</sub> Max.	D <sub>a</sub> Max.	D <sub>b</sub> Max.	r <sub>a</sub> Max.	r <sub>b</sub> Max.		Dynamic	Static				P <sub>u</sub>	A	K <sub>r</sub>
-		mm							kg	kN						
7314BECBY	-	82	-	138	143	2	1	2.65	133.35	102.9	4.1	5880	5880	0.145	0.1	
7314BEGAPH	-	82	-	138	143	2	1	2.65	133.35	102.9	4.1	5880	5880	0.145	0.1	
7314BECBM	-	82	-	138	143	2	1	2.65	133.35	102.9	4.1	5880	7350	0.145	0.1	
7314ACCBM	-	82	-	138	143	2	1	2.65	150.15	115.5	4.62	6300	8925	0.0592	0.1	
-	7215BEP	84	-	121	124	1.5	1	1.2	73.71	63	2.63	6300	5880	0.0599	0.095	
7215BECBM	-	84	-	121	124	1.5	1	1.2	77.18	68.78	2.84	6300	6615	0.0599	0.095	
7215BECBP	-	84	-	121	124	1.5	1	1.2	77.18	68.78	2.84	6300	6615	0.0599	0.095	
7215BECBPH	-	84	-	121	124	1.5	1	1.2	77.18	68.78	2.84	6300	6615	0.0599	0.095	
7215BECBY	-	84	-	121	124	1.5	1	1.2	80.33	72.98	3.05	6300	6615	0.0636	0.095	
-	7315BEP	87	-	148	153	2	1	3.2	131.25	102.9	3.99	5565	5250	0.171	0.1	
7315BECBP	-	87	-	148	153	2	1	3.2	138.6	109.2	4.36	5565	5565	0.171	0.1	
7315BECBY	-	87	-	148	153	2	1	3.2	138.6	109.2	4.36	5565	5565	0.171	0.1	
7315BEGAPH	-	87	-	148	153	2	1	3.2	138.6	109.2	4.36	5565	5565	0.171	0.1	
7315BECBM	-	87	-	148	153	2	1	3.2	138.6	109.2	4.36	5565	7035	0.171	0.1	
-	7216BEP	91	-	130	134	2	1	1.45	84.63	72.98	2.94	5880	5565	0.0801	0.095	
7216BECBP	-	91	-	130	134	2	1	1.45	89.25	78.75	3.2	5880	5880	0.0801	0.095	
7216BECBPH	-	91	-	130	134	2	1	1.45	89.25	78.75	3.2	5880	5880	0.0801	0.095	
7216BECBY	-	91	-	130	134	2	1	1.45	89.25	78.75	3.2	5880	5880	0.0801	0.095	
7216BEGAPH	-	91	-	130	134	2	1	1.45	89.25	78.75	3.2	5880	5880	0.0801	0.095	
7216BECBM	-	91	-	130	134	2	1	1.45	89.25	78.75	3.2	5880	7350	0.0801	0.095	
-	7316BEP	92	-	158	163	2	1	3.8	141.75	115.5	4.36	5250	4725	0.216	0.1	
-	7316BEM	92	-	158	163	2	1	3.8	141.75	115.5	4.36	5250	5040	0.216	0.1	
7316BECBP	-	92	-	158	163	2	1	3.8	150.15	123.9	4.73	5250	5250	0.216	0.1	

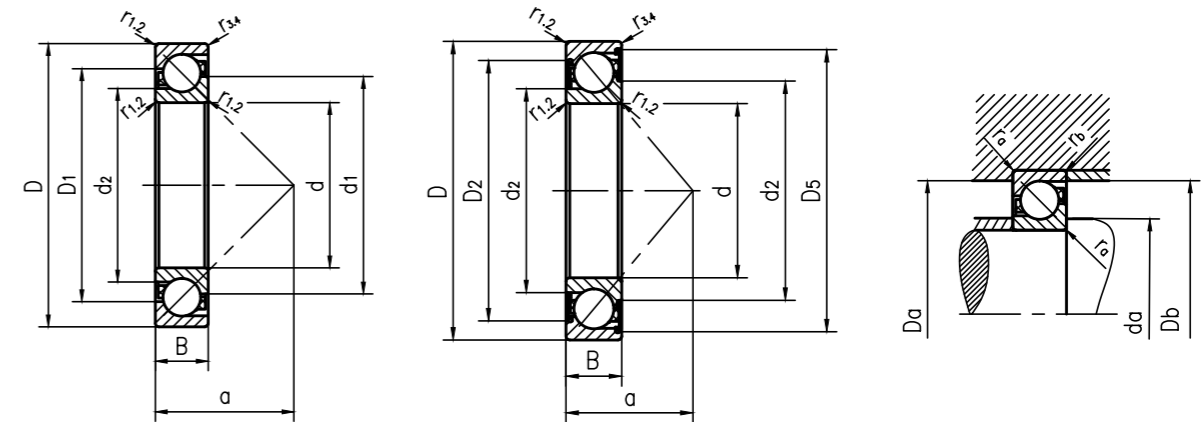
# Single row angular contact ball bearing



Type		Main dimensions			Dimensions						
Universal paired bearings	Basic design/sealed bearings	d	D	B	d <sub>1</sub>	d <sub>2</sub>	D <sub>1</sub> , D <sub>2</sub>	D <sub>5</sub>	r <sub>1.2</sub> Min.	r <sub>3.4</sub> Min.	α
-		mm			mm						
7316BECBPH	-	80	170	39	115	97	137	-	2.1	1.1	72
7316BECBY	-	80	170	39	115	97	137	-	2.1	1.1	72
7316BECBM	-	80	170	39	115	97	137	-	2.1	1.1	72
-	7217BEP	85	150	28	110	97	127	-	2	1	63
7217BECBP	-	85	150	28	110	97	127	-	2	1	63
7217BECBY	-	85	150	28	110	97	127	-	2	1	63
7217BECBM	-	85	150	28	110	97	127	-	2	1	63
-	7317BEP	85	180	41	122	103	145	-	3	1.1	76
-	7317BEM	85	180	41	122	103	145	-	3	1.1	76
7317BECBP	-	85	180	41	122	103	145	-	3	1.1	76
7317BECBY	-	85	180	41	122	103	145	-	3	1.1	76
7317BEGAPH	-	85	180	41	122	103	145	-	3	1.1	76
7317BECBM	-	85	180	41	122	103	145	-	3	1.1	76
-	7218BEP	90	160	30	117	103	135	-	2	1	67
7218BECBP	-	90	160	30	117	103	135	-	2	1	67
7218BECBY	-	90	160	30	117	103	135	-	2	1	67
7218BECBM	-	90	160	30	117	103	135	-	2	1	67
-	7318BEP	90	190	43	129	108	154	-	3	1.1	80
-	7318BEM	90	190	43	129	108	154	-	3	1.1	80
7318BECBP	-	90	190	43	129	108	154	-	3	1.1	80
7318BECBY	-	90	190	43	129	108	154	-	3	1.1	80
7318BEGAPH	-	90	190	43	129	108	154	-	3	1.1	80
7318BECBM	-	90	190	43	129	108	154	-	3	1.1	80
-	7219BEP	95	170	32	124	109	143	-	2.1	1.1	72
7219BECBP	-	95	170	32	124	109	143	-	2.1	1.1	72

Type		Shoulder and chamfer dimensions						Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient		
Universal paired bearings	Basic design/sealed bearings	d <sub>a</sub> Min.	d <sub>a</sub> Max.	D <sub>a</sub> Max.	D <sub>b</sub> Max.	r <sub>a</sub> Max.	r <sub>b</sub> Max.		Dynamic	Static				P <sub>0</sub>	A	K <sub>r</sub>
-		mm							kg	kN				r/min	-	
7316BECBPH	-	92	-	158	163	2	1	3.8	150.15	123.9	4.73	5250	5250	0.216	0.1	
7316BECBY	-	92	-	158	163	2	1	3.8	150.15	123.9	4.73	5250	5250	0.216	0.1	
7316BECBM	-	92	-	158	163	2	1	3.8	150.15	123.9	4.73	5250	6615	0.216	0.1	
-	7217BEP	96	-	139	144	2	1	1.85	100.38	87.15	3.41	5565	5250	0.114	0.095	
7217BECBP	-	96	-	139	144	2	1	1.85	107.1	94.5	3.73	5565	5565	0.114	0.095	
7217BECBY	-	96	-	139	144	2	1	1.85	107.1	94.5	3.73	5565	5565	0.114	0.095	
7217BECBM	-	96	-	139	144	2	1	1.85	107.1	94.5	3.73	5565	7035	0.114	0.095	
-	7317BEP	99	-	166	173	2.5	1	4.45	153.3	128.1	4.73	4725	4515	0.27	0.1	
-	7317BEM	99	-	166	173	2.5	1	4.45	153.3	128.1	4.73	4725	4725	0.27	0.1	
7317BECBP	-	99	-	166	173	2.5	1	4.45	163.8	138.6	5.15	4725	5040	0.27	0.1	
7317BECBY	-	99	-	166	173	2.5	1	4.45	163.8	138.6	5.15	4725	5040	0.27	0.1	
7317BEGAPH	-	99	-	166	173	2.5	1	4.45	163.8	138.6	5.15	4725	5040	0.27	0.1	
7317BECBM	-	99	-	166	173	2.5	1	4.45	163.8	138.6	5.15	4725	6300	0.27	0.1	
-	7218BEP	101	-	149	154	2	1	2.3	113.4	101.33	3.83	5250	4725	0.149	0.095	
7218BECBP	-	101	-	149	154	2	1	2.3	121.8	109.2	4.2	5250	5250	0.149	0.095	
7218BECBY	-	101	-	149	154	2	1	2.3	121.8	109.2	4.2	5250	5250	0.149	0.095	
7218BECBM	-	101	-	149	154	2	1	2.3	121.8	109.2	4.2	5250	6615	0.149	0.095	
-	7318BEP	104	-	176	183	2.5	1	5.2	163.8	140.7	5.04	4515	4200	0.333	0.1	
-	7318BEM	104	-	176	183	2.5	1	5.2	163.8	140.7	5.04	4515	4515	0.333	0.1	
7318BECBP	-	104	-	176	183	2.5	1	5.2	174.3	153.3	5.57	4515	4725	0.333	0.1	
7318BECBY	-	104	-	176	183	2.5	1	5.2	174.3	153.3	5.57	4515	4725	0.333	0.1	
7318BEGAPH	-	104	-	176	183	2.5	1	5.2	174.3	153.3	5.57	4515	4725	0.333	0.1	
7318BECBM	-	104	-	176	183	2.5	1	5.2	174.3	153.3	5.57	4515	5880	0.333	0.1	
-	7219BEP	107	-	158	163	2	1	2.7	130.2	113.4	4.2	4725	4515	0.191	0.095	
7219BECBP	-	107	-	158	163	2	1	2.7	135.45	123.9	4.62	4725	5040	0.191	0.095	

# Single row angular contact ball bearing

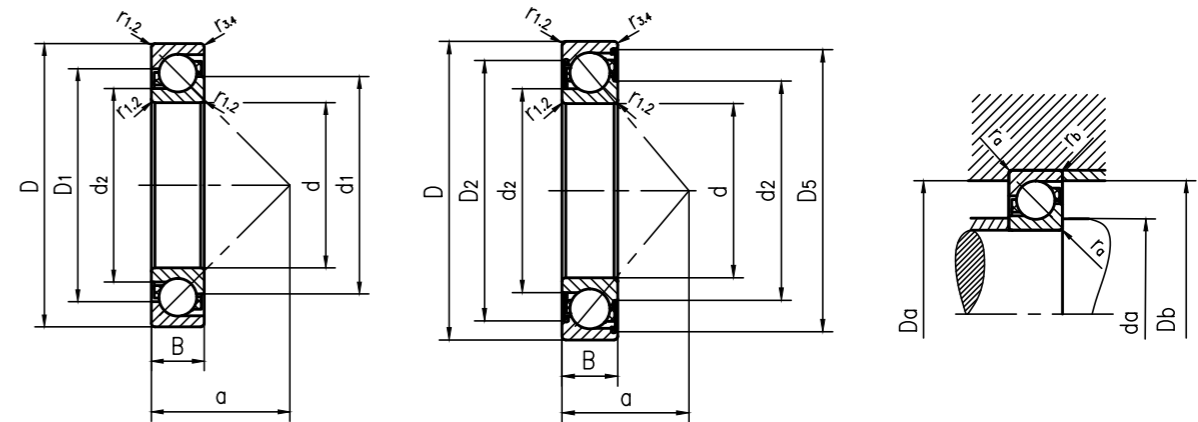


Type		Main dimensions			Dimensions						
Universal paired bearings	Basic design/sealed bearings	d	D	B	d <sub>1</sub> ≈	d <sub>2</sub> ≈	D <sub>1</sub> , D <sub>2</sub> ≈	D <sub>5</sub> ≈	r <sub>1,2</sub> Min.	r <sub>3,4</sub> Min.	α
-		mm			mm						
7219BECBY	-	95	170	32	124	109	143	-	2.1	1.1	72
7219BEGAPH	-	95	170	32	124	109	143	-	2.1	1.1	72
7219BECBM	-	95	170	32	124	109	143	-	2.1	1.1	72
-	7319BEP	95	200	45	136	114	162	-	3	1.1	84
-	7319BEM	95	200	45	136	114	162	-	3	1.1	84
7319BECBP	-	95	200	45	136	114	162	-	3	1.1	84
7319BECBY	-	95	200	45	136	114	162	-	3	1.1	84
7319BECBM	-	95	200	45	136	114	162	-	3	1.1	84
-	7220BEP	100	180	34	130	115	151	-	2.1	1.1	76
7220BECBP	-	100	180	34	130	115	151	-	2.1	1.1	76
7220BECBY	-	100	180	34	130	115	151	-	2.1	1.1	76
7220BECBM	-	100	180	34	130	115	151	-	2.1	1.1	76
-	7320BEM	100	215	47	144	120	174	-	3	1.1	90
-	7320BEP	100	215	47	144	120	174	-	3	1.1	90
7320BECBP	-	100	215	47	144	120	174	-	3	1.1	90
7320BECBY	-	100	215	47	144	120	174	-	3	1.1	90
7320BECBM	-	100	215	47	144	120	174	-	3	1.1	90
7221BECBP	-	105	190	36	137	121	160	-	2.1	1.1	80
7221BECBM	-	105	190	36	137	121	160	-	2.1	1.1	80
-	7321BEP	105	225	49	151	127	182	-	3	1.1	94
7321BECBP	-	105	225	49	151	127	182	-	3	1.1	94
7321DECBM	-	105	225	49	151	127	182	-	3	1.1	94
-	7222BEP	110	200	38	144	127	168	-	2.1	1.1	84

Type		Shoulder and chamfer dimensions						Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient	
Universal paired bearings	Basic design/sealed bearings	d <sub>a</sub> Min.	d <sub>a</sub> Max.	D <sub>a</sub> Max.	D <sub>b</sub> Max.	r <sub>a</sub> Max.	r <sub>b</sub> Max.		Dynamic	Static				P <sub>u</sub>	A
-		mm							kg	kN		r/min	-		
7219BECBY	-	107	-	158	163	2	1	2.7	135.45	123.9	4.62	4725	5040	0.191	0.095
7219BEGAPH	-	107	-	158	163	2	1	2.7	135.45	123.9	4.62	4725	5040	0.191	0.095
7219BECBM	-	107	-	158	163	2	1	2.7	135.45	123.9	4.62	4725	6300	0.191	0.095
-	7319BEP	109	-	186	193	2.5	1	6.05	176.4	157.5	5.46	4200	3990	0.406	0.1
-	7319BEM	109	-	186	193	2.5	1	6.05	176.4	157.5	5.46	4200	4200	0.406	0.1
7319BECBP	-	109	-	186	193	2.5	1	6.05	189	171.15	5.99	4200	4515	0.406	0.1
7319BECBY	-	109	-	186	193	2.5	1	6.05	189	171.15	5.99	4200	4515	0.406	0.1
7319BECBM	-	109	-	186	193	2.5	1	6.05	189	171.15	5.99	4200	5565	0.406	0.1
-	7220BEP	112	-	168	173	2	1	3.3	141.75	128.1	4.62	4515	4200	0.239	0.095
7220BECBP	-	112	-	168	173	2	1	3.3	150.15	140.7	4.99	4515	4725	0.239	0.095
7220BECBY	-	112	-	168	173	2	1	3.3	150.15	140.7	4.99	4515	4725	0.239	0.095
7220BECBM	-	112	-	168	173	2	1	3.3	150.15	140.7	4.99	4515	5880	0.239	0.095
-	7320BEM	114	-	201	208	2.5	1	7.5	213.15	199.5	6.72	3990	3780	0.63	0.1
-	7320BEP	114	-	201	208	2.5	1	7.5	213.15	199.5	6.72	3990	3780	0.63	0.1
7320BECBP	-	114	-	201	208	2.5	1	7.5	226.8	218.4	7.3	3990	4200	0.63	0.1
7320BECBY	-	114	-	201	208	2.5	1	7.5	226.8	218.4	7.3	3990	4200	0.63	0.1
7320BECBM	-	114	-	201	208	2.5	1	7.5	226.8	218.4	7.3	3990	5250	0.63	0.1
7221BECBP	-	117	-	178	183	2	1	3.95	163.8	157.5	5.46	4200	4515	0.302	0.095
7221BECBM	-	117	-	178	183	2	1	3.95	163.8	157.5	5.46	4200	5565	0.302	0.095
-	7321BEP	119	-	211	218	2.5	1	8.55	213.15	202.65	6.72	3780	3570	0.669	0.1
7321BECBP	-	119	-	211	218	2.5	1	8.55	226.8	218.4	7.3	3780	3990	0.669	0.1
7321DECBM	-	119	-	211	218	2.5	1	8.55	226.8	218.4	7.3	3780	5040	0.669	0.1
-	7222BEP	122	-	188	193	2	1	4.6	160.65	150.15	5.15	4200	3780	0.353	0.095



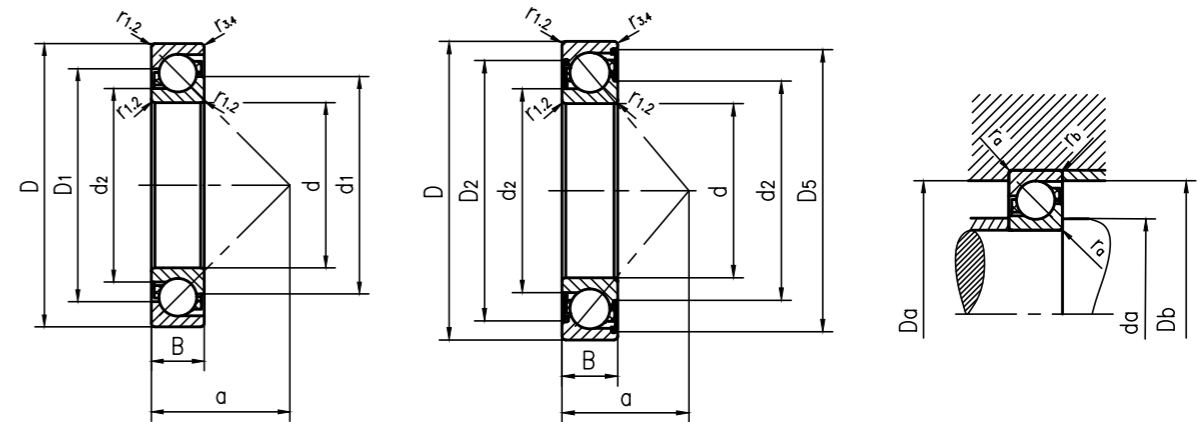
# Single row angular contact ball bearing



Type		Main dimensions			Dimensions						
Universal paired bearings	Basic design/sealed bearings	d	D	B	d <sub>1</sub> ≈	d <sub>2</sub> ≈	D <sub>1</sub> , D <sub>2</sub> ≈	D <sub>5</sub> ≈	r <sub>1.2</sub> Min.	r <sub>3.4</sub> Min.	α
-		mm			mm						
7222BECBP	-	110	200	38	144	127	168	-	2.1	1.1	84
7222BECBY	-	110	200	38	144	127	168	-	2.1	1.1	84
7222BECBM	-	110	200	38	144	127	168	-	2.1	1.1	84
-	7322BEY	110	240	50	160	134	194	-	3	1.1	99
-	7322BEM	110	240	50	160	134	194	-	3	1.1	99
7322BECBP	-	110	240	50	160	134	194	-	3	1.1	99
7322BECBY	-	110	240	50	160	134	194	-	3	1.1	99
7322BECBM	-	110	240	50	160	134	194	-	3	1.1	99
7024BGM	-	120	180	28	143	132	158	-	2	1	77
7224BCBM	7224BM	120	215	40	157	138	180	-	2.1	1.1	90
7324BCBM	-	120	260	55	178	153	211	-	3	1.5	107
7226BCBM	7226BM	130	230	40	168	149	193	-	3	1.1	96
7326BCBM	7326BM	130	280	58	189	161	228	-	4	1.5	115
7028BGM	-	140	210	33	167	154	185	-	2	1	90
7228BCBM	7228BM	140	250	42	183	163	210	-	3	1.1	103
7328BCBM	-	140	300	62	202	172	243	-	4	1.5	123
7030BGM	-	150	225	35	179	166	198	-	2.1	1.1	96
7230BCBM	-	150	270	45	197	175	226	-	3	1.1	111
7330BCBM	-	150	320	65	216	183	259	-	4	1.5	131
7232BCBM	-	160	290	48	211	187	243	-	3	1.1	118
7034BGM	-	170	260	42	205	189	227	-	2.1	1.1	111
7234BCBM	-	170	310	52	227	202	262	-	4	1.5	127
7334BCBM	-	170	360	72	243	207	292	-	4	2	147

Type		Shoulder and chamfer dimensions						Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient		
Universal paired bearings	Basic design/sealed bearings	d <sub>a</sub> Min.	d <sub>a</sub> Max.	D <sub>a</sub> Max.	D <sub>b</sub> Max.	r <sub>a</sub> Max.	r <sub>b</sub> Max.		Dynamic	Static				P <sub>u</sub>	A	K <sub>r</sub>
-		mm							kg	kN						
7222BECBP	-	122	-	188	193	2	1	4.6	171.15	163.8	5.57	4200	4200	0.353	0.095	
7222BECBY	-	122	-	188	193	2	1	4.6	171.15	163.8	5.57	4200	4200	0.353	0.095	
7222BECBM	-	122	-	188	193	2	1	4.6	171.15	163.8	5.57	4200	5250	0.353	0.095	
-	7322BEY	124	-	226	233	2.5	1	10	236.25	235.2	7.56	3570	3360	0.906	0.1	
-	7322BEM	124	-	226	233	2.5	1	10	236.25	235.2	7.56	3570	3570	0.906	0.1	
7322BECBP	-	124	-	226	233	2.5	1	10	252	257.25	8.19	3570	3780	0.906	0.1	
7322BECBY	-	124	-	226	233	2.5	1	10	252	257.25	8.19	3570	3780	0.906	0.1	
7322BECBM	-	124	-	226	233	2.5	1	10	252	257.25	8.19	3570	4725	0.906	0.1	
7024BGM	-	130	-	170	174	2	1	2.4	91.46	97.65	3.36	4200	4200	0.139	0.083	
7224BCBM	7224BM	132	-	203	208	2	1	5.9	173.25	171.15	5.57	3780	4200	0.45	0.08	
7324BCBM	-	134	-	246	253	2.5	1	14.5	249.9	262.5	8.03	3150	3780	1.11	0.09	
7226BCBM	7226BM	144	-	216	222	2.5	1	6.95	195.3	202.65	6.41	3570	3990	0.605	0.08	
7326BCBM	7326BM	147	-	263	271	3	1.5	17	289.8	320.25	9.45	2940	3570	1.65	0.09	
7028BGM	-	150	-	200	204	2	1	3.85	119.7	135.45	4.36	3570	3570	0.263	0.083	
7228BCBM	7228BM	154	-	236	243	2.5	1	8.85	208.95	222.6	6.72	3150	3780	0.763	0.08	
7328BCBM	-	158	-	283	291	3	1.5	21.5	317.1	362.25	10.29	2730	3150	2.14	0.09	
7030BGM	-	162	-	213	218	2	1	4.7	139.65	153.3	4.78	3360	3360	0.349	0.083	
7230BCBM	-	164	-	256	263	2.5	1	11.5	226.8	252	7.3	2940	3360	1.01	0.08	
7330BCBM	-	167	-	303	311	3	1.5	26	348.6	409.5	11.34	2520	2940	2.74	0.09	
7232BCBM	-	174	-	276	283	2.5	1	14	267.75	315	8.93	2730	3150	1.48	0.08	
7034BGM	-	182	-	248	253	2	1	7.65	180.6	214.2	6.14	2940	2940	0.643	0.083	
7234BCBM	-	187	-	293	301	3	1.5	17.5	295.05	362.25	9.98	2520	2940	2	0.08	
7334BCBM	-	187	-	343	351	3	2	36	409.5	514.5	13.34	2310	2730	4.32	0.09	

# Single row angular contact ball bearing



Type		Main dimensions			Dimensions						
Universal paired bearings	Basic design/sealed bearings	d	D	B	$d_1 \approx$	$d_2 \approx$	$D_1, D_2 \approx$	$D_5 \approx$	$r_{1.2}$ Min.	$r_{3.4}$ Min.	$\alpha$
-		mm			mm						
7036BGM	-	180	280	46	219	201	244	-	2.1	1.1	119
723BCBM	-	180	320	52	234	209	269	-	4	1.5	131
7336BCBM	-	180	380	75	257	219	308	-	4	2	156
7038BGM	-	190	290	46	229	211	254	-	2.1	1.1	124
7238BCBM	-	190	340	55	250	224	286	-	4	1.5	139
7338BCBM	-	190	400	78	271	231	325	-	5	2	164
7040BGM	-	200	310	51	243	224	270	-	2.1	1.1	145
7240BCBM	-	200	360	58	263	235	301	-	4	1.5	146
7340BCBM	-	200	420	80	286	247	340	-	5	2	170
7044BGM	-	220	340	56	267	245	296	-	3	1.1	145
7244BCBM	-	220	400	65	291	259	334	-	4	1.5	164
7048BGM	-	240	360	56	287	265	316	-	3	1.1	154
7248BCBM	-	240	440	72	322	292	361	-	4	1.5	180
7052BGM	-	260	400	65	314	289	349	-	4	1.5	171
7056BGM	-	280	420	65	334	309	369	-	4	1.5	179
-	7256BM	280	500	80	367	328	418	-	5	2	204
7260BCBM	-	300	540	85	395	351	450	-	5	2	219

Type		Shoulder and chamfer dimensions							Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient	
Universal paired bearings	Basic design/sealed bearings	$d_a$ Min.	$d_a$ Max.	$D_a$ Max.	$D_b$ Max.	$r_a$ Max.	$r_b$ Max.	Dynamic		Static	$P_u$				A	$K_f$
-		mm								kg						
7036BGM	-	192	-	268	273	2	1	10	204.75	252	7.04	2730	2730	0.912	0.083	
723BCBM	-	197	-	303	311	3	1.5	18	305.55	393.75	10.5	2520	2730	2.21	0.08	
7336BCBM	-	197	-	363	370	3	2	42	430.5	567	14.39	2100	2520	5.33	0.09	
7038BGM	-	202	-	278	283	2	1	10.5	208.95	267.75	7.3	2520	2520	1	0.083	
7238BCBM	-	207	-	323	331	3	1.5	22	322.35	425.25	10.92	2100	2730	2.63	0.08	
7338BCBM	-	210	-	380	390	4	2	48.5	464.1	630	15.33	2100	2310	6.5	0.09	
7040BGM	-	234	-	285	333	2.5	1.1	18	236.25	304.5	8.19	2310	2310	1.37	0.083	
7240BCBM	-	217	-	343	351	3	1.5	25	341.25	451.5	11.55	2100	2520	3.2	0.08	
7340BCBM	-	220	-	400	410	4	2	53	485.1	687.75	16.38	1995	2310	7.5	0.09	
7044BGM	-	234	-	326	333	2.5	1.1	18	267.75	372.75	9.45	2100	2100	1.97	0.083	
7244BCBM	-	237	-	383	391	3	1.5	37	409.5	588	14.07	1995	2310	5.13	0.08	
7048BGM	-	254	-	346	353	2.5	1.1	19	273	393.75	9.61	1995	1995	2.23	0.082	
7248BCBM	-	257	-	423	431	4	1.5	49	471.45	703.5	16.07	1680	2730	5.12	0.08	
7052BGM	-	276	-	373	380	3	1.5	30	348.6	535.5	12.39	1785	1785	3.94	0.083	
7056BGM	-	298	-	402	411	3	1.5	30	354.9	567	12.81	1680	1680	4.4	0.083	
-	7256BM	300	-	480	489	4	2	67.5	532.35	871.5	18.48	1470	1470	11.3	0.08	
7260BCBM	-	322	-	518	528	4	2	85	580.65	976.5	20.27	1365	1365	15.2	0.08	

## Double Row Angular Contact Ball Bearings

### Features

Double row angular contact ball bearings basically have same structures with single row angular contact ball bearings. It is usually composed of inner rings, outer rings, steel balls, cages parts. In addition to bearing radial load, it can also bear bidirectional axial load. This type of bearing takes up less space in the axial direction, can withstand overturning moments. It is suitable for occasions with high rigidity requirements.

### Radial and axial bearing capacity

Double row angular contact ball bearings can accommodate greater radial load as well as axial load in either direction. The axial load capacity of these bearings depends on the contact angle. The larger the contact angle, the higher the axial load capacity.

### Ball loading gap

Double row angular contact ball bearings are available in two designs with and without filling notches, which are distinguished from the model suffix. When selecting a bearing model with a ball filling notch, it should be noted that the side with the ball filling notch cannot bear the main load.

### Double inner rings design

Double row angular contact ball bearings IN 33 D series are designed with double inner rings and the contact angle is 45°, which can bear bidirectional and larger axial load.

### Stop groove and stop ring

Bearings in 33 DNR CBM series have a snap ring groove and a snap ring in the outer ring. They're convenient for axial positioning of the bearing. The contact angle is 40°.

### Seals

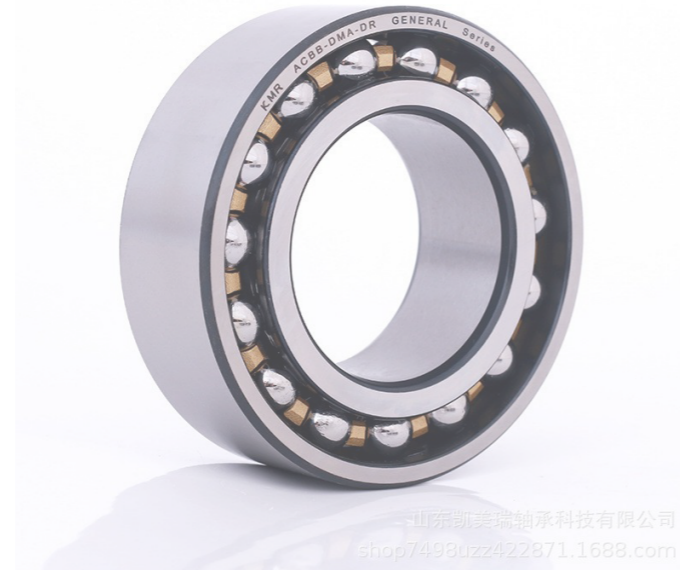
Most models of double row angular contact ball bearings have designs which capped with a contact seal of shield on both sides. Double shields bearing models with suffix 2Z, are mainly used in inner ring rotation conditions. Double seals bearing models with suffix 2RS1, seals are made of steel frame bonded with nitrile rubber. Bearings with seals have better sealing effect.

### Cages

Depending on different series and sizes of bearings, the cage materials of double row angular contact ball bearings are divided into glass fiber reinforced nylon cages, stamped steel cages, and machined brass cages.

### Operating temperature

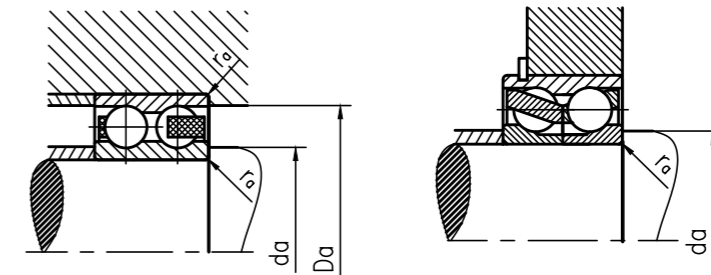
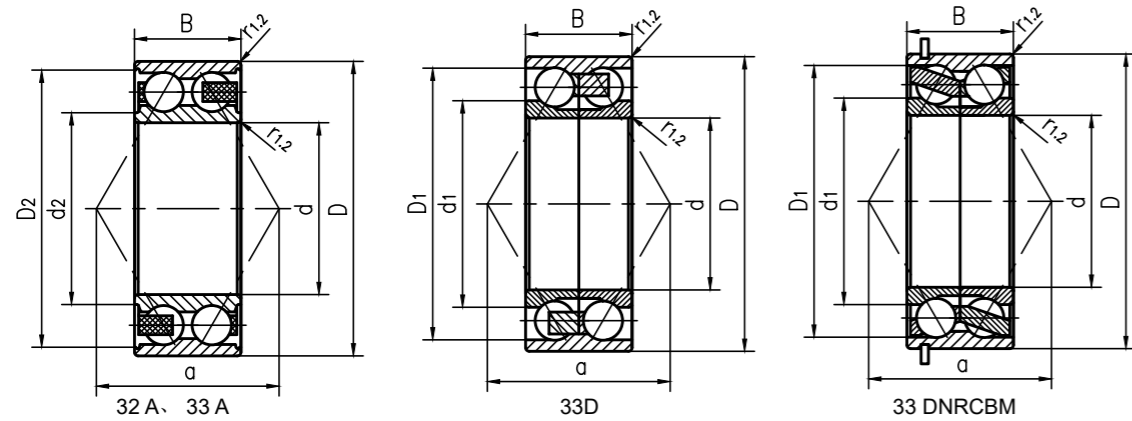
The operating temperature of double row angular contact ball bearings is -30°C ~ +150°C. Limited by the working temperature of the cage material, the upper limit of the operating temperature of double row angular contact ball bearings with glass fiber reinforced nylon cage is +120°C.



## Suffixes for Designs

Suffix	Meaning
A	Double row bearing, no filling slots
D	Two-piece inner ring
N	Snap ring groove in the outer ring
NR	Snap ring groove in the outer ring, with appropriate snap ring
CB	Double row bearing, controlled axial internal clearance
-2RS1	Contact seal, NBR, on both sides
-2Z	Shield on both sides
J1	Stamped steel cage, ball centred (double row bearing with a two-piece inner ring)
M	Machined brass cage, ball centred; different designs are identified by a number following the M, e.g. M2
MA	Machined brass cage, outer ring centred
TN9	Glass fibre reinforced PA66 cage, ball centred
P5	Dimensional and geometrical tolerances to class P5
P6	Dimensional and geometrical tolerances to class P6
P62	P6+C2
P63	P6+C3
C2	Axial internal clearance smaller than Normal
C3	Axial internal clearance greater than Normal

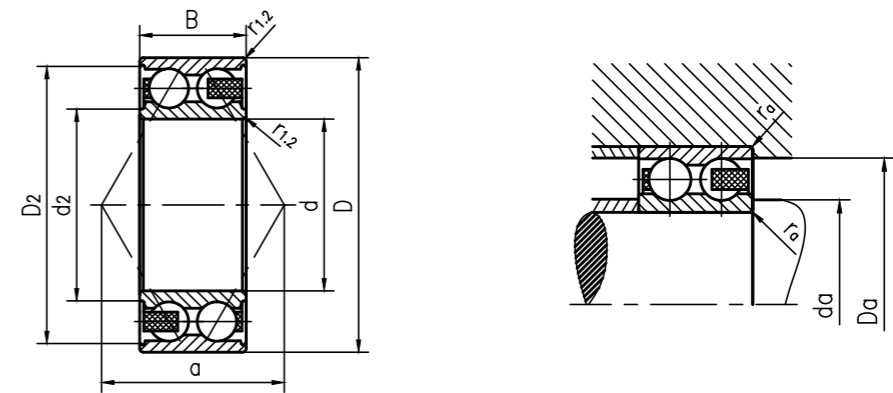
## Double Row angular contact ball bearings



Type		Main dimensions			Dimensions						Shoulder and chamfer dimensions		
Bearings with metal cage	Polyamide cage	d	D	B	d <sub>1</sub>	d <sub>2</sub>	D <sub>1</sub>	D <sub>2</sub>	r <sub>1,2</sub> Min.	α	d <sub>a</sub> Min.	d <sub>a</sub> Max.	r <sub>a</sub> Max.
		mm											
-	3200ATN9	10	30	14	-	15.8	-	25	0.6	16	14.4	25.6	0.6
-	3201ATN9	12	32	15.9	-	17.2	-	27.7	0.6	19	16.4	27.6	0.6
-	3202ATN9	15	35	15.9	-	20.2	-	30.7	0.6	21	19.4	30.6	0.6
-	3302ATN9	15	42	19	-	23.7	-	35.7	1	24	20.6	36.4	1
-	3203ATN9	17	40	17.5	-	23.3	-	35	0.6	23	21.4	35.6	0.6
-	3303ATN9	17	47	22.2	-	25.7	-	40.2	1	28	22.6	41.4	1
3204A	3204ATN9	20	47	20.6	-	27.7	-	40.9	1	28	25.6	41.4	1
3304A	3304ATN9	20	52	22.2	-	29.9	-	44	1.1	30	27	45	1
3205A	3205ATN9	25	52	20.6	-	32.7	-	45.9	1	30	31	46	1
3305A	3305ATN9	25	62	25.4	-	35.7	-	53.4	1.1	36	32	55	1
3206A	3206ATN9	30	62	23.8	-	38.7	-	55.2	1	36	36	56	1
3306A	3306ATN9	30	72	30.2	-	39.8	-	64.1	1.1	42	37	65	1
3207A	3207ATN9	35	72	27	-	45.4	-	63.9	1.1	42	42	65	1
3307A	3307ATN9	35	80	34.9	-	44.6	-	70.5	1.5	47	44	71	1.5
3307DJ1	-	35	80	34.9	52.8	-	69	-	1.5	76	44	71	1.5
3208A	3208ATN9	40	80	30.2	-	47.8	-	72.1	1.1	46	47	73	1
3308DNRCBM	-	40	90	36.5	61.1	-	77.5	-	1.5	71	49	-	1.5
3308A	3308ATN9	40	90	36.5	-	50.8	-	80.5	1.5	53	49	81	1.5
3308DMA	-	40	90	36.5	59.4	-	77.8	-	1.5	84	49	81	1.5
3308DTN9	-	40	90	36.5	59.4	-	77.8	-	1.5	84	49	81	1.5
3209A	3209ATN9	45	85	30.2	-	52.8	-	77.1	1.1	46	52	78	1
3309DNRCBM	-	45	100	39.7	67.9	-	86.6	-	1.5	79	54	-	1.5
3309A	3309ATN9	45	100	39.7	-	55.6	-	90	1.5	58	54	91	1.5
3309DMA	-	45	100	39.7	70	-	86.4	-	1.5	93	54	91	1.5
3210A	3210ATN9	50	90	30.2	-	57.8	-	82.1	1.1	52	57	83	1
3310DNRCBM	-	50	110	44.4	74.6	-	96.4	-	2	102	61	-	2
3310A	3310ATN9	50	110	44.4	-	62	-	99.5	2	65	61	99	2
3310DMA	-	50	110	44.4	76.5	-	94.2	-	2	102	61	99	2
3211A	3211ATN9	55	100	33.3	-	63.2	-	92.3	1.5	57	63	91	1.5
3311DNRCBM	-	55	120	49.2	81.5	-	106	-	2	97	66	-	2
3311DMA	-	55	120	49.2	81.4	-	105	-	2	114	66	109	2
3311A	3311ATN9	55	120	49.2	-	68.4	-	110	2	72	66	109	2
3212A	3212ATN9	60	110	36.5	74.4	-	96.2	-	1.5	63	69	101	1.5
3312A	-	60	130	54	84.2	-	110	-	2.1	78	72	118	2
3213A	-	65	120	38.1	84.9	-	103	-	1.5	71	74	111	1.5
3313DNRCBM	-	65	140	58.7	95	-	125	-	2.1	114	77	-	2
3313A	-	65	140	58.7	89.8	-	116	-	2.1	84	77	128	2
3214A	-	70	125	39.7	88.5	-	108	-	1.5	74	79	116	1.5
3314A	-	70	150	63.5	96.5	-	125	-	2.1	89	82	138	2
3215A	-	75	130	41.3	92	-	112	-	1.5	77	84	121	1.5
3315A	-	75	160	68.3	103	-	135	-	2.1	97	87	148	2

Type	Polyamide cage	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient
			Dynamic	Static	P <sub>u</sub>			K <sub>r</sub>
			C	C <sub>0</sub>	r/min			-
-	-	kg	kN					
-	3200ATN9	0.051	7.65	4.32	0.18	26130	24120	0.06
-	3201ATN9	0.058	10.15	5.63	0.24	24120	22110	0.06
-	3202ATN9	0.066	11.26	6.83	0.29	22110	18090	0.06
-	3302ATN9	0.13	15.18	9.35	0.4	18090	16080	0.07
-	3203ATN9	0.096	14.37	8.84	0.37	19095	16080	0.06
-	3303ATN9	0.18	21.71	12.76	0.54	17085	14070	0.07
3204A	3204ATN9	0.16	20.5	12.96	0.55	16080	14070	0.06
3304A	3304ATN9	0.22	23.72	14.67	0.62	15075	13065	0.07
3205A	3205ATN9	0.18	21.71	14.37	0.6	14070	12060	0.06
3305A	3305ATN9	0.35	32	20.4	0.865	12060	11055	0.07
3206A	3206ATN9	0.29	30.15	20.5	0.87	11055	10050	0.06
3306A	3306ATN9	0.52	42.71	30.15	1.28	10050	9045	0.07
3207A	3207ATN9	0.44	40.2	28.14	1.19	10050	9045	0.06
3307A	3307ATN9	0.74	52.26	35.68	1.51	9547.5	8542.5	0.07
3307DJ1	-	0.79	52.96	41.71	1.77	9045	8040	0.095
3208A	3208ATN9	0.57	48.24	36.68	1.57	9045	8040	0.06
3308DNRCBM	-	1.2	49.65	41.71	1.77	8040	7035	0.095
3308A	3308ATN9	0.93	64.32	44.22	1.87	8040	7537.5	0.07
3308DMA	-	1.05	69.24	57.29	2.46	8040	7035	0.095
3308DTN9	-	1.05	69.24	57.29	2.46	8040	7035	0.095
3209A	3209ATN9	0.63	51.26	39.2	1.64	8542.5	7537.5	0.06
3309DNRCBM	-	1.5	62.11	52.26	2.21	7537.5	6331.5	0.095
3309A	3309ATN9	1.25	75.38	53.27	2.25	7537.5	6733.5	0.07
3309DMA	-	1.65	79.7	69.85	3.02	7537.5	6331.5	0.095
3210A	3210ATN9	0.65	51.26	42.71	1.81	8040	7035	0.06
3310DNRCBM	-	1.95	82.31	69.85	3.02	6733.5	5628	0.095
3310A	3310ATN9	1.7	90.45	64.32	2.76	6733.5	6030	0.07
3310DMA	-	2.2	94.07	85.43	3.62	6733.5	5628	0.095
3211A	3211ATN9	0.91	60.3	47.74	2.01	6331.5	6331.5	0.06
3311DNRCBM	-	2.55	96.08	83.42	3.57	5025	5326.5	0.095
3311DMA	-	2.8	111.56	100.5	4.32	4824	5025	0.095
3311A	3311ATN9	2.65	112.56	81.91	3.47	5326.5	5326.5	0.07
3212A	3212ATN9	1.2	73.87	58.79	2.51	6331.5	5628	0.06
3312A	-	2.8	127.64	95.48	4.07	5628	5025	0.07
3213A	-	1.75	81	73.87	3.12	5628	4824	0.06
3313DNRCBM	-	4	138.69	122.61	5.13	5326.5	4522.5	0.095
3313A	-	4.1	146.73	110.55	4.57	5326.5	4522.5	0.07
3214A	-	1.9	88.84	80.4	3.42	5628	4522.5	0.06
3314A	-	5.05	163.82	125.63	5.03	5025	4321.5	0.07
3215A	-	2.1	96.08	88.44	3.77	5326.5	4522.5	0.06
3315A	-	5.55	176.88	140.7	5.53	4522.5	4020	0.07

## Double Row angular contact ball bearings



32 A, 33 A

33D

33 DNRCBM

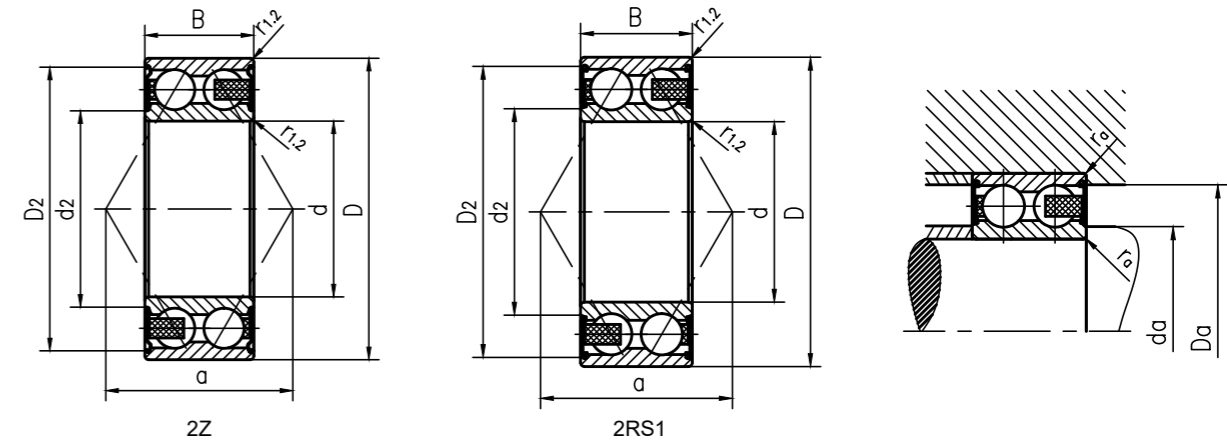
Type		Main dimensions			Dimensions						Shoulder and chamfer dimensions		
Bearings with metal cage	Polyamide cage	d	D	B	$d_1 \approx$	$d_2 \approx$	$D_1 \approx$	$D_2 \approx$	$r_{1,2}$ Min.	$\alpha$	$d_a$ Min.	$d_a$ Max.	$r_a$ Max.
-	-	80	140	44.4	97.6	-	120	-	2	82	91	129	2
3216A	-	80	170	68.3	109	-	144	-	2.1	101	92	158	2
3316A	-	80	170	68.3	109	-	144	-	2.1	101	92	158	2
3217A	-	85	150	49.2	103	-	136	-	2	88	96	139	2
3317A	-	85	180	73	116	-	153	-	3	107	99	166	2.5
3218A	-	90	160	52.4	111	-	137	-	2	94	101	149	2
3318A	-	90	190	73	123	-	160	-	3	112	104	176	2.5
3219A	-	95	170	55.6	119	-	146	-	2.1	101	107	158	2
3319A	-	95	200	77.8	127	-	176	-	3	127	109	186	2.5
3220A	-	100	180	60.3	126	-	162	-	2.1	107	112	168	2
3320A	-	100	215	82.6	135	-	180	-	3	127	114	201	2.5
3222A	-	110	200	69.8	139	-	174	-	2.1	119	122	188	2
3322A	-	110	240	92.1	152	-	201	-	3	142	124	226	2.5

Type	Polyamide cage	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient
			Dynamic	Static				
Bearings with metal cage			C	$C_0$	$P_u$			$K_f$
-		kg	kN			r/min		-
3216A	-	2.65	106.53	95.48	3.92	5025	4321.5	0.06
3316A	-	6.8	193.97	156.78	6.03	4321.5	3819	0.07
3217A	-	3.4	124.62	110.55	4.42	4522.5	3819	0.06
3317A	-	8.3	209.04	176.88	6.58	4020	3618	0.07
3218A	-	4.15	130.65	120.6	4.57	4321.5	3618	0.06
3318A	-	9.25	209.04	180.9	6.43	3819	3417	0.07
3219A	-	5	159.8	146.73	5.43	4020	3417	0.06
3319A	-	11	241.2	217.08	7.54	3618	3216	0.07
3220A	-	6.1	178.89	166.83	6.03	3819	3216	0.06
3320A	-	13.5	256.28	256.28	8.69	3417	2814	0.07
3222A	-	8.8	213.06	213.06	7.24	3417	2814	0.06
3322A	-	19	292.46	306.53	9.85	3015	2613	0.07



## Double Row angular contact ball bearings

### Closed double row angular contact ball bearing



Type		Main dimensions			Dimensions				Shoulder and chamfer dimensions			
Dust-covered bearing	Bearings with seals	d	D	B	d <sub>2</sub> ≈	D <sub>2</sub> ≈	r <sub>1,2</sub> Min.	α	d <sub>a</sub> Min.	d <sub>a</sub> Max.	D <sub>a</sub> Max.	r <sub>a</sub> Max.
		mm			mm				mm			
-	-	10	30	14	15.8	25	0.6	16	14.4	15.5	25.6	0.6
3200A-2Z	3200A-2RS1	12	32	15.9	17.2	27.7	0.6	19	16.4	17	27.6	0.6
3201A-2Z	3201A-2RS1	15	35	15.9	20.2	30.7	0.6	21	19.4	20	30.6	0.6
3202A-2Z	3202A-2RS1	15	42	19	23.7	35.7	1	24	20.6	23.5	36.4	1
3302A-2Z	3302A-2RS1	17	40	17.5	23.3	35	0.6	23	21.4	23	35.6	0.6
3203A-2Z	3203A-2RS1	17	47	22.2	25.7	40.2	1	28	22.6	25.5	41.4	1
3303A-2Z	3303A-2RS1	20	47	20.6	27.7	40.9	1	28	25.6	27.5	41.4	1
3204A-2Z	3204A-2RS1	20	52	22.2	29.9	44	1.1	30	27	29.5	45	1
3304A-2Z	3304A-2RS1	25	52	20.6	32.7	45.9	1	30	30.6	32.5	46.4	1
3205A-2Z	3205A-2RS1	25	62	25.4	35.7	53.4	1.1	36	32	35.5	55	1
3305A-2Z	3305A-2RS1	30	62	23.8	38.7	55.2	1	36	35.6	38.5	56	1
3206A-2Z	3206A-2RS1	30	72	30.2	39.8	64.1	1.1	42	37	39.5	65	1
3306A-2Z	3306A-2RS1	35	72	27	45.4	63.9	1.1	42	42	45	65	1
3207A-2Z	3207	35	80	34.9	44.6	70.5	1.5	47	44	44.5	71	1.5
3307A-2Z	3307A-2RS1	40	80	30.2	47.8	72.1	1.1	46	47	48	73	1
3208A-2Z	3208A-2RS1	40	90	36.5	50.8	80.5	1.5	53	49	50	81	1.5
3308A-2Z	3308A-2RS1	45	85	30.2	52.8	77.1	1.1	46	52	52	78	1
3209A-2Z	3209A-2RS1	45	100	39.7	55.6	90	1.5	58	54	91	91	1.5
3309A-2Z	3309A-2RS1	50	90	30.2	57.8	82.1	1.1	52	57	57	83	1
3210A-2Z	3210A-2RS1	50	110	44.4	62	99.5	2	65	61	61	99	2
3310A-2Z	3310A-2RS1	55	100	33.3	63.2	92.3	1.5	57	63	63	91	1.5
3211A-2Z	3211A-2RS1	55	120	49.2	68.4	110	2	72	66	68	109	2
3311A-2Z	3311A-2RS1	60	110	36.5	68.8	101	1.5	63	69	68	101	1.5
3212A-2Z	3212A-2RS1	60	130	54	73.4	118	2.1	78	72	73	118	2
3312A-2Z	-	65	120	38.1	77.5	111	1.5	71	74	76	111	1.5
3213A-2Z	3213A-2RS1	65	140	58.7	79.2	128	2.1	84	77	78	128	2
3313A-2Z	-	70	125	39.7	82.5	116	1.5	74	79	82	116	1.5
3214A-2Z	-	70	150	63.5	86.5	137	2.1	89	82	84	138	2
3314A-2Z	-	75	130	41.3	87.5	121	1.5	77	84	84	121	1.5
3215A-2Z	-	75	160	68.3	95.4	147	2.1	97	87	88	148	2
3315A-2Z	-											

Type		Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient
Dust-covered bearing	Bearings with seals		Dynamic	Static				
			C	C <sub>0</sub>	P <sub>u</sub>	r/min	K <sub>r</sub>	
-	-	kg	kN					-
3200A-2Z	3200A-2RS1	0.051	7.65	4.32	0.18	24120	17085	0.06
3201A-2Z	3201A-2RS1	0.058	10.15	5.63	0.24	22110	15075	0.06
3202A-2Z	3202A-2RS1	0.066	11.26	6.83	0.29	18090	14070	0.06
3302A-2Z	3302A-2RS1	0.13	15.18	9.35	0.4	16080	12060	0.07
3203A-2Z	3203A-2RS1	0.1	14.37	8.84	0.37	16080	12060	0.06
3303A-2Z	3303A-2RS1	0.18	21.71	12.76	0.54	14070	11055	0.07
3204A-2Z	3204A-2RS1	0.16	20.5	12.96	0.55	14070	10050	0.06
3304A-2Z	3304A-2RS1	0.22	23.72	14.67	0.62	13065	9045	0.07
3205A-2Z	3205A-2RS1	0.18	21.71	14.37	0.6	12060	8542.5	0.06
3305A-2Z	3305A-2RS1	0.35	32.16	20.5	0.87	11055	7537.5	0.07
3206A-2Z	3206A-2RS1	0.29	30.15	20.5	0.87	10050	7537.5	0.06
3306A-2Z	3306A-2RS1	0.52	42.71	30.15	1.28	9045	6331.5	0.07
3207A-2Z	3207	0.44	40.2	28.14	1.19	9045	6331.5	0.06
3307A-2Z	3307A-2RS1	0.74	52.26	35.68	1.51	8542.5	6030	0.07
3208A-2Z	3208A-2RS1	0.57	48.24	36.68	1.57	8040	5628	0.06
3308A-2Z	3308A-2RS1	0.93	64.32	44.22	1.87	7537.5	5025	0.07
3209A-2Z	3209A-2RS1	0.63	51.26	39.2	1.64	7537.5	5326.5	0.06
3309A-2Z	3309A-2RS1	1.25	75.38	53.27	2.25	6733.5	4824	0.07
3210A-2Z	3210A-2RS1	0.65	51.26	42.71	1.81	7035	4824	0.06
3310A-2Z	3310A-2RS1	1.7	90.45	64.32	2.76	6030	4321.5	0.07
3211A-2Z	3211A-2RS1	0.91	60.3	47.74	2.01	6331.5	4522.5	0.06
3311A-2Z	3311A-2RS1	2.65	112.56	81.91	3.47	5326.5	3819	0.07
3212A-2Z	3212A-2RS1	1.2	73.87	58.79	2.51	5628	4020	0.06
3312A-2Z	-	2.8	127.64	95.48	4.07	5025	-	0.07
3213A-2Z	3213A-2RS1	1.75	81	73.87	3.12	4824	3618	0.06
3313A-2Z	-	4.1	146.73	110.55	4.57	4522.5	-	0.07
3214A-2Z	-	1.9	88.84	80.4	3.42	4522.5	-	0.06
3314A-2Z	-	5.05	163.82	125.63	5.03	4321.5	-	0.07
3215A-2Z	-	2.1	96.08	88.44	3.77	4522.5	-	0.06
3315A-2Z	-	5.6	176.88	140.7	5.53	4020	-	0.07

## Four Point Contact Ball Bearings

### Features

The structure of four-point contact ball bearings is basically same with single row angular contact ball bearings. It usually consist of double inner rings, outer ring, steel balls and cages. With specially designed raceways, four-point contact ball bearings can support radial load and axial load in double direction. Bearings in this type take up less space in the axial direction than double row angular contact ball bearings.

### Radial and axial load capacity

Four point contact ball bearings can accommodate axial load in both direction as well as radial load. The default designed contact angle of this type bearing is 35°, which can bear a larger axial load. With the double inner rings design, they can be filled in a bigger number of rolling elements, so that they have a higher load capacity.

### With locating slots

In most cases, four-point contact ball bearings are used as thrust bearings together with another set of radial bearings. At same time, there is a clearance between the outer ring and the bearing seat. Four-point contact ball bearings can be supplied with locating slot in the outer ring to prevent turning, the designation suffix is N2.

### Compensation of angular misalignment

Four-point contact ball bearings are not suitable for applications where there is misalignment or shaft deflection. Skewing of the bearing rings will increase the running noise, place increased strain on the cages and shorten the operating life of the bearings.

### Seals

Four point contact ball bearings do not have seals normally, please contact KMR when there is a need for seals.

### Cages

Generally the four point contact ball bearings have machined brass cages, outer ring guide.

### Operating temperature

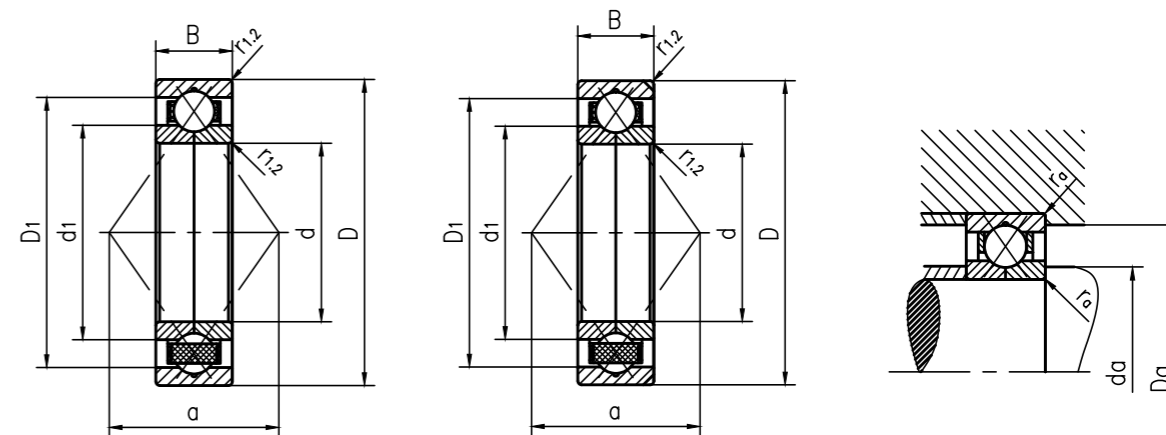
The operating temperature of four-point contact ball bearings is -30 °C ~ +150 °C.



## Suffixes for Designs

Suffix	Meaning
B20	Narrow width tolerance
C2	Axial internal clearance smaller than Normal
C2H	Axial internal clearance in the upper half of the C2 range
C2L	Axial internal clearance in the lower half of the C2 range
C3	Axial internal clearance greater than Normal
C4	Axial internal clearance greater than C3
CNL	Axial internal clearance in the lower half of the Normal range
FA	Machined steel cage, outer ring centred
MA	Machined brass cage, outer ring centred
N2	Two locating slots (notches) in one outer ring side face, 180° apart
PHA	Injection molding PEEK (Peek) cage, outer ring guide
P6	Dimensional and geometrical tolerances to class P6
P63	P6 + C3
P64	P6 + C4
S1	Bearing rings heat stabilized for operating temperatures ≤ 200 °C (390 °F)
344524	C2H + CNL

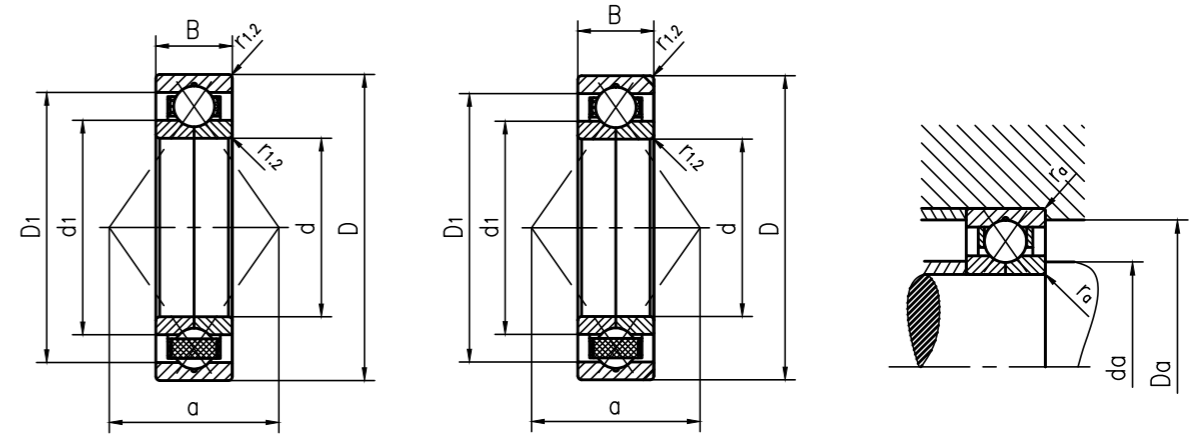
## Four-point contact ball bearing



Type		Main dimensions			Dimensions				Shoulder and chamfer dimensions		
Bearings with locating slots	Bearings without locating slots	d	D	B	d <sub>1</sub> ≈	D <sub>1</sub> ≈	r <sub>1,2</sub> Min.	α	d <sub>a</sub> Min.	d <sub>a</sub> Max.	r <sub>a</sub> Max.
		mm			mm				mm		
QJ202N2MA	—	15	35	11	22	28.1	0.6	18	19.2	30.8	0.6
QJ203N2MA	—	17	40	12	23.5	32.5	0.6	20	21.2	35.8	0.6
QJ303N2MA	—	17	47	14	27.7	36.3	1	22	22.6	41.4	1
QJ304N2MA	QJ304MA	20	52	15	27.5	40.8	1.1	25	27	45	1
QJ304N2PHAS	—	20	52	15	27.5	40.8	1.1	25	27	45	1
QJ205N2MA	—	25	52	15	31.5	43	1	27	30.6	46.4	1
QJ305N2MA	QJ305MA	25	62	17	34	49	1.1	30	32	55	1
QJ206N2MA	QJ206MA	30	62	16	37.5	50.8	1	32	35.6	56	1
QJ306N2MA	QJ306MA	30	72	19	40.5	58.2	1.1	36	37	65	1
QJ306N2PHAS	—	30	72	19	40.5	58.2	1.1	36	37	65	1
QJ207N2MA	—	35	72	17	44	59	1.1	37	42	65	1
QJ307N2MA	QJ307MA	35	80	21	46.2	64.3	1.5	40	44	71	1.5
QJ307N2PHAS	—	35	80	21	46.2	64.3	1.5	40	44	71	1.5
—	QJ208MA	40	80	18	49.5	66	1.1	42	47	73	1
QJ308N2MA	QJ308MA	40	90	23	52	72.5	1.5	46	49	81	1.5
QJ308N2PHAS	—	40	90	23	52	72.5	1.5	46	49	81	1.5
—	QJ209MA	45	85	19	54.5	72	1.1	46	52	78	1
QJ309N2MA	QJ309MA	45	100	25	58	81.2	1.5	51	54	91	1.5
QJ309N2PHAS	QJ309PHAS	45	100	25	58	81.2	1.5	51	54	91	1.5
—	QJ210MA	50	90	20	59.5	76.5	1.1	49	57	83	1
—	QJ310MA	50	110	27	65	90	2	56	61	99	2
—	QJ310PHAS	50	110	27	65	90	2	56	61	99	2
QJ211N2MA	QJ211MA	55	100	21	66	84.7	1.5	54	64	91	1.5
QJ311N2MA	QJ311MA	55	120	29	70.5	97.8	2	61	66	109	2
QJ212N2PHAS	—	60	110	22	72	93	1.5	60	69	101	1.5
QJ212N2MA	QJ212MA	60	110	22	72	93	1.5	60	69	101	1.5
QJ312N2MA	QJ312MA	60	130	31	77	106	2.1	67	72	118	2
—	QJ312PHAS	60	130	31	77	106	2.1	67	72	118	2
QJ213N2PHAS	—	65	120	23	78.5	101	1.5	65	74	111	1.5
QJ213N2MA	QJ213MA	65	120	23	78.5	101	1.5	65	74	111	1.5
QJ313N2PHAS	—	65	140	33	82.5	115	2.1	72	77	128	2
—	QJ313MA	65	140	33	82.5	115	2.1	72	77	128	2
QJ214N2MA	QJ214MA	70	125	24	83.5	106	1.5	68	79	116	1.5
QJ214N2PHAS	—	70	125	24	83.5	106	1.5	68	79	116	1.5
QJ314N2MA	QJ314MA	70	150	35	89	123	2.1	77	82	138	2
QJ314N2PHAS	—	70	150	35	89	123	2.1	77	82	138	2
QJ215N2MA	QJ215MA	75	130	25	88.5	112	1.5	72	84	121	1.5
QJ215N2PHAS	—	75	130	25	88.5	112	1.5	72	84	121	1.5
QJ315N2MA	—	75	160	37	104	131	2.1	82	87	148	2
QJ315N2PHAS	—	75	160	37	104	131	2.1	82	87	148	2
QJ216N2MA	QJ216MA	80	140	26	95.3	120	2	77	91	130	2
QJ316N2MA	—	80	170	39	111	139	2.1	88	92	158	2
QJ316N2PHAS	—	80	170	39	111	139	2.1	88	92	158	2

Type		Weight kg	Basic load rating		Fatigue load limit	Limit speed bearing with dust cover r/min	Calculate the coefficient A
Bearings with locating slots	Bearings without locating slots		Dynamic	Static	P <sub>u</sub>		
			C	C <sub>0</sub>			
QJ202N2MA	—	0.062	12.76	8.34	0.36	36180	0.000257
QJ203N2MA	—	0.082	17.09	11.46	0.48	30150	0.000427
QJ303N2MA	—	0.14	23.52	15.08	0.64	28140	0.00087
QJ304N2MA	QJ304MA	0.18	32.16	21.71	0.93	24120	0.00143
QJ304N2PHAS	—	0.18	32.16	21.71	0.93	24120	0.00143
QJ205N2MA	—	0.16	27.14	21.31	0.9	22110	0.00126
QJ305N2MA	QJ305MA	0.29	42.71	30.15	1.28	20100	0.00278
QJ206N2MA	QJ206MA	0.24	37.69	30.65	1.3	19095	0.00256
QJ306N2MA	QJ306MA	0.42	53.27	41.71	1.77	17085	0.00508
QJ306N2PHAS	—	0.42	53.27	41.71	1.77	17085	0.00508
QJ207N2MA	—	0.35	49.25	41.71	1.77	17085	0.00473
QJ307N2MA	QJ307MA	0.57	64.32	51.26	2.17	15075	0.00744
QJ307N2PHAS	—	0.57	64.32	51.26	2.17	15075	0.00744
—	QJ208MA	0.45	56.28	49.25	2.09	15075	0.0066
QJ308N2MA	QJ308MA	0.78	78.39	64.32	2.71	14070	0.0118
QJ308N2PHAS	—	0.78	78.39	64.32	2.71	14070	0.0118
—	QJ209MA	0.52	63.32	56.28	2.37	14070	0.00871
QJ309N2MA	QJ309MA	1.05	100.5	83.42	3.57	12060	0.0202
QJ309N2PHAS	QJ309PHAS	1.05	100.5	83.42	3.57	12060	0.0202
—	QJ210MA	0.59	65.83	61.31	2.61	13065	0.0103
—	QJ310MA	1.35	118.59	100.5	4.27	11055	0.029
—	QJ310PHAS	1.35	118.59	100.5	4.27	11055	0.029
QJ211N2MA	QJ211MA	0.77	85.43	83.42	3.57	11055	0.0173
QJ311N2MA	QJ311MA	1.75	137.69	118.59	5.03	10050	0.0404
QJ212N2PHAS	—	0.99	96.98	93.47	4.02	10050	0.0242
QJ212N2MA	QJ212MA	0.99	96.98	93.47	4.02	10050	0.0242
QJ312N2MA	QJ312MA	2.15	156.78	137.69	5.88	9045	0.0549
—	QJ312PHAS	2.15	156.78	137.69	5.88	9045	0.0549
QJ213N2PHAS	—	1.2	110.55	112.56	4.77	9547.5	0.033
QJ213N2MA	QJ213MA	1.2	110.55	112.56	4.77	9547.5	0.033
QJ313N2PHAS	—	2.7	176.88	156.78	6.58	8542.5	0.0731
—	QJ313MA	2.7	176.88	156.78	6.58	8542.5	0.0731
QJ214N2MA	QJ214MA	1.3	120.6	122.61	5.23	9045	0.04
QJ214N2PHAS	—	1.3	120.6	122.61	5.23	9045	0.04
QJ314N2MA	QJ314MA	3.15	201	180.9	7.39	8040	0.0954
QJ314N2PHAS	—	3.15	201	180.9	7.39	8040	0.0954
QJ215N2MA	QJ215MA	1.45	125.63	132.66	5.63	8542.5	0.0453
QJ215N2PHAS	—	1.45	125.63	132.66	5.63	8542.5	0.0453
QJ315N2MA	—	3.9	217.08	201	7.84	7537.5	0.122
QJ315N2PHAS	—	3.9	217.08	201	7.84	7537.5	0.122
QJ216N2MA	QJ216MA	1.85	146.73	156.78	6.43	8040	0.0629
QJ316N2MA	—	4.6	233.16	229.14	8.69	7035	0.155
QJ316N2PHAS	—	4.6	233.16	229.14	8.69	7035	0.155

# Four-point contact ball bearing



Type		Main dimensions			Dimensions				Shoulder and chamfer dimensions		
Bearings with locating slots	Bearings without locating slots	d	D	B	d <sub>1</sub> ≈	D <sub>1</sub> ≈	r <sub>1,2</sub> Min.	α	d <sub>a</sub> Min.	d <sub>a</sub> Max.	r <sub>a</sub> Max.
-		mm			mm				mm		
QJ217N2MA	QJ217MA	85	150	28	100	128	2	83	96	139	2
QJ317N2MA	-	85	180	41	117	148	3	93	99	166	2.5
QJ218N2MA	-	90	160	30	114	136	2	88	101	149	2
QJ318N2MA	-	90	190	43	124	156	3	98	104	176	2.5
QJ318N2PHAS	-	90	190	43	124	156	3	98	104	176	2.5
QJ219N2MA	-	95	170	32	120	145	2.1	93	107	158	2
QJ319N2MA	-	95	200	45	131	165	3	103	109	186	2.5
QJ319N2PHAS	-	95	200	45	131	165	3	103	109	186	2.5
QJ220N2MA	-	100	180	34	127	153	2.1	98	112	168	2
QJ320N2MA	-	100	215	47	139	176	3	110	114	201	2
QJ222N2MA	-	110	200	38	141	169	2.1	109	122	188	2
QJ322N2MA	-	110	240	50	154	196	3	123	124	226	2.5
QJ224N2MA	-	120	215	40	152	183	2.1	117	132	203	2
QJ324N2MA	-	120	260	55	169	211	3	133	134	246	2.5
QJ226N2MA	-	130	230	40	165	195	3	126	144	216	2.5
QJ326N2MA	-	130	280	58	182	227	4	144	147	263	3
QJ228N2MA	-	140	250	42	179	211	3	137	154	236	2.5
QJ328N2MA	-	140	300	62	196	244	4	154	158	282	3
QJ230N2MA	-	150	270	45	194	226	3	147	164	256	2.5
QJ330N2MA	-	150	320	65	211	259	4	165	167	303	3
QJ232N2MA	-	160	290	48	204	243	3	158	174	276	2.5
QJ332N2MA	-	160	340	68	224	276	4	175	177	323	3
QJ234N2MA	-	170	310	52	204	243	4	168	187	293	3
QJ334N2MA	-	170	360	72	237	293	4	186	187	343	3
QJ236N2MA	-	180	320	52	231	269	4	175	197	303	3
QJ336N2MA	-	180	380	75	252	309	4	196	197	363	3
QJ238N2MA	-	190	340	55	244	285	4	185	207	323	3
QJ338N2MA	-	190	400	78	263	326	5	207	210	380	4
QJ240N2MA	-	200	360	58	258	302	4	196	217	363	3

Type		Weight	Basic load rating		Fatigue load limit	Limit speed bearing with dust cover	Calculate the coefficient
Bearings with locating slots	Bearings without locating slots		Dynamic	Static	P <sub>u</sub>		
-		kg	kN			r/min	-
QJ217N2MA	QJ217MA	2.25	156.78	173.87	6.73	7537.5	0.0768
QJ317N2MA	-	5.45	251.25	256.28	8.69	6733.5	0.193
QJ218N2MA	-	2.75	186.93	201	7.69	7035	0.106
QJ318N2MA	-	6.45	286.43	306.53	11.06	6331.5	0.26
QJ318N2PHAS	-	6.45	286.43	306.53	11.06	6331.5	0.26
QJ219N2MA	-	3.35	213.06	233.16	8.54	6733.5	0.138
QJ319N2MA	-	7.45	306.53	341.7	11.86	6030	0.317
QJ319N2PHAS	-	7.45	306.53	341.7	11.86	6030	0.317
QJ220N2MA	-	4.05	237.18	266.33	9.55	6331.5	0.176
QJ320N2MA	-	9.3	346.73	402	13.77	5628	0.442
QJ222N2MA	-	5.6	281.4	326.63	11.26	5628	0.277
QJ322N2MA	-	12.5	391.95	482.4	15.38	4824	0.635
QJ224N2MA	-	6.95	301.5	366.83	12.06	5025	0.354
QJ324N2MA	-	16	417.08	532.65	16.38	4522.5	0.785
QJ226N2MA	-	7.75	311.55	402	12.76	4824	0.411
QJ326N2MA	-	19.5	457.28	613.05	18.09	4020	1.06
QJ228N2MA	-	9.85	346.73	477.38	14.37	4321.5	0.556
QJ328N2MA	-	24	502.5	698.48	20.1	3819	1.4
QJ230N2MA	-	12.5	402	572.85	16.68	4020	0.793
QJ330N2MA	-	29	532.65	768.83	21.31	3618	1.65
QJ232N2MA	-	15.5	452.25	673.35	19.1	3819	1.1
QJ332N2MA	-	34.5	572.85	884.4	23.72	3417	2.12
QJ234N2MA	-	19.5	457.28	723.6	20.1	3417	1.26
QJ334N2MA	-	41.5	658.28	1045.2	27.14	3216	2.92
QJ236N2MA	-	20.5	477.38	768.83	20.9	3417	1.39
QJ336N2MA	-	47.5	683.4	1105.5	28.14	3015	3.38
QJ238N2MA	-	23.5	512.55	854.25	22.51	3216	1.77
QJ338N2MA	-	49	705.51	1165.8	28.64	2814	4.45
QJ240N2MA	-	28.5	542.7	919.58	23.32	3015	2.33

## Self-aligning Ball Bearings

### Features

Self-aligning ball bearings are double row non-separable bearings. They are usually composed of inner rings, outer rings, steel balls, cages. The raceways of the outer ring are designed as an arc spherical surface. The inner ring assembly can realize the self-aligning function relative to the raceways of the outer rings. Therefore, this type bearings have the function of compensating misalignment and shaft deflection.

### Radial and axial load capacity

Self-aligning ball bearings can accommodate axial load in both direction as well as radial load. Due to double row design, self-aligning ball bearings can support high load carrying capacity.

### With cylindrical bore or tapered bore

Self-aligning ball bearings adopt cylindrical bore design by default, and most models use tapered bore design, the taper is 1:12 (suffix K). Self-aligning ball bearings with a tapered bore are also available with an adapter sleeve or withdrawal sleeve, so as to simplify mounting configurations of bearings.

### With extended inner ring

Self-aligning ball bearings with extended inner rings can be provided according to customer requirements. The inner ring is prevented from rotating on the shaft by locate it on the shaft with a locating pin or set screw.

It should be noted that when using two self-aligning ball bearings designed with extended inner rings at the same time, the locate pin or the set screw cannot be in the same direction.

### Compensation of angular misalignment

Self-aligning ball bearings have excellent angular misalignment compensation capabilities. So they're especially suitable for applications where there is misalignment or shaft deflection.

Under the condition of inner ring rotation, the inclination angle of the open self-aligning ball bearing relative to the center can reach 3°, and the inclination angle of the sealed bearing can reach 1.5°.

### Seals

Some self-alignment ball bearings are also available with seals, which the suffix is 2RS1. The seals are made of nitrile rubber with steel skeleton, which has excellent anti-pollution ability.

### Cages

According to different bearing series and sizes, there are three types cage materials for self-aligning ball bearings. They're glass fiber reinforced nylon cages, stamped steel cages, and machined brass cages.

### Operating temperature

Self-aligning ball bearings can be used at operating temperature -30 °C ~ +150 °C. Limited by the working temperature of the material, the upper limit of the working temperature of self-aligning ball bearings with glass fiber reinforced nylon cage or with sealed structure is +120°C.

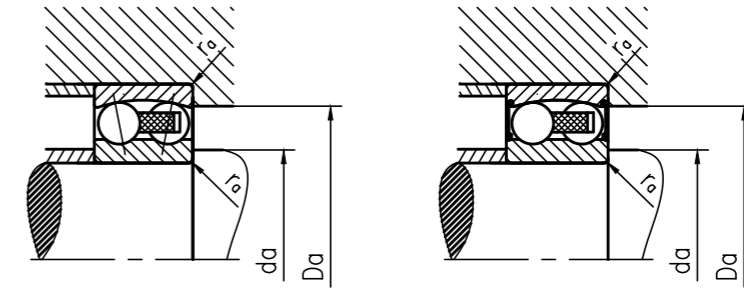
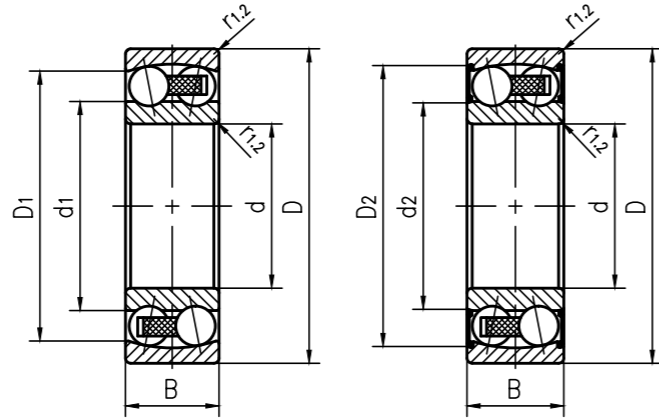


## Suffixes for Designs

Suffix	Meaning
B20	Narrow width tolerance
C2	Axial internal clearance smaller than Normal
C2H	Axial internal clearance in the upper half of the C2 range
C2L	Axial internal clearance in the lower half of the C2 range
C3	Axial internal clearance greater than Normal
C4	Axial internal clearance greater than C3
CNL	Axial internal clearance in the lower half of the Normal range
FA	Machined steel cage, outer ring centred
MA	Machined brass cage, outer ring centred
N2	Two locating slots (notches) in one outer ring side face, 180° apart
PHA	Injection molding PEEK (Peek) cage, outer ring guide
P6	Dimensional and geometrical tolerances to class P6
P63	P6 + C3
P64	P6 + C4
S1	Bearing rings heat stabilized for operating temperatures ≤ 200 °C (390 °F)
344524	C2H + CNL



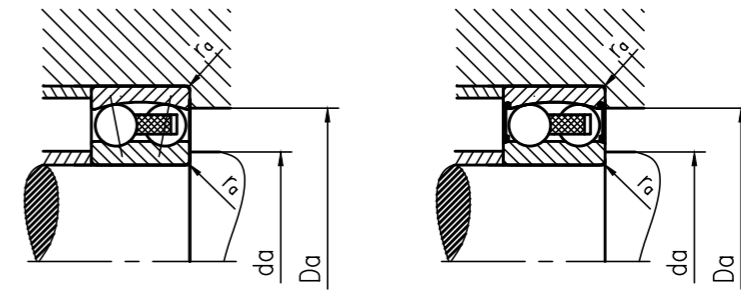
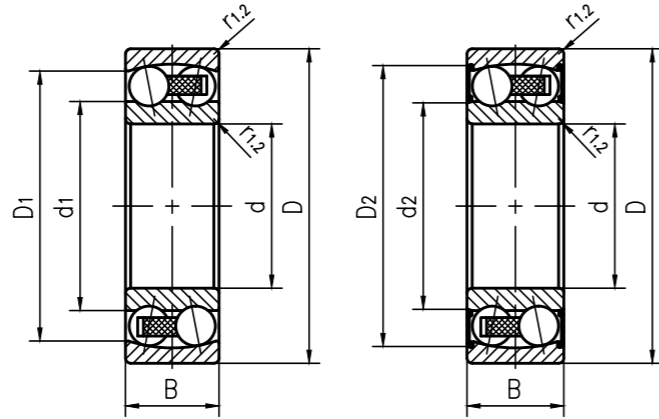
# Self-aligning ball bearing



Type		Main dimensions			Dimensions						Shoulder and chamfer dimensions			
Bearing with cylindrical bore	Taper Hole	d	D	B	d <sub>1</sub> , d <sub>2</sub>	D <sub>1</sub> , D <sub>2</sub>	C <sub>1</sub>	b	K	r <sub>1,2</sub>	d <sub>a</sub> Min.	d <sub>a</sub> Max.	D <sub>a</sub> Max.	r <sub>a</sub> Max.
		mm			mm						mm			
135 TN9	-	5	19	6	10.3	15.4	-	-	-	0.3	7.4	-	16.6	0.3
126 TN9	-	6	19	6	10.3	15.4	-	-	-	0.3	8.4	-	16.6	0.3
127 TN9	-	7	22	7	12.7	17.6	-	-	-	0.3	9.4	-	19.6	0.3
108 TN9	-	8	22	7	12.7	17.6	-	-	-	0.3	10.4	-	19.6	0.3
129 TN9	-	9	26	8	14.8	20.4	-	-	-	0.3	11.4	-	23.6	0.3
1200 ETN9	-	10	30	9	16.5	23.5	-	-	-	0.6	14.2	-	25.8	0.6
2200 E-2RS1TN9	-	10	30	14	14.6	24.8	-	-	-	0.6	14	14	25.8	0.6
2200 ETN9	-	10	30	14	15.3	24.3	-	-	-	0.6	14.2	-	25.8	0.6
1201 ETN9	-	12	32	10	18.2	25.7	-	-	-	0.6	16.2	-	27.8	0.6
2201 E-2RS1TN9	-	12	32	14	15.5	27.4	-	-	-	0.6	15.5	15.5	27.8	0.6
2201 ETN9	-	12	32	14	17.4	26.4	-	-	-	0.6	16.2	-	27.8	0.6
1301 ETN9	-	12	37	12	20.2	29.5	-	-	-	1	17.6	-	31.4	1
2301	-	12	37	17	18.9	29.1	-	-	-	1	17.6	-	31.4	1
1202 ETN9	-	15	35	11	21.1	28.9	-	-	-	0.6	19.2	-	30.8	0.6
2202 E-2RS1TN9	-	15	35	14	19	30.4	-	-	-	0.6	19	19	30.8	0.6
2202 ETN9	-	15	35	14	20.8	29.5	-	-	-	0.6	19.2	-	30.8	0.6
1302 ETN9	-	15	42	13	23.9	34.3	-	-	-	1	20.6	-	36.4	1
2302 E-2RS1TN9	-	15	42	17	20.3	36.3	-	-	-	1	20	20	36.4	1
2302	-	15	42	17	23.1	33.3	-	-	-	1	20.6	-	36.4	1
1203 ETN9	-	17	40	12	24	32.9	-	-	-	0.6	21.2	-	35.8	0.6
2203 E-2RS1TN9	-	17	40	16	21.1	35	-	-	-	0.6	21	21	35.8	0.6
2203 ETN9	-	17	40	16	23.8	33.4	-	-	-	0.6	21.2	-	35.8	0.6
1303 ETN9	-	17	47	14	28.8	40	-	-	-	1	22.6	-	41.4	1
2303 E-2RS1TN9	-	17	47	19	25.5	41.3	-	-	-	1	22	25.5	41.4	1
2303 M	-	17	47	19	26.1	37.2	-	-	-	1	22.6	-	41.4	1

Type		Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient				
Bearing with cylindrical bore	Taper Hole		Dynamic	Static				K <sub>t</sub>	e	Y <sub>1</sub>	Y <sub>2</sub>	Y <sub>0</sub>
			C	C <sub>0</sub>	P <sub>u</sub>							
-		kg	kN		r/min		-					
135 TN9	-	0.009	2.64	0.5	0.03	66150	47250	0.045	0.33	1.9	3	2
126 TN9	-	0.009	2.64	0.5	0.03	73500	47250	0.04	0.33	1.9	3	2
127 TN9	-	0.014	2.78	0.59	0.03	66150	42000	0.04	0.33	1.9	3	2
108 TN9	-	0.014	2.78	0.59	0.03	63000	42000	0.03	0.33	1.9	3	2
129 TN9	-	0.022	4.1	0.86	0.05	63000	39900	0.04	0.33	1.9	3	2
1200 ETN9	-	0.034	5.81	1.24	0.06	58800	37800	0.04	0.33	1.9	3	2
2200 E-2RS1TN9	-	0.048	5.81	1.24	0.06	-	17850	0.045	0.33	1.9	3	2
2200 ETN9	-	0.047	8.46	1.82	0.09	52500	35700	0.045	0.54	1.15	1.8	1.3
1201 ETN9	-	0.04	6.55	1.5	0.08	52500	33600	0.04	0.33	1.9	3	2
2201 E-2RS1TN9	-	0.053	6.55	1.5	0.08	-	16800	0.045	0.33	1.9	3	2
2201 ETN9	-	0.053	8.95	2	0.1	47250	31500	0.045	0.5	1.25	2	1.3
1301 ETN9	-	0.067	9.83	2.27	0.13	42000	29400	0.04	0.35	1.8	2.8	1.8
2301	-	0.095	12.29	2.84	0.15	39900	29400	0.05	0.6	1.05	1.6	1.1
1202 ETN9	-	0.049	7.78	1.85	0.09	47250	29400	0.04	0.33	1.9	3	2
2202 E-2RS1TN9	-	0.058	7.78	1.85	0.09	-	14700	0.045	0.33	1.9	3	2
2202 ETN9	-	0.06	9.15	2.14	0.12	39900	27300	0.045	0.43	1.5	2.3	1.6
1302 ETN9	-	0.094	11.34	2.73	0.15	35700	25200	0.04	0.31	2	3.1	2.2
2302 E-2RS1TN9	-	0.11	11.34	2.73	0.15	-	12600	0.05	0.31	2	3.1	2.2
2302	-	0.12	12.5	3.05	0.16	33600	25200	0.05	0.52	1.2	1.9	1.3
1203 ETN9	-	0.073	9.28	2.31	0.13	39900	25200	0.04	0.31	2	3.1	2.2
2203 E-2RS1TN9	-	0.089	9.28	2.31	0.13	-	12600	0.045	0.31	2	3.1	2.2
2203 ETN9	-	0.088	11.13	2.68	0.15	35700	25200	0.045	0.43	1.5	2.3	1.6
1303 ETN9	-	0.12	13.34	3.57	0.19	29400	21000	0.04	0.3	2.1	3.3	2.2
2303 E-2RS1TN9	-	0.16	13.34	3.57	0.19	-	11550	0.05	0.3	2.1	3.3	2.2
2303 M	-	0.18	15.02	3.73	0.2	31500	23100	0.05	0.52	1.2	1.9	1.3

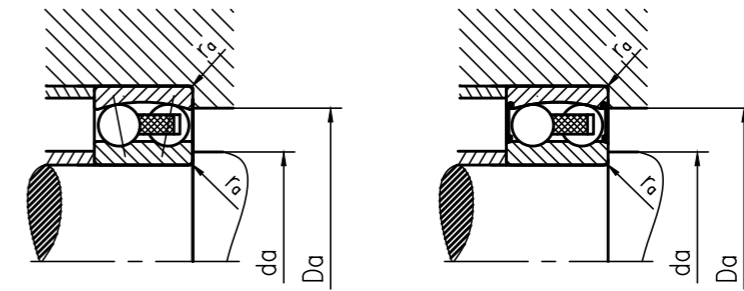
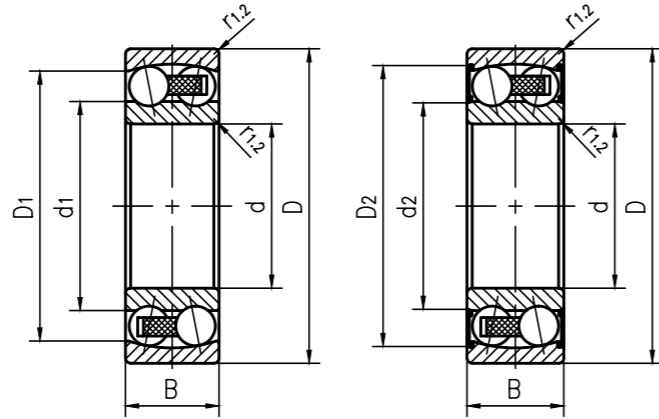
# Self-aligning ball bearing



Type		Main dimensions			Dimensions						Shoulder and chamfer dimensions			
Bearing with cylindrical bore	Taper Hole	d	D	B	d <sub>1</sub> , d <sub>2</sub>	D <sub>1</sub> , D <sub>2</sub>	C <sub>1</sub>	b	K	r <sub>1.2</sub>	d <sub>a</sub> Min.	d <sub>a</sub> Max.	D <sub>a</sub> Max.	r <sub>a</sub> Max.
		mm			mm						mm			
1204 ETN9	1204 EKTN9	20	47	14	28.8	40	-	-	-	1	25.6	-	41.4	1
2204 E-2RS1TN9	-	20	47	18	25.9	41.3	-	-	-	1	25	25.5	41.4	1
2204 ETN9	-	20	47	18	27.3	40	-	-	-	1	25.6	-	41.4	1
1304 ETN9	-	20	52	15	33.3	44.6	-	-	-	1	27	-	45	1
2304 E-2RS1TN9	-	20	52	21	28.6	46.3	-	-	-	1.1	26.5	28.5	45	1.1
2304 TN9	-	20	52	21	29.1	41.9	-	-	-	1.1	27	-	45	1.1
1205ETN9	1205EKTN9	25	52	15	33.3	44.6	-	-	-	1	30.6	-	46.4	1
2205E-2RS1TN9	2205E-2RS1KTN9	25	52	18	31	46.3	-	-	-	1	30.6	31	46.4	1
2205ETN9	2205EKTN9	25	52	18	32.2	45.1	-	-	-	1	30.6	-	46.4	1
1305ETN9	1305EKTN9	25	62	17	38	50.7	-	-	-	1.1	32	-	55	1.1
2305E-2RS1TN9	2305E-2RS1KTN9	25	62	24	32.8	52.7	-	-	-	1.1	32	32.5	55	1.1
2305ETN9	2305EKTN9	25	62	24	35.5	52.3	-	-	-	1.1	32	-	55	1.1
1206ETN9	1206EKTN9	30	62	16	40.3	51.9	-	-	-	1	35.6	-	56.4	1
2206E-2RS1TN9	2206E-2RS1KTN9	30	62	20	36.7	54.1	-	-	-	1	35.6	36.5	56.4	1
2206ETN9	2206EKTN9	30	62	20	38.7	54	-	-	-	1	35.6	-	56.4	1
1306ETN9	1306EKTN9	30	72	19	45.1	59.1	-	-	-	1.1	37	-	65	1.1
2306E-2RS1TN9	2306E-2RS1KTN9	30	72	27	40.4	61.9	-	-	-	1.1	37	40	65	1.1
2306	2306K	30	72	27	41.9	59.8	-	-	-	1.1	37	-	65	1.1
1207ETN9	1207EKTN9	35	72	17	47	60.9	-	-	-	1.1	42	-	65	1.1
2207E-2RS1TN9	2207E-2RS1KTN9	35	72	23	42.7	62.7	-	-	-	1.1	42	42.5	65	1.1
2207ETN9	2207EKTN9	35	72	23	45.3	62.9	-	-	-	1.1	42	-	65	1.1
1307ETN9	1307EKTN9	35	80	21	51.5	67.5	-	-	-	1.5	44	-	71	1.5
2307E-2RS1TN9	2307E-2RS1KTN9	35	80	31	43.7	69.2	-	-	-	1.5	43.5	43.5	71	1.5
2307ETN9	2307EKTN9	35	80	31	46.7	67	-	-	-	1.5	44	-	71	1.5
1208ETN9	1208EKTN9	40	80	18	53.8	67.5	-	-	-	1.1	47	-	73	1.1

Type		Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient				
Bearing with cylindrical bore	Taper Hole		Dynamic	Static				P <sub>u</sub>	K <sub>t</sub>	e	Y <sub>1</sub>	Y <sub>2</sub>
			C	C <sub>0</sub>	-							
-	-	kg	kN			r/min	-					
1204 ETN9	1204 EKTN9	0.12	13.34	3.57	0.19	33600	21000	0.04	0.3	2.1	3.3	2.2
2204 E-2RS1TN9	-	0.14	13.34	3.57	0.19	-	10500	0.045	0.3	2.1	3.3	2.2
2204 ETN9	-	0.14	17.64	4.36	0.23	29400	21000	0.045	0.4	1.6	2.4	1.6
1304 ETN9	-	0.16	15.02	4.2	0.22	27300	18900	0.04	0.28	2.2	3.5	2.5
2304 E-2RS1TN9	-	0.21	15.02	4.2	0.22	-	9450	0.05	0.28	2.2	3.5	2.5
2304 TN9	-	0.22	19.11	4.99	0.25	27300	19950	0.05	0.52	1.2	1.9	1.3
1205ETN9	1205EKTN9	0.14	15.02	4.2	0.22	29400	18900	0.04	0.28	2.2	3.5	2.5
2205E-2RS1TN9	2205E-2RS1KTN9	0.16	15.02	4.2	0.22	-	9450	0.045	0.28	2.2	3.5	2.5
2205ETN9	2205EKTN9	0.16	17.64	4.62	0.24	27300	18900	0.045	0.35	1.8	2.8	1.8
1305ETN9	1305EKTN9	0.26	19.95	5.67	0.29	23100	15750	0.04	0.28	2.2	3.5	2.5
2305E-2RS1TN9	2305E-2RS1KTN9	0.34	19.95	5.67	0.29	-	7875	0.05	0.28	2.2	3.5	2.5
2305ETN9	2305EKTN9	0.34	28.35	7.46	0.39	23100	16800	0.05	0.44	1.4	2.2	1.4
1206ETN9	1206EKTN9	0.22	16.38	4.88	0.25	25200	15750	0.04	0.25	2.5	3.9	2.5
2206E-2RS1TN9	2206E-2RS1KTN9	0.26	16.38	4.88	0.25	-	7875	0.045	0.25	2.5	3.9	2.5
2206ETN9	2206EKTN9	0.26	24.99	7.04	0.37	23100	15750	0.045	0.33	1.9	3	2
1306ETN9	1306EKTN9	0.39	23.63	7.14	0.38	19950	13650	0.04	0.25	2.5	3.9	2.5
2306E-2RS1TN9	2306E-2RS1KTN9	0.51	23.63	7.14	0.38	-	7035	0.05	0.25	2.5	3.9	2.5
2306	2306K	0.5	32.76	9.24	0.47	18900	13650	0.05	0.44	1.4	2.2	1.4
1207ETN9	1207EKTN9	0.32	19.95	6.3	0.33	21000	13650	0.04	0.23	2.7	4.2	2.8
2207E-2RS1TN9	2207E-2RS1KTN9	0.41	19.95	6.3	0.33	-	6615	0.045	0.23	2.7	4.2	2.8
2207ETN9	2207EKTN9	0.4	31.71	9.24	0.48	18900	12600	0.045	0.31	2	3.1	2.2
1307ETN9	1307EKTN9	0.51	27.83	8.93	0.45	16800	11550	0.04	0.25	2.5	3.9	2.5
2307E-2RS1TN9	2307E-2RS1KTN9	0.7	27.83	8.93	0.45	-	5880	0.05	0.25	2.5	3.9	2.5
2307ETN9	2307EKTN9	0.68	41.69	11.76	0.62	16800	12600	0.05	0.46	1.35	2.1	1.4
1208ETN9	1208EKTN9	0.42	20.9	7.3	0.38	18900	11550	0.04	0.22	2.9	4.5	2.8

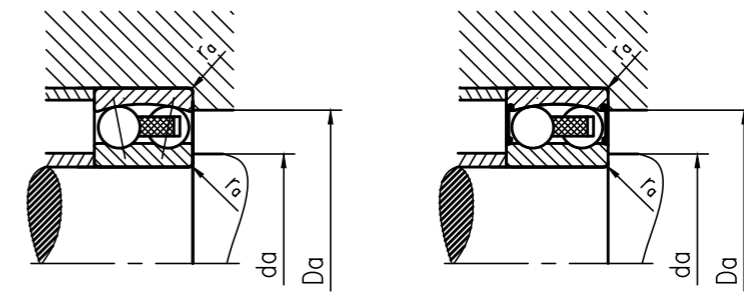
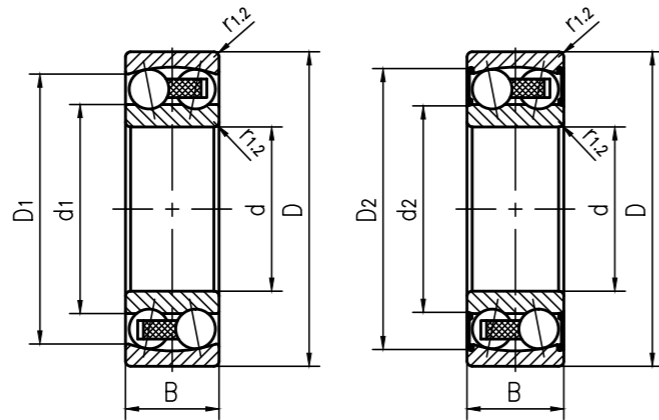
# Self-aligning ball bearing



Type		Main dimensions			Dimensions						Shoulder and chamfer dimensions			
Bearing with cylindrical bore	Taper Hole	d	D	B	$d_1, d_2$	$D_1, D_2$	$C_1$	b	K	$r_{1.2}$	$d_a$ Min.	$d_a$ Max.	$D_a$ Max.	$r_a$ Max.
2208E-2RS1TN9	2208E-2RS1KTN9	40	80	23	49	69.8	-	-	-	1.1	47	49	73	1.1
2208ETN9	2208EKTN9	40	80	23	52.3	70.2	-	-	-	1.1	47	-	73	1.1
1308ETN9	1308EKTN9	40	90	23	61.4	80.2	-	-	-	1.1	49	-	81	1.1
2308E-2RS1TN9	2308E-2RS1KTN9	40	90	33	55.4	81.8	-	-	-	1.5	49	55	81	1.5
2308ETN9	2308EKTN9	40	90	33	53.7	77.8	-	-	-	1.5	49	-	81	1.5
1209ETN9	1209EKTN9	45	85	19	57.5	72.5	-	-	-	1.1	52	-	78	1.1
2209E-2RS1TN9	2209E-2RS1KTN9	45	85	23	52.9	75.3	-	-	-	1.1	52	53	78	1.1
2209ETN9	2209EKTN9	45	85	23	55.3	73.2	-	-	-	1.1	52	-	78	1.1
1309ETN9	1309EKTN9	45	100	25	67.7	87.8	-	-	-	1.5	54	-	91	1.5
2309E-2RS1TN9	2309E-2RS1KTN9	45	100	36	60.9	90	-	-	-	1.5	54	60.5	91	1.5
2309ETN9	2309EKTN9	45	100	36	60.1	86	-	-	-	1.5	54	-	91	1.5
1210ETN9	1210EKTN9	50	90	20	61.7	78.1	-	-	-	1.1	57	-	83	1.1
2210E-2RS1TN9	2210E-2RS1KTN9	50	90	23	57.7	79.4	-	-	-	1.1	57	58	83	1.1
2210ETN9	2210EKTN9	50	90	23	61.4	80.2	-	-	-	1.1	57	-	83	1.1
1310ETN9	1310EKTN9	50	110	27	70.3	92.6	-	-	-	2	61	-	99	2
2310E-2RS1TN9	2310E-2RS1KTN9	50	110	40	62.9	95.2	-	-	-	2	61	62.5	99	2
2310	2310K	50	110	40	66	92.5	-	-	-	2	61	-	99	2
1211ETN9	1211EKTN9	55	100	21	70.3	86.5	-	-	-	1.5	64	-	91	1.5
2211E-2RS1TN9	2211E-2RS1KTN9	55	100	25	65.9	88.5	-	-	-	1.5	64	65.5	91	1.5
2211ETN9	2211EKTN9	55	100	25	67.7	87.8	-	-	-	1.5	64	-	91	1.5
1311ETN9	1311EKTN9	55	120	29	77.9	102	-	-	-	2	66	-	109	2
2311	2311K	55	120	43	72	101	-	-	-	2	66	-	109	2
1212ETN9	1212EKTN9	60	110	22	78	95.6	-	-	-	1.5	69	-	101	1.5
2212E-2RS1TN9	2212E-2RS1KTN9	60	110	28	73.2	97	-	-	-	1.5	69	73	101	1.5
2212ETN9	2212EKTN9	60	110	28	74.4	96.9	-	-	-	1.5	69	-	101	1.5

Type		Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient				
Bearing with cylindrical bore	Taper Hole		Dynamic	Static				$P_u$	$K_f$	e	$Y_1$	$Y_2$
			C	$C_0$	-							
2208E-2RS1TN9	2208E-2RS1KTN9	0.5	20.9	7.3	0.38	-	5880	0.045	0.22	2.9	4.5	2.8
2208ETN9	2208EKTN9	0.51	33.5	10.5	0.54	16800	11550	0.045	0.28	2.2	3.5	2.5
1308ETN9	1308EKTN9	0.68	35.49	11.76	0.6	14700	9975	0.04	0.23	2.7	4.2	2.8
2308E-2RS1TN9	2308E-2RS1KTN9	0.96	35.49	11.76	0.6	-	5250	0.05	0.23	2.7	4.2	2.8
2308ETN9	2308EKTN9	0.93	56.7	16.8	0.86	14700	10500	0.05	0.4	1.6	2.4	1.6
1209ETN9	1209EKTN9	0.47	24.05	8.19	0.42	17850	11550	0.04	0.21	3	4.6	3.2
2209E-2RS1TN9	2209E-2RS1KTN9	0.53	24.05	8.19	0.42	-	5565	0.045	0.21	3	4.6	3.2
2209ETN9	2209EKTN9	0.55	34.13	11.13	0.57	15750	10500	0.045	0.26	2.4	3.7	2.5
1309ETN9	1309EKTN9	0.96	40.95	14.07	0.74	12600	8925	0.04	0.23	2.7	4.2	2.8
2309E-2RS1TN9	2309E-2RS1KTN9	1.3	40.95	14.07	0.74	-	4725	0.05	0.23	2.7	4.2	2.8
2309ETN9	2309EKTN9	1.25	66.89	20.27	1.05	13650	9450	0.05	0.33	1.9	3	2
1210ETN9	1210EKTN9	0.53	27.83	9.61	0.5	16800	10500	0.04	0.21	3	4.6	3.2
2210E-2RS1TN9	2210E-2RS1KTN9	0.57	24.05	8.56	0.44	-	5040	0.045	0.2	3.2	4.9	3.2
2210ETN9	2210EKTN9	0.6	35.49	11.76	0.6	14700	9975	0.045	0.23	2.7	4.2	2.8
1310ETN9	1310EKTN9	1.2	45.78	14.7	0.76	12600	8400	0.04	0.24	2.6	4.1	2.8
2310E-2RS1TN9	2310E-2RS1KTN9	1.65	45.78	14.7	0.76	-	4200	0.05	0.24	2.6	4.1	2.8
2310	2310K	1.65	66.89	21	1.09	14700	9975	0.05	0.43	1.5	2.3	1.6
1211ETN9	1211EKTN9	0.71	28.98	11.13	0.57	14700	9450	0.04	0.19	3.3	5.1	3.6
2211E-2RS1TN9	2211E-2RS1KTN9	0.79	28.98	11.13	0.57	-	4515	0.045	0.19	3.3	5.1	3.6
2211ETN9	2211EKTN9	0.81	40.95	14.07	0.74	12600	8925	0.045	0.23	2.7	4.2	2.8
1311ETN9	1311EKTN9	1.6	53.24	18.9	0.97	11550	7875	0.04	0.23	2.7	4.2	2.8
2311	2311K	2.1	79.91	25.2	1.31	11550	7875	0.05	0.4	1.6	2.4	1.6
1212ETN9	1212EKTN9	0.9	32.76	12.81	0.65	12600	8925	0.04	0.19	3.3	5.1	3.6
2212E-2RS1TN9	2212E-2RS1KTN9	1.05	32.76	12.81	0.65	-	3990	0.045	0.19	3.3	5.1	3.6
2212ETN9	2212EKTN9	1.1	51.24	17.85	0.92	11550	8400	0.045	0.24	2.6	4.1	2.8

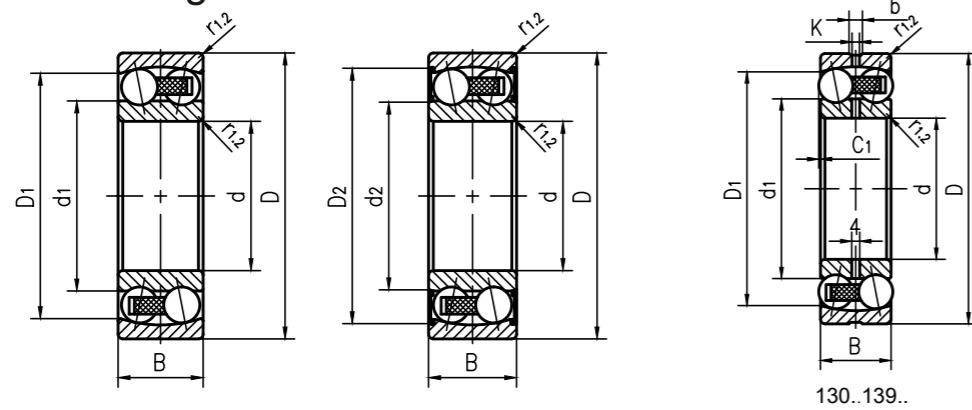
# Self-aligning ball bearing



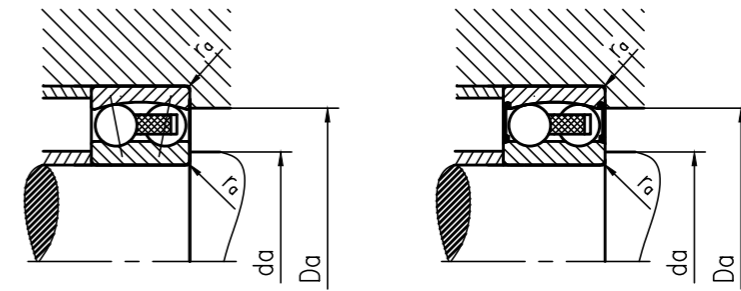
Type		Main dimensions			Dimensions						Shoulder and chamfer dimensions			
Bearing with cylindrical bore	Taper Hole	d	D	B	d <sub>1</sub> , d <sub>2</sub>	D <sub>1</sub> , D <sub>2</sub>	C <sub>1</sub>	b	K	r <sub>1.2</sub>	d <sub>a</sub> Min.	d <sub>a</sub> Max.	D <sub>a</sub> Max.	r <sub>a</sub> Max.
		mm			mm						mm			
1312ETN9	1312EKTN9	60	130	31	91.6	117	-	-	-	2.1	72	-	118	2
2312	2312K	60	130	46	77.1	110	-	-	-	2.1	72	-	118	2
1213ETN9	1213EKTN9	65	120	23	85.1	104	-	-	-	1.5	74	-	111	1.5
2213E-2RS1TN9	2213E-2RS1KTN9	65	120	31	79.3	106	-	-	-	1.5	74	79	111	1.5
2213ETN9	2213EKTN9	65	120	31	80.6	106	-	-	-	1.5	74	-	111	1.5
1313ETN9	1313EKTN9	65	140	33	99	126	-	-	-	2	77	-	128	2
2313	2313K	65	140	48	86	120	-	-	-	2.1	77	-	128	2
1214ETN9	-	70	125	24	87.4	107	-	-	-	1.5	79	-	116	1.5
2214E-2RS1TN9	-	70	125	31	81.4	109	-	-	-	1.5	79	81	116	1.5
2214	-	70	125	31	88	109	-	-	-	1.5	79	-	116	1.5
1314	-	70	150	35	97.5	127	-	-	-	2.1	82	-	138	2
2314	-	70	150	51	92	129	-	-	-	2.1	82	-	138	2
1215	1215K	75	130	25	93	115	-	-	-	1.5	84	-	121	1.5
2215ETN9	2215EKTN9	75	130	31	91.6	117	-	-	-	1.5	84	-	121	1.5
1315	1315K	75	160	37	104	136	-	-	-	2.1	87	-	148	2
2315	2315K	75	160	55	97.8	137	-	-	-	2.1	87	-	148	2
1216	1216K	80	140	26	102	123	-	-	-	2	91	-	129	2
2216ETN9	2216EKTN9	80	140	33	99	126	-	-	-	2	91	-	129	2
1316	1316K	80	170	39	110	145	-	-	-	2.1	92	-	158	2
2316	2316K	80	170	58	104	146	-	-	-	2.1	92	-	158	2
1217	1217K	85	150	28	107	131	-	-	-	2	96	-	139	2
2217	2217K	85	150	36	106	131	-	-	-	2	96	-	139	2
1317	1317K	85	180	41	117	153	-	-	-	3	99	-	166	3
2317	-	85	180	60	115	154	-	-	-	3	99	-	166	3
2317M	2317KM	85	180	60	115	154	-	-	-	3	99	-	166	3

Type		Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient				
Bearing with cylindrical bore	Taper Hole		Dynamic	Static				K <sub>t</sub>	e	Y <sub>1</sub>	Y <sub>2</sub>	Y <sub>0</sub>
			C	C <sub>0</sub>	P <sub>u</sub>							
-	-	kg	kN			r/min	-					
1312ETN9	1312EKTN9	1.95	61.43	23.1	1.18	9450	6615	0.04	0.22	2.9	4.5	2.8
2312	2312K	2.6	91.46	29.93	1.53	9975	7350	0.05	0.33	1.9	3	2
1213ETN9	1213EKTN9	1.15	36.86	14.7	0.76	11550	7350	0.04	0.18	3.5	5.4	3.6
2213E-2RS1TN9	2213E-2RS1KTN9	1.4	36.86	14.7	0.76	-	3780	0.045	0.18	3.5	5.4	3.6
2213ETN9	2213EKTN9	1.45	60.06	21	1.07	10500	7350	0.045	0.24	2.6	4.1	2.8
1313ETN9	1313EKTN9	2.45	68.25	26.78	1.31	8925	6300	0.04	0.22	2.9	4.5	2.8
2313	2313K	3.25	100.38	34.13	1.74	9450	6615	0.05	0.37	1.7	2.6	1.8
1214ETN9	-	1.25	37.59	15.33	0.79	11550	7350	0.04	0.18	3.5	5.4	3.6
2214E-2RS1TN9	-	1.45	37.59	15.33	0.79	-	3570	0.045	0.18	3.5	5.4	3.6
2214	-	1.5	46.41	17.85	0.92	10500	7035	0.04	0.27	2.3	3.6	2.5
1314	-	3	77.81	28.88	1.41	8925	6300	0.045	0.22	2.9	4.5	2.8
2314	-	3.9	116.55	39.38	1.95	8400	6300	0.05	0.37	1.7	2.6	1.8
1215	1215K	1.35	40.95	16.38	0.84	10500	7035	0.04	0.17	3.7	5.7	4
2215ETN9	2215EKTN9	1.6	61.43	23.1	1.18	9450	6615	0.045	0.22	2.9	4.5	2.8
1315	1315K	3.55	83.27	31.5	1.5	8400	5880	0.045	0.22	2.9	4.5	2.8
2315	2315K	4.7	130.2	45.15	2.14	7875	5880	0.05	0.37	1.7	2.6	1.8
1216	1216K	1.65	41.69	17.85	0.87	9975	6300	0.04	0.16	3.9	6.1	4
2216ETN9	2216EKTN9	2	68.25	26.78	1.31	8925	6300	0.045	0.22	2.9	4.5	2.8
1316	1316K	4.2	92.82	35.18	1.58	7875	5565	0.045	0.22	2.9	4.5	2.8
2316	2316K	6.1	141.75	51.45	2.35	7350	5565	0.05	0.37	1.7	2.6	1.8
1217	1217K	2.05	51.24	21.84	1.03	9450	5880	0.04	0.17	3.7	5.7	4
2217	2217K	2.5	61.43	24.78	1.18	8400	5880	0.04	0.25	2.5	3.9	2.5
1317	1317K	5	102.38	39.9	1.79	7350	5040	0.045	0.22	2.9	4.5	2.8
2317	-	7.05	147	53.55	2.39	7035	5040	0.05	0.37	1.7	2.6	1.8
2317M	2317KM	7.05	147	53.55	2.39	7035	5040	0.05	0.37	1.7	2.6	1.8

# Self-aligning ball bearing



130..139..



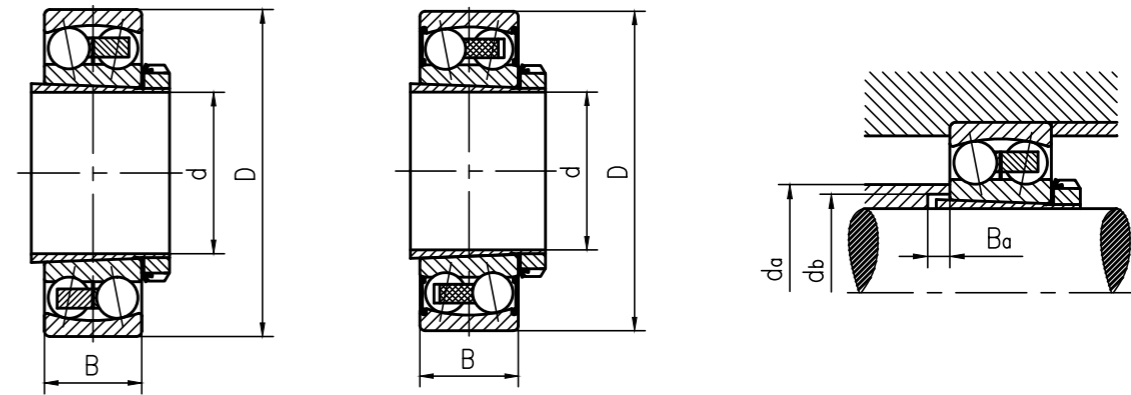
Type		Main dimensions			Dimensions						Shoulder and chamfer dimensions			
Bearing with cylindrical bore	Taper Hole	d	D	B	d <sub>1</sub> , d <sub>2</sub>	D <sub>1</sub> , D <sub>2</sub>	C <sub>1</sub>	b	K	r <sub>1,2</sub>	d <sub>a</sub> Min.	d <sub>a</sub> Max.	D <sub>a</sub> Max.	r <sub>a</sub> Max.
		mm			mm						mm			
1218	1218K	90	160	30	112	139	-	-	-	2	101	-	149	2
2218	2218K	90	160	40	112	140	-	-	-	2	101	-	149	2
1318	1318K	90	190	43	122	163	1	-	-	3	104	-	176	3
2318	2318K	90	190	64	121	163	-	-	-	3	104	-	176	3
1219	1219K	95	170	32	120	149	-	-	-	2.1	107	-	158	2
2219	2219K	95	170	43	119	149	-	-	-	2.1	107	-	158	2
1319	1319K	95	200	45	127	171	1.5	-	-	3	109	-	186	3
2319M	2319KM	95	200	67	128	171	-	-	-	3	109	-	186	3
1220	1220K	100	180	34	127	156	-	-	-	2.1	112	-	168	2
2220	2220K	100	180	46	124	157	-	-	-	2.1	112	-	168	2
1320	1320K	100	215	47	136	182	2.5	-	-	3	114	-	201	3
2320	2320K	100	215	73	135	184	-	-	-	3	114	-	201	3
1222	1222K	110	200	38	140	174	-	-	-	2.1	122	-	188	2
2222	2222K	110	200	53	138	175	-	-	-	2.1	122	-	188	2
1322M	1322KM	110	240	50	154	203	2.5	-	-	3	124	-	226	3
1224M	1224KM	120	215	42	149	188	1.3	-	-	2.1	132	-	203	2
1226M	1226KM	130	230	46	163	202	1.3	-	-	3	144	-	216	3
13030	-	150	225	56	175	204	-	8.3	4.5	2.1	161	-	214	2
13036	-	180	280	74	212	250	-	13.9	7.5	2.1	191	-	269	2
13940	-	200	280	60	229	258	-	8.3	4.5	2.1	211	-	269	2
13944	-	220	300	60	248	278	-	8.3	4.5	2.1	231	-	289	2
13948	-	240	320	60	268	298	-	8.3	4.5	2.1	251	-	309	2

Type		Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient				
Bearing with cylindrical bore	Taper Hole		Dynamic	Static				P <sub>u</sub>	K <sub>t</sub>	e	Y <sub>1</sub>	Y <sub>2</sub>
			C	C <sub>0</sub>	-							
-	-	kg	kN			r/min	-					
1218	1218K	2.5	60.06	24.78	1.13	8925	5565	0.04	0.17	3.7	5.7	4
2218	2218K	3.4	73.71	29.93	1.39	7875	5565	0.04	0.27	2.3	3.6	2.5
1318	1318K	5.8	122.85	46.2	2.03	7035	4725	0.045	0.22	2.9	4.5	2.8
2318	2318K	8.45	158.55	59.85	2.63	6615	4725	0.05	0.37	1.7	2.6	1.8
1219	1219K	3.1	66.89	28.35	1.26	8400	5250	0.04	0.17	3.7	5.7	4
2219	2219K	4.1	87.36	36.23	1.61	7350	5250	0.04	0.27	2.3	3.6	2.5
1319	1319K	6.7	139.65	53.55	2.27	6615	4515	0.045	0.23	2.7	4.2	2.8
2319M	2319KM	9.8	173.25	67.2	2.89	6300	4725	0.05	0.37	1.7	2.6	1.8
1220	1220K	3.7	72.35	31.5	1.35	7875	5040	0.04	0.17	3.7	5.7	4
2220	2220K	5	102.38	42.53	1.85	7035	5040	0.04	0.27	2.3	3.6	2.5
1320	1320K	8.3	150.15	59.85	2.48	6300	4200	0.045	0.23	2.7	4.2	2.8
2320	2320K	12.5	199.5	84	3.41	5880	4200	0.05	0.37	1.7	2.6	1.8
1222	1222K	5.15	92.82	40.95	1.68	7035	4515	0.04	0.17	3.7	5.7	4
2222	2222K	7.1	130.2	54.6	2.23	6300	4515	0.04	0.28	2.2	3.5	2.5
1322M	1322KM	12	171.15	75.6	2.89	5565	3780	0.045	0.22	2.9	4.5	2.8
1224M	1224KM	6.75	124.95	55.65	2.23	6615	4200	0.04	0.19	3.3	5.1	3.6
1226M	1226KM	8.3	133.35	61.43	2.35	5880	3780	0.04	0.19	3.3	5.1	3.6
13030	-	7.5	60.06	24.78	0.92	5880	3570	0.02	0.24	2.6	4.1	2.8
13036	-	16	100.38	42	1.41	4725	2940	0.02	0.25	2.5	3.9	2.5
13940	-	10.5	63.53	30.45	1.02	4515	2730	0.015	0.19	3.3	5.1	3.6
13944	-	11	63.53	32.03	1.02	3990	2520	0.015	0.18	3.5	5.4	3.6
13948	-	11.5	63.53	33.6	1.03	3990	2310	0.015	0.16	3.9	6.1	4



# Self-aligning ball bearing

## Self-aligning ball bearing on the clamping sleeve



Type		Main dimensions			Shoulder and chamfer dimensions			Weight
Bearing	Set sleeve	d	D	B	d <sub>a</sub> Max.	d <sub>b</sub> Min.	B <sub>a</sub> Min.	Bearing tightening sleeve
		mm			mm			
1204EKT9	H204	17	47	14	28.5	23	5	0.16
1205EKT9	H205	20	52	15	33	28	5	0.21
2205E-2RS1KT9	H305E	20	52	18	31	28	5	0.23
2205EKT9	H305	20	52	18	32	28	5	0.23
1305EKT9	H305	20	62	17	37	28	6	0.33
2305E-2RS1KT9	H2305	20	62	24	32.5	29	5	0.42
2305EKT9	H2305	20	62	24	35.5	29	5	0.42
1206EKT9	H206	25	62	16	40	33	5	0.32
2206E-2RS1KT9	H306E	25	62	20	36.5	33	5	0.36
2206EKT9	H306	25	62	20	38	33	5	0.36
1306EKT9	H306	25	72	19	44	33	6	0.49
2306E-2RS1KT9	H2306	25	72	27	40	35	5	0.62
2306K	H2306	25	72	27	41	35	5	0.61
1207EKT9	H207	30	72	17	47	38	5	0.44
2207E-2RS1KT9	H307E	30	72	23	42.5	39	5	0.55
2207EKT9	H307	30	72	23	45	39	5	0.54
1307EKT9	H307	30	80	21	51	39	7	0.65
2307E-2RS1KT9	H2307E	30	80	31	43.5	40	5	0.86
2307EKT9	H2307	30	80	31	46	40	5	0.84
1208EKT9	H208	35	80	18	53	43	6	0.58
2208E-2RS1KT9	H308E	35	80	23	49	44	6	0.67
2208EKT9	H308	35	80	23	52	44	6	0.58
1308EKT9	H308	35	90	23	61	44	6	0.85
2308EKT9	H2308	35	90	33	53	45	6	1.1
2308E-2RS1KT9	H2308	35	90	33	55	45	6	1.2
1209EKT9	H209	40	85	19	57	48	6	0.68
2209E-2RS1KT9	H309E	40	85	23	53	50	8	0.76
2209EKT9	H309	40	85	23	55	50	8	0.78
1309EKT9	H309	40	100	25	67	50	6	1.2
2309EKT9	H2309	40	100	36	60	50	6	1.4
2309E-2RS1KT9	H2309	40	100	36	60.5	50	6	1.55
1210EKT9	H210	45	90	20	62	53	6	0.77
2210E-2RS1KT9	H310E	45	90	23	58	55	10	0.84
2210EKT9	H310	45	90	23	61	55	10	0.87
1310EKT9	H310	45	110	27	70	55	6	1.45
2310E-2RS1KT9	H2310	45	110	40	62.5	56	6	2
2310K	H2310	45	110	40	65	56	6	1.9
1211EKT9	H211	50	100	21	70	60	7	0.99
2211E-2RS1KT9	H311E	50	100	25	65.5	60	11	1.1
2211EKT9	H311	50	100	25	67	60	11	1.15

Type		Main dimensions			Shoulder and chamfer dimensions			Weight
Bearing	Set sleeve	d	D	B	d <sub>a</sub> Max.	d <sub>b</sub> Min.	B <sub>a</sub> Min.	Bearing tightening sleeve
		mm			mm			
1311EKT9	H311	50	120	29	77	60	7	1.9
2311K	H2311	50	120	43	72	61	7	2.4
1212EKT9	H212	55	110	22	78	64	7	1.2
2212E-2RS1KT9	H312E	55	110	28	73	65	9	1.4
2212EKT9	H312	55	110	28	74	65	9	1.45
1312EKT9	H312	55	130	31	87	65	7	2.15
2312K	H2312	55	130	46	76	66	7	2.95
1213EKT9	H213	60	120	23	85	70	7	1.45
2213E-2RS1KT9	H313E	60	120	31	79	70	7	1.75
2213EKT9	H313	60	120	31	80	70	9	1.8
1313EKT9	H313	60	140	33	98	70	7	2.85
2313K	H2313	60	140	48	85	72	7	3.6
1215K	H215	65	130	25	93	80	7	2
2215EKT9	H315	65	130	31	93	80	13	2.3
1315K	H315	65	160	37	104	80	7	4.2
2315K	H2315	65	160	55	97	82	7	5.55
1216K	H216	70	140	26	101	85	7	2.4
2216EKT9	H316	70	140	33	99	85	13	2.85
1316K	H316	70	170	39	109	85	7	5
2316K	H2316	70	170	58	104	88	7	7.1
1217K	H217	75	150	28	107	90	8	2.95
2217K	H317	75	150	36	105	91	13	3.3
1317K	H317	75	180	41	117	91	8	6
1218K	H218	80	160	30	112	95	8	3.5
2218K	H318	80	160	40	112	96	11	5.5
1318K	H318	80	190	43	122	96	8	6.9
2318K	H2318	80	190	64	115	100	8	9.8
1219K	H219	85	170	32	120	100	8	4.25
2219K	H319	85	170	43	118	102	10	5.3
1319K	H319	85	200	45	127	102	8	7.9
2319KM	H2319	85	200	67	128	105	8	11.5
1220K	H220	90	180	34	127	106	8	5
2220K	H320	90	180	46	124	108	9	6.4
1320K	H320	90	215	47	136	108	8	9.65
2320K	H2320	90	215	73	130	110	8	14
1222K	H222	100	200	38	140	116	8	6.8
2222K	H322	100	200	53	137	118	8	8.85
1322KM	H322	100	240	50	154	118	10	13.5
1224KM	H3024	110	215	42	150	127	12	8.3
1226KM	H3026	115	230	46	163	137	15	11

## Thrust Ball Bearings

### Features

Thrust ball bearings are separable bearings, usually consist of shaft washer, housing washer, balls and cage assemblies. Shaft washer, housing washer and cage assemblies can be mounted separately. According to the number of cages, they are subdivided into single direction and double direction thrust ball bearings.

In order to ensure the thrust ball bearings don't have harmful slippage during operation, it is necessary to give the bearing sufficient axial load. The minimum axial load to prevent the bearings from slipping should satisfy  
 $F_{am} = A(n/1000)^2$   
 $F_{am}$  = minimum axial load [kN]  
 $A$  = minimum load factor (see model size table)  
 $N$  = speed r/min

### Radial and axial load capacity

Thrust ball bearings can accommodate axial load and locate a shaft axially, in one direction only.

### Seals

Thrust ball bearings do not have a seal structure by default.

### Single direction thrust ball bearings

Single direction thrust ball bearings can accommodate axial load in one direction only. 511 512 513 514 series single direction thrust ball bearings with flat housing washer design, cannot be used when there is misalignment or shaft deflection. 532 533 534 series single direction thrust ball bearings are designed with sphered housing washer. They can be used together with a sphered seat washer. They have the characteristics of compensating for misalignment and shaft deflection.

### Cages

According to different bearing series and sizes, the cage materials of thrust ball bearings are divided into glass fiber reinforced nylon cages, stamped steel cages and machined brass cages.

### Operating temperature

The operating temperature of thrust ball bearings is -30°C~+150°C. Limited by the working temperature of materials, the upper limit of the operating temperature of the thrust ball bearing with glass fiber reinforced nylon cage is +120°C.

### Double direction thrust ball bearings

Double direction thrust ball bearings can accommodate axial load in both directions. 522 523 524 series double direction thrust ball bearings with flat housing washer design, can't be used when there is misalignment or shaft deflection. 542 543 544 series double direction thrust ball bearings are designed with sphered housing washer. They can be used together with sphered seat washers. They have the characteristics of compensating for misalignment and shaft deflection.



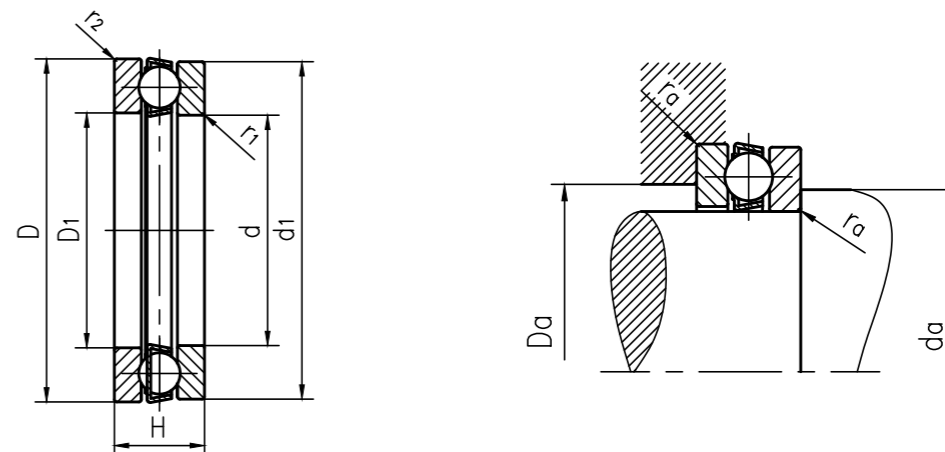
## Suffixes for Designs

Suffix	Meaning
F	Machined steel cage, ball centred
M	Machined brass cage, ball centred
P5	Dimensional and geometrical tolerances to class P5
P6	Dimensional and geometrical tolerances to class P6

### Minimum loads

# Thrust ball bearing

## One-way thrust ball bearing

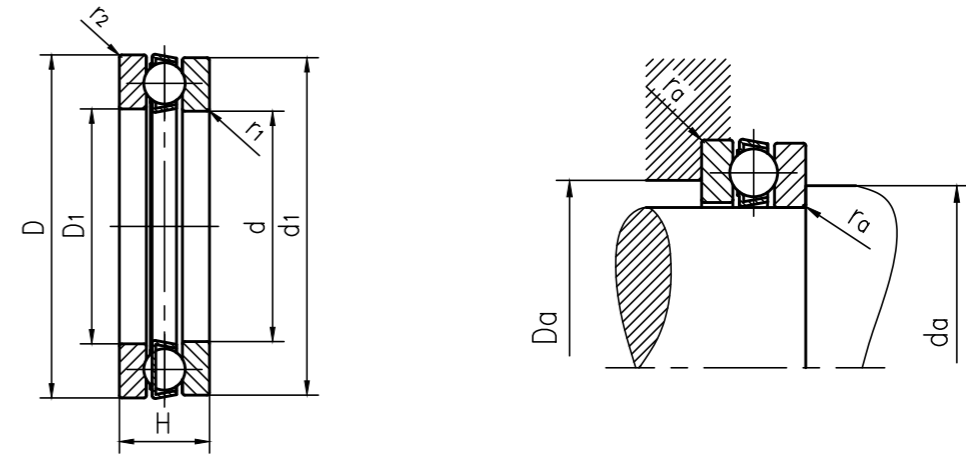


Type	Main dimensions			Dimensions			Shoulder and chamfer dimensions		
	d	D	H	d <sub>1</sub> ≈	D <sub>1</sub> ≈	r <sub>1,2</sub> Min.	d <sub>a</sub> Min.	D <sub>a</sub> Max.	r <sub>a</sub> Max.
-	mm			mm					
BA3	3	8	3.5	7.8	3.2	0.15	5.8	5	0.15
BA4	4	10	4	9.8	4.2	0.15	7.5	6.5	0.15
BA5	5	12	4	11.8	5.2	0.15	8	9	0.15
BA6	6	14	5	13.8	6.2	0.2	11	9.5	0.2
BA7	7	17	6	16.8	7.2	0.2	12.5	11	0.2
BA8	8	19	7	18.8	8.2	0.3	14.5	12.5	0.3
BA9	9	20	7	19.8	9.2	0.3	15.5	13.5	0.3
51100	10	24	9	24	11	0.3	19	15	0.3
51200	10	26	11	26	12	0.6	20	16	0.6
51101	12	26	9	26	13	0.3	21	17	0.3
51201	12	28	11	28	14	0.6	22	18	0.6
51102	15	28	9	28	16	0.3	23	20	0.3
51202	15	32	12	32	17	0.6	25	22	0.6
51103	17	30	9	30	18	0.3	25	22	0.3
51203	17	35	12	35	19	0.6	28	24	0.6
51104	20	35	10	35	21	0.3	29	26	0.3
51204	20	40	14	40	22	0.6	32	28	0.6
51105	25	42	11	42	26	0.6	35	32	0.6
51205	25	47	15	47	27	0.6	38	34	0.6
51305	25	52	18	52	27	1	41	36	1
51405	25	60	24	60	27	1	46	39	1
51106	30	47	11	47	32	0.6	40	37	0.6
51206	30	52	16	52	32	0.6	43	39	0.6
51306	30	60	21	60	32	1	48	42	1
51406	30	70	28	70	32	1	54	46	1
51107	35	52	12	52	37	0.6	45	42	0.6
51207	35	62	18	62	37	1	51	46	1
51307	35	68	24	68	37	1	55	48	1
51407	35	80	32	80	37	1.1	62	53	1
51108	40	60	13	60	42	0.6	52	48	0.6
51208	40	68	19	68	42	1	57	51	1
51308	40	78	26	78	42	1	63	55	1
51408	40	90	36	90	42	1.1	70	60	1
51109	45	65	14	65	47	0.6	57	53	0.6
51209	45	73	20	73	47	1	62	56	1
51309	45	85	28	85	47	1	69	61	1
51409	45	100	39	100	47	1.1	78	67	1
51110	50	70	14	70	52	0.6	62	58	0.6
51210	50	78	22	78	52	1	67	61	1
51310	50	95	31	95	52	1.1	77	68	1
51410	50	110	43	110	52	1.5	86	74	1.5

Type	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient
		Dynamic	Static	P <sub>u</sub>			A
		C	C <sub>0</sub>		r/min	-	
-	kg	kN			r/min		-
BA3	0.0009	0.81	0.72	0.03	26130	36180	0.000003
BA4	0.0015	0.76	0.72	0.03	22110	30150	0.000003
BA5	0.0021	0.86	0.97	0.04	20100	28140	0.000005
BA6	0.0035	1.79	1.93	0.07	17085	24120	0.000019
BA7	0.0065	2.52	2.91	0.11	14070	19095	0.000044
BA8	0.0091	3.21	3.82	0.14	12060	17085	0.000075
BA9	0.01	3.14	3.82	0.14	12060	16080	0.000075
51100	0.02	10	15.38	0.56	9547.5	13065	0.0012
51200	0.03	12.76	18.69	0.7	8040	11055	0.0018
51101	0.022	10.45	16.68	0.62	9045	13065	0.0014
51201	0.034	13.37	20.9	0.77	8040	11055	0.0022
51102	0.023	10.65	18.39	0.67	8542.5	12060	0.0017
51202	0.046	15.98	25.13	0.92	7035	10050	0.0038
51103	0.025	11.46	21.31	0.78	8542.5	12060	0.0023
51203	0.053	16.38	27.14	1.01	6733.5	9547.5	0.0047
51104	0.037	15.18	29.15	1.09	7537.5	10050	0.0044
51204	0.083	21.31	37.69	1.41	6030	8040	0.0085
51105	0.056	18.29	39.2	1.44	6331.5	9045	0.0079
51205	0.11	26.63	50.25	1.87	5326.5	7537.5	0.015
51305	0.17	34.67	60.3	2.25	4522.5	6331.5	0.018
51405	0.34	42.51	67.34	2.46	3618	5025	0.048
51106	0.063	19.1	43.22	1.61	6030	8542.5	0.0096
51206	0.13	25.23	51.26	1.87	4824	6733.5	0.013
51306	0.26	35.98	65.83	2.41	3819	5326.5	0.026
51406	0.52	70.55	122.61	4.52	3015	4321.5	0.097
51107	0.08	20	51.26	1.87	5628	7537.5	0.013
51207	0.22	35.28	73.87	2.71	4020	5628	0.028
51307	0.39	49.65	96.98	3.57	3417	4824	0.048
51407	0.79	76.48	137.69	5.13	2613	3618	0.15
51108	0.12	25.63	63.32	2.33	5025	7035	0.02
51208	0.28	44.42	96.98	3.62	3819	5326.5	0.058
51308	0.53	62.11	122.61	4.52	3015	4321.5	0.077
51408	1.1	96.08	183.92	6.83	2412	3417	0.26
51109	0.14	26.63	69.85	2.56	4522.5	6331.5	0.025
51209	0.3	39.2	86.93	3.22	3618	5025	0.038
51309	0.66	76.48	153.77	5.63	2814	4020	0.12
51409	1.4	124.62	241.2	9.05	2211	3015	0.37
51110	0.16	27.14	75.38	2.81	4321.5	6331.5	0.029
51210	0.37	49.65	116.58	4.32	3417	4522.5	0.069
51310	0.94	82.31	170.85	6.33	2613	3618	0.19
51410	2	159.8	341.7	12.56	2010	2814	0.6

# Thrust ball bearing

## One-way thrust ball bearing

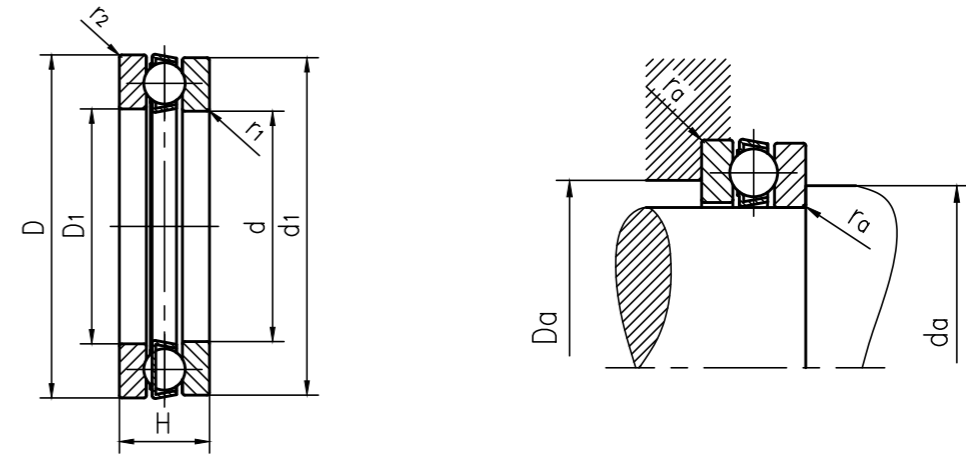


Type	Main dimensions			Dimensions			Shoulder and chamfer dimensions		
	d	D	H	d <sub>1</sub> ≈	D <sub>1</sub> ≈	r <sub>1,2</sub> Min.	d <sub>a</sub> Min.	D <sub>a</sub> Max.	r <sub>a</sub> Max.
-	mm			mm					
51111	55	78	16	78	57	0.6	69	64	0.6
51211	55	90	25	90	57	1	76	69	1
51311	55	105	35	105	57	1.1	85	75	1
51411	55	120	48	120	57	1.5	94	81	1.5
51112	60	85	17	85	62	1	75	70	1
51212	60	95	26	95	62	1	81	74	1
51312	60	110	35	110	62	1.1	90	80	1
51412M	60	130	51	130	62	1.5	102	88	1.5
51113	65	90	18	90	67	1	80	75	1
51213	65	100	27	100	67	1	86	79	1
51313	65	115	36	115	67	1.1	95	85	1
51413M	65	140	56	140	68	2	110	95	2
51114	70	95	18	95	72	1	85	80	1
51214	70	105	27	105	72	1	91	84	1
51314	70	125	40	125	72	1.1	103	92	1
51414M	70	150	60	150	73	2	118	102	2
51115	75	100	19	100	77	1	90	85	1
51215	75	110	27	110	77	1	96	89	1
51315	75	135	44	135	77	1.5	111	99	1.5
51415M	75	160	65	160	78	2	126	109	2
51116	80	105	19	105	82	1	95	90	1
51216	80	115	28	115	82	1	101	94	1
51316	80	140	44	140	82	1.5	116	104	1.5
51416M	80	170	68	170	83	2.1	133	117	2
51117	85	110	19	110	87	1	100	95	1
51217	85	125	31	125	88	1	109	101	1
51317	85	150	49	150	88	1.5	124	111	1.5
51417M	85	180	72	177	88	2.1	141	124	2
51118	90	120	22	120	92	1	108	102	1
51218	90	135	35	135	93	1.1	117	108	1
51318	90	155	50	155	93	1.5	129	116	1.5
51418M	90	190	77	187	93	2.1	149	131	2
51120	100	135	25	135	102	1	121	114	1
51220	100	150	38	150	103	1.1	130	120	1
51320	100	170	55	170	103	1.5	142	128	1.5
51420M	100	210	85	205	103	3	165	145	2.5
51122	110	145	25	145	112	1	131	124	1
51222	110	160	38	160	113	1.1	140	130	1
51322M	110	190	63	187	113	2	158	142	2
51422M	110	230	95	225	113	3	181	159	2.5
51124	120	155	25	155	122	1	141	134	1

Type	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient
		Dynamic	Static	P <sub>u</sub>			A
-	kg	kN			r/min		-
51111	0.23	30.35	81.91	3.02	3819	5326.5	0.039
51211	0.59	58.79	134.67	4.92	2814	4020	0.11
51311	1.3	101.51	225.12	8.34	2211	3216	0.26
51411	2.55	195.98	402	14.67	1809	2412	0.79
51112	0.27	41.81	122.61	4.57	3618	5025	0.077
51212	0.65	59.5	140.7	5.13	2814	3819	0.12
51312	1.35	101.51	225.12	8.34	2211	3015	0.26
51412M	3.1	200	432.15	16.08	1608	2211	0.96
51113	0.33	37.89	108.54	4.02	3417	4824	0.06
51213	0.72	60.8	150.75	5.53	2613	3618	0.14
51313	1.5	106.53	241.2	8.84	2010	3015	0.3
51413M	4	217.08	492.45	18.09	1507.5	2211	1.2
51114	0.35	40.5	120.6	4.42	3417	4522.5	0.074
51214	0.79	62.71	160.8	5.88	2613	3618	0.16
51314	2	135.68	321.6	11.86	1909.5	2613	0.53
51414M	5	235.17	552.75	19.4	1407	2010	1.6
51115	0.4	44.42	134.67	4.92	3216	4321.5	0.11
51215	0.83	64.02	170.85	6.23	2412	3417	0.17
51315	2.6	163.82	391.95	14.07	1708.5	2412	0.79
51415M	6.75	252.26	613.05	20.9	1306.5	1809	1.9
51116	0.42	45.12	140.7	5.13	3015	4321.5	0.12
51216	0.91	76.48	209.04	7.69	2412	3417	0.22
51316	2.7	159.8	391.95	13.77	1708.5	2412	0.79
51416M	7.95	303.51	753.75	25.13	1206	1708.5	2.3
51117	0.44	45.12	146.73	5.43	3015	4321.5	0.14
51217	1.2	97.99	276.38	9.85	2211	3015	0.39
51317	3.55	174.87	407.03	14.07	1608	2211	1.1
51417M	9.45	287.43	753.75	24.12	1206	1608	2.9
51118	0.67	59.5	209.04	7.54	2613	3819	0.22
51218	1.7	112.56	291.45	10.45	2010	2814	0.55
51318	3.8	182.91	442.2	14.67	1507.5	2211	1.3
51418M	11	308.54	819.08	25.63	1105.5	1507.5	3.5
51120	0.97	81	266.33	9.2	2412	3216	0.44
51220	2.2	119.6	326.63	10.85	1809	2412	0.62
51320	4.95	226.13	572.85	18.39	1407	1909.5	1.9
51420M	15	372.86	1065.3	31.66	954.75	1407	5.8
51122	1.05	83.62	286.43	9.55	2211	3216	0.52
51222	2.4	125.63	366.83	11.66	1708.5	2412	0.79
51322M	7.85	282.41	819.08	24.62	1206	1708.5	3.2
51422M	20	412.05	1226.1	34.67	904.5	1306.5	7.7
51124	1.15	85.63	306.53	9.7	2211	3015	0.58

# Thrust ball bearing

## One-way thrust ball bearing



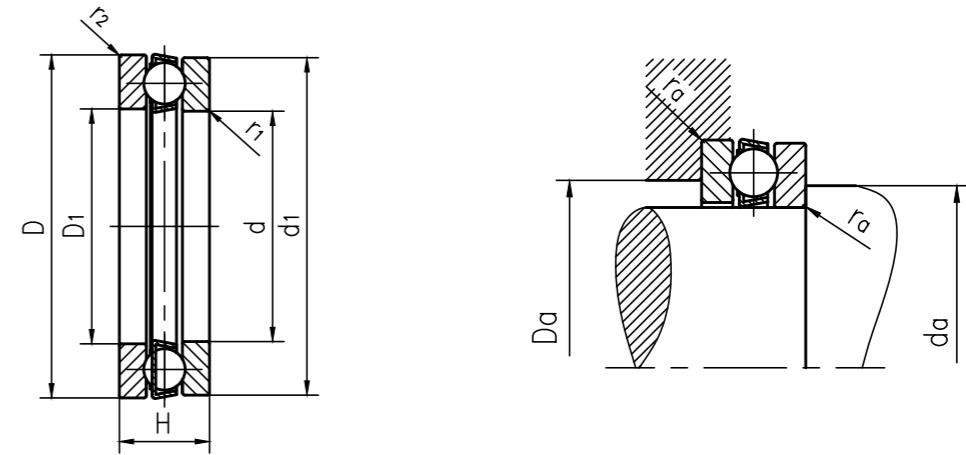
Type	Main dimensions			Dimensions			Shoulder and chamfer dimensions		
	d	D	H	d <sub>1</sub> ≈	D <sub>1</sub> ≈	r <sub>1,2</sub> Min.	d <sub>a</sub> Min.	D <sub>a</sub> Max.	r <sub>a</sub> Max.
-	mm			mm					
51224	120	170	39	170	123	1.1	150	140	1
51324M	120	210	70	205	123	2.1	173	157	2
51424M	120	250	102	245	123	4	197	173	3
51126	130	170	30	170	132	1	154	146	1
51226	130	190	45	187	133	1.5	166	154	1.5
51326M	130	225	75	220	134	2.1	186	169	2
51426M	130	270	110	265	134	4	213	187	3
51128	140	180	31	178	142	1	164	156	1
51228	140	200	46	197	143	1.5	176	164	1.5
51328M	140	240	80	235	144	2.1	199	181	2
51428M	140	280	112	275	144	4	223	197	3
51130M	150	190	31	188	152	1	174	166	1
51230M	150	215	50	212	153	1.5	189	176	1.5
51330M	150	250	80	245	154	2.1	209	191	2
51430M	150	300	120	295	154	4	239	211	3
51132M	160	200	31	198	162	1	184	176	1
51232M	160	225	51	222	163	1.5	199	186	1.5
51332M	160	270	87	265	164	3	225	205	2.5
51134M	170	215	34	213	172	1.1	197	188	1
51234M	170	240	55	237	173	1.5	212	198	1.5
51334M	170	280	87	275	174	3	235	215	2.5
51136M	180	225	34	222	183	1.1	207	198	1
51236M	180	250	56	245	183	1.5	222	208	1.5
51336M	180	300	95	295	184	3	251	229	2.5
51138M	190	240	37	237	193	1.1	220	210	1
51238M	190	270	62	265	194	2	238	222	2
51338M	190	320	105	315	195	4	267	243	3
51140M	200	250	37	247	203	1.1	230	220	1
51240M	200	280	62	275	204	2	248	232	2
51340M	200	340	110	335	205	4	283	257	3
51144M	220	270	37	267	223	1.1	250	240	1
51244M	220	300	63	295	224	2	268	252	2
51148M	240	300	45	297	243	1.5	276	264	1.5
51248M	240	340	78	335	244	2.1	299	281	2
51152M	260	320	45	317	263	1.5	296	284	1.5
51252M	260	360	79	355	264	2.1	319	301	2
51156M	280	350	53	347	283	1.5	322	308	1.5
51256M	280	380	80	375	284	2.1	339	321	2
51160M	300	380	62	376	304	2	348	332	2
51260M	300	420	95	415	304	3	371	349	2.5

Type	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient
		Dynamic	Static	P <sub>u</sub>			A
		C	C <sub>0</sub>				
-	kg	kN			r/min		-
51224	2.65	127.64	391.95	11.86	1608	2211	1
51324M	11	326.63	984.9	28.64	1105.5	1507.5	5
51424M	25.5	434.16	1326.6	36.18	804	1105.5	16
51126	1.85	119.6	442.2	13.47	1909.5	2613	0.94
51226	4	186.93	587.93	17.09	1407	2010	1.8
51326M	13	359.79	1145.7	32.16	1005	1407	6.8
51426M	32	522.6	1738.65	45.23	753.75	1005	16
51128	2.05	111.56	442.2	12.96	1809	2613	1
51228	4.35	190.95	623.1	17.69	1407	1909.5	2
51328M	15.5	378.89	1226.1	32.66	954.75	1306.5	9.1
51428M	34.5	522.6	1738.65	44.22	703.5	1005	16
51130M	2.2	111.56	442.2	12.56	1708.5	2412	1
51230M	6.1	239.19	804	22.11	1306.5	1809	3.3
51330M	16.5	391.95	1296.45	34.17	904.5	1306.5	10
51430M	42.5	561.8	1969.8	48.24	673.35	954.75	20
51132M	2.35	112.56	467.33	12.96	1708.5	2412	1.1
51232M	6.55	239.19	834.15	22.51	1206	1708.5	3.8
51332M	21	451.25	1668.3	41.71	854.25	1206	14
51134M	3.3	133.67	542.7	14.37	1608	2211	1.5
51234M	8.15	271.35	934.65	24.12	1206	1708.5	5.4
51334M	22	470.34	1768.8	43.22	804	1105.5	16
51136M	3.5	135.68	572.85	15.08	1507.5	2211	1.7
51236M	8.6	303.51	1125.6	28.64	1206	1608	6.1
51336M	28.5	522.6	2010	47.74	753.75	1105.5	21
51138M	4.05	172.86	713.55	18.09	1407	2010	2.6
51238M	12	333.66	1276.35	31.16	1105.5	1608	8.4
51338M	36.5	561.8	2211	51.26	703.5	954.75	30
51140M	4.25	168.84	713.55	17.69	1407	1909.5	2.6
51240M	12	339.69	1326.6	31.66	1105.5	1507.5	9.1
51340M	44.5	627.12	2613	58.79	633.15	904.5	35
51144M	4.6	178.89	804	19.1	1306.5	1909.5	3.3
51244M	13	359.79	1467.3	33.67	954.75	1306.5	11
51148M	7.55	235.17	1045.2	23.72	1105.5	1608	5.6
51248M	23	451.25	1969.8	42.71	804	1105.5	21
51152M	8.1	239.19	1105.5	24.12	1105.5	1507.5	6.3
51252M	25	490.44	2251.2	46.73	753.75	1105.5	24
51156M	12	320.6	1467.3	30.65	954.75	1306.5	11
51256M	26.5	490.44	2331.6	47.74	753.75	1005	28
51160M	17.5	365.82	1768.8	35.68	854.25	1206	16
51260M	42	587.93	3015	57.29	633.15	854.25	47



# Thrust ball bearing

## One-way thrust ball bearing

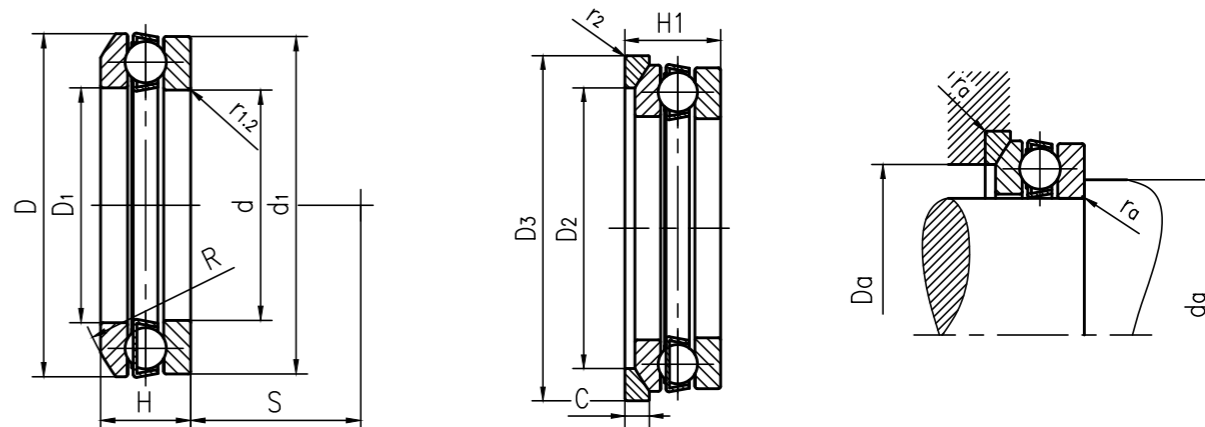


Type	Main dimensions			Dimensions			Shoulder and chamfer dimensions		
	d	D	H	d <sub>1</sub> ≈	D <sub>1</sub> ≈	r <sub>1,2</sub> Min.	d <sub>a</sub> Min.	D <sub>a</sub> Max.	r <sub>a</sub> Max.
-	mm			mm					
51164M	320	400	63	396	324	2	368	352	2
51264F	320	440	95	435	325	3	391	369	2.5
51264M	320	440	95	435	325	3	391	369	2.5
51168M	340	420	64	416	344	2	388	372	2
51268F	340	460	96	455	345	3	411	389	2.5
51172F	360	440	65	436	364	2	408	392	2
51272F	360	500	110	495	365	4	443	417	3
51176F	380	460	65	456	384	2	428	412	2
51276F	380	520	112	515	385	4	463	437	3
51180F	400	480	65	476	404	2	448	432	2
51184F	420	500	65	496	424	2	468	452	2
51188F	440	540	80	536	444	2.1	499	481	2
51192F	460	560	80	556	464	2.1	519	501	2
51196F	480	580	80	576	484	2.1	539	521	2
511/500F	500	600	80	596	504	2.1	559	541	2
511/530F	530	640	85	636	534	3	595	575	2.5
511/560F	560	670	85	666	564	3	625	606	2.5
511/600F	600	710	85	706	604	3	665	645	2.5
511/630F	630	750	95	746	634	3	701	679	2.5
511/670F	670	800	105	795	675	4	747	723	3
511/670M	670	800	105	795	675	4	747	723	3

Type	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient
		Dynamic	Static	P <sub>u</sub>			A
		C	C <sub>0</sub>				
-	kg	kN			r/min		-
51164M	19	3729.56	864.3	36.68	804	1105.5	18
51264F	45.5	574.86	3015	56.28	603	804	47
51264M	45	574.86	3015	56.28	603	804	47
51168M	20.5	378.89	1969.8	37.69	804	1105.5	20
51268F	48.5	608.03	3216	25.63	603	804	53
51172F	22	391.95	2090.4	38.19	753.75	1105.5	22
51272F	70	744.71	4170.75	73.87	502.5	703.5	90
51176F	23	398.99	2211	40.2	753.75	1005	25
51276F	73	731.64	4170.75	72.36	502.5	703.5	90
51180F	24	405.02	2291.4	40.7	703.5	1005	27
51184F	25.5	412.05	2412	41.71	703.5	1005	30
51188F	42	529.64	3266.25	55.28	603	854.25	55
51192F	43.5	529.64	3266.25	54.27	603	804	55
51196F	45.5	542.7	3567.75	56.28	562.8	804	66
511/500F	47	555.77	3618	57.29	562.8	804	67
511/530F	58.5	653.25	4422	68.34	532.65	753.75	100
511/560F	61	653.25	4673.25	68.34	502.5	703.5	110
511/600F	65	666.32	4824	69.85	502.5	703.5	120
511/630F	84	731.64	5427	76.88	452.25	633.15	150
511/670F	105	856.26	6733.5	91.96	402	562.8	230
511/670M	105	856.26	6733.5	91.96	402	562.8	230

## Thrust ball bearing

### One-way thrust ball bearing with self-aligning seat ring

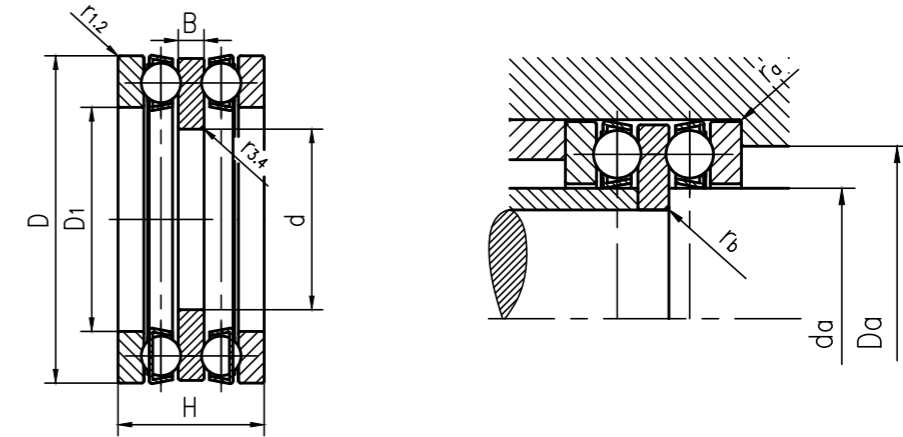


Type		Main dimensions			Dimensions								
Bearing	Seat Washer	d	D	H	d <sub>1</sub>	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	H	C	R	s	r <sub>1.2</sub> Min.
		mm			mm								
53201	U201	12	28	13	28	14	20	30	11.4	3.5	25	11.5	0.6
53202	U202	15	32	15	32	17	24	35	13.3	4	28	12	0.6
53203	U203	17	35	15	35	19	26	38	13.2	4	32	16	0.6
53204	U204	20	40	17	40	22	30	42	14.7	5	36	18	0.6
53205	U205	25	47	19	47	27	36	50	16.7	5.5	40	19	0.6
53206	U206	30	52	20	52	32	42	55	17.8	5.5	45	22	0.6
53306	U306	30	60	25	60	32	45	62	22.6	7	50	22	1
53207	U207	35	62	22	62	37	48	65	19.9	7	50	24	1
53307	U307	35	68	28	68	37	52	72	25.6	7.5	56	24	1
53208	U208	40	68	23	68	42	55	72	20.3	7	56	28.5	1
53308	U308	40	78	31	78	42	60	82	28.5	8.5	64	28	1
53408	U408	40	90	42	90	42	65	95	38.2	12	72	26	1.1
53209	U209	45	73	24	73	47	60	78	21.3	7.5	56	26	1
53309	U309	45	85	33	85	47	65	90	30.1	10	64	25	1
53210	U210	50	78	26	78	52	62	82	23.5	7.5	64	32.5	1
53310	U310	50	95	37	95	52	72	100	34.3	11	72	28	1.1
53410	U410	50	110	50	110	52	80	115	45.6	14	90	35	1.5
53211	U211	55	90	30	90	57	72	95	27.3	9	72	35	1
53311	U311	55	105	42	105	57	80	110	39.3	11.5	80	30	1.1
53411	U411	55	120	55	120	57	88	125	50.5	15.5	90	28	1.5
53212	U212	60	95	31	95	62	78	100	28	9	72	32.5	1
53312	U312	60	110	42	110	62	85	115	38.3	11.5	90	41	1.1
53412M	U412	60	130	58	130	62	95	135	54	16	100	34	1.5
53213	U213	65	100	32	100	67	82	105	28.7	9	80	40	1
53313	U313	65	115	43	115	67	90	120	39.4	12.5	90	38.5	1.1
53214	U214	70	105	32	105	72	88	110	27	9	80	38	1
53314	U314	70	125	48	125	72	98	130	44.2	13	100	43	1.1
53414M	U414	70	150	69	150	73	110	155	63.6	19.5	112	34	2
53215	U215	75	110	32	110	77	92	115	28.3	9.5	90	49	1
53315	U315	75	135	52	135	77	105	140	48.1	15	100	37	1.5
53415M	U415	75	160	75	160	78	115	165	69	21	125	42	2
53216	U216	80	115	33	115	82	98	120	29.5	10	90	46	1
53316	U316	80	140	52	140	82	110	145	47.6	15	112	50	1.5
53217	U217	85	125	37	125	88	105	130	33.1	11	100	52	1
53317	U317	85	150	58	150	88	115	155	53.1	17.5	112	43	1.5
53218	U218	90	135	42	135	93	110	140	38.5	13.5	100	45	1.1
53318	U318	90	155	59	155	93	120	160	54.6	18	112	40	1.5
53418M	U418	90	190	88	187	93	140	195	81.2	25.5	140	40	2.1
53220	U220	100	150	45	150	103	125	155	40.9	14	112	52	1.1
53320	U320	100	170	64	170	103	135	175	59.2	18	125	46	1.5
53420M	U420	100	210	98	205	103	155	220	90	27	160	50	3
53222	U222	110	160	45	160	113	135	165	40.2	14	125	65	1.1
53322M	U322	110	190	72	187	113	150	195	67.2	20	140	51	2
53224	U224	120	170	46	170	123	145	175	40.8	15	125	61	1.1
53324M	U324	120	210	80	205	123	165	220	74.1	22	160	63	2.1
53226	U226	130	190	53	187	133	160	195	47.9	17	140	67	1.5
53228	U228	140	200	55	197	143	170	210	48.6	17	160	87	1.5

Bearing	Seat Washer	Shoulder and chamfer dimensions			Weight Bearing washer	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient
		d <sub>a</sub> Min.	D <sub>a</sub> Max.	r <sub>a</sub> Max.		Dynamic C	Static C <sub>0</sub>				
		mm			kg	kN			r/min		-
53201	U201	22	20	0.6	0.045	13.4	20.9	0.8	8040	11055	0.0022
53202	U202	25	24	0.6	0.063	16	25.1	0.9	7035	10050	0.0038
53203	U203	28	26	0.6	0.071	16.4	27.1	1	6733.5	9547.5	0.0047
53204	U204	32	30	0.6	0.1	21.3	37.7	1.4	5628	8040	0.0085
53205	U205	38	36	0.6	0.15	26.6	50.3	1.9	5025	7035	0.015
53206	U206	43	42	0.6	0.18	25.2	51.3	1.9	4522.5	6331.5	0.013
53306	U306	48	45	1	0.33	36	65.8	2.4	3819	5326.5	0.026
53207	U207	51	48	1	0.28	35.3	73.9	2.7	4020	5628	0.028
53307	U307	55	52	1	0.46	49.6	97	3.6	3216	4522.5	0.048
53208	U208	57	55	1	0.35	44.4	97	3.6	3618	5326.5	0.058
53308	U308	63	60	1	0.67	62.1	122.6	4.5	2814	4020	0.077
53408	U408	70	65	1	1.35	96.1	183.9	6.8	2412	3216	0.26
53209	U209	62	60	1	0.39	39.2	86.9	3.2	3417	4824	0.038
53309	U309	69	65	1	0.83	76.5	153.8	5.6	2613	3819	0.12
53210	U210	67	62	1	0.47	49.6	116.6	4.3	3216	4522.5	0.069
53310	U310	77	72	1	1.2	82.3	170.9	6.3	2412	3417	0.19
53410	U410	86	80	1.5	2.3	159.8	341.7	12.6	1909.5	2613	0.6
53211	U211	76	72	1	0.75	58.8	134.7	4.9	2814	3819	0.11
53311	U311	85	80	1	1.7	101.5	225.1	8.3	2211	3015	0.26
53411	U411	94	88	1.5	3.1	196	402	14.7	1708.5	2412	0.79
53212	U212	81	78	1	0.82	59.5	140.7	5.1	2613	3618	0.12
53312	U312	90	85	1	1.7	101.5	225.1	8.3	2010	3015	0.26
53412M	U412	102	95	1	3.8	200	432.2	16.1	1608	2211	0.96
53213	U213	86	82	1	0.91	60.8	150.8	5.5	2613	3618	0.14
53313	U313	95	90	1	1.9	106.5	241.2	8.8	2010	2814	0.3
53214	U214	91	88	1	0.97	62.7	160.8	5.9	2613	3618	0.16
53314	U314	103	98	1	2.5	135.7	321.6	11.9	1809	2613	0.53
53414M	U414	118	110	2	6.5	235.2	552.8	19.4	1407	2010	1.6
53215	U215	96	92	1	1	64	170.9	6.2	2412	3417	0.17
53315	U315	111	105	1	3.2	163.8	392	14.1	1708.5	2412	0.79
53415M	U415	126	115	2	8.1	252.3	613.1	20.9	1306.5	1809	1.9
53216	U216	101	98	1	1.1	76.5	209	7.7	2412	3216	0.22
53316	U316	116	110	1	3.2	159.8	392	13.8	1608	2211	0.79
53217	U217	109	105	1	1.5	98	276.4	9	2010	3015	0.39
53317	U317	124	115	1	4.35	174.9	407	14.1	1507.5	2010	1.1
53218	U218	117	110	1	2.1	112.6	291.5	10.5	1909.5	2613	0.55
53318	U318	129	120	1	4.7	182.9	442.2	14.7	1407	2010	1.3
53418M	U418	133	140	2	13	308.5	819.1	25.6	1105.5	1507.5	3.5
53220	U220	130	125	1	2.7	119.6	326.6	10.9	1708.5	2412	0.62
53320	U320	142	135	1	5.95	226.1	572.9	18.4	1306.5	1809	1.9
53420M	U420	165	155	2	18	372.9	1065.3	31.7	954.8	1306.5	5.8
53222	U222	140	135	1	2.9	125.6	366.8	11.7	1708.5	2412	0.79
53322M	U322	140	150	1	9.1	282.4	819.1	24.6	1105.5	1608	3.2
53224	U224	150	145	1	3.2	127.6	392	11.9	1507.5	2211	1
53324M	U324	173	165	1	12.5	326.6	984.9	28.6	1005	1407	5
53226	U226	166	160	1	4.85	186.9	587.9	17.1	1306.5	1809	1.8
53228	U228	176	170	1	5.45	191	623.1	17.7	1306.5	1809	2

# Thrust ball bearing

## Two-way thrust ball bearing

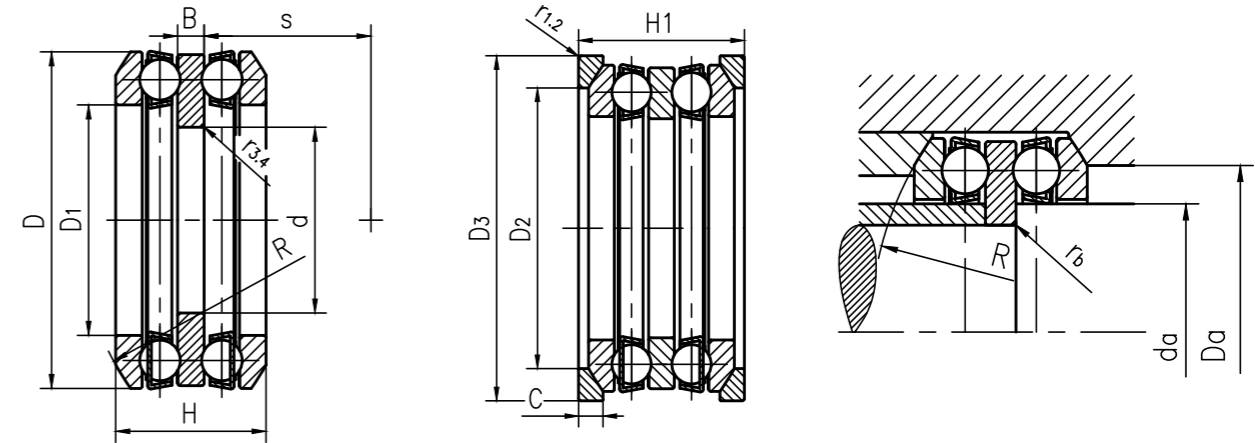


Type	Main dimensions			Dimensions				Shoulder and chamfer dimensions			
	d	D	H	D <sub>1</sub> ≈	B	r <sub>1,2</sub> Min.	r <sub>3,4</sub> Min.	d <sub>a</sub>	D <sub>a</sub> Max.	r <sub>a</sub> Max.	r <sub>b</sub> Max.
-	mm			mm				mm			
52202	10	32	22	17	5	0.6	0.3	15	22	0.6	0.3
52204	15	40	26	22	6	0.6	0.3	20	28	0.6	0.3
52205	20	47	28	27	7	0.6	0.3	25	34	0.6	0.3
52305	20	52	34	27	8	1	0.3	25	36	1	0.3
52406	20	70	52	32	12	1	0.6	30	46	1	0.6
52206	25	52	29	30	7	0.6	0.3	30	39	0.6	0.3
52306	25	60	38	32	9	1	0.3	30	42	1	0.3
52407	25	80	59	42	14	1.1	0.6	35	53	1	0.6
52207	30	62	34	37	8	1	0.3	35	46	1	0.3
52208	30	68	36	42	9	1	0.6	40	51	1	0.6
52307	30	68	44	35	10	1	0.3	35	48	1	0.3
52308	30	78	49	40	12	1	0.6	40	55	1	0.6
52408	30	90	65	42	15	1.1	0.6	40	60	1	0.6
52209	35	73	37	47	9	1	0.6	45	56	1	0.6
52309	35	85	52	47	12	1	0.6	46	61	1	0.6
52409	35	100	72	47	17	1.1	0.6	45	67	1	0.6
52210	40	78	39	52	9	1	0.6	50	61	1	0.6
52310	40	95	58	52	14	1.1	0.6	50	68	1	0.6
52211	45	90	45	57	10	1	0.6	55	69	1	0.6
52311	45	105	64	57	15	1.1	0.6	55	75	1	0.6
52411	45	120	87	57	20	1.5	0.6	55	81	1.5	0.6
52212	50	95	46	62	10	1	0.6	60	74	1	0.6
52312	50	110	64	62	15	1.1	0.6	60	80	1	0.6
52412M	50	130	93	62	21	1.5	0.6	60	88	1.5	0.6
52213	55	100	47	67	10	1	0.6	65	79	1	0.6
52214	55	105	47	72	10	1	1	70	84	1	1
52313	55	115	64	67	15	1.1	0.6	65	85	1	0.6
52314	55	125	72	72	16	1.1	1	70	92	1	1
52414M	55	250	107	123	24	2	1	70	120	1.5	1
52215	60	110	47	77	10	1	1	75	89	1	1
52315	60	135	79	77	18	1.5	1	75	99	1.5	1
52216	65	115	48	82	10	1	0.6	80	94	1	1
52316	65	140	79	82	18	1.5	1	80	104	1	1
52217	70	125	55	88	12	1	1	85	101	1	1
52218	75	135	62	93	14	1.1	1	90	108	1	1
52220	85	150	67	103	15	1.1	1	100	120	1	1
52320	85	170	97	103	21	1.5	1	100	128	1	1
52222	95	160	67	113	15	1.1	1	110	130	1	1
52224	100	170	68	123	15	1.1	1.1	120	140	1	1
52226	110	190	80	133	18	1.5	1.1	130	154	1.5	1
52228	120	200	81	143	18	1.5	1.1	140	164	1.5	1
52230M	130	215	89	153	20	1.5	1.1	150	176	1.5	1
52232M	140	225	90	163	20	1.5	1.1	160	186	1.5	1
52234M	150	240	97	173	21	1.5	1.1	170	198	1.5	1
52236M	150	250	98	183	21	1.5	2	180	208	1.5	2

Type	Weight	Basic load rating		Fatigue load limit	Rated speed reference speed	Maximum speed	Calculate the coefficient
		Dynamic	Static	P <sub>u</sub>			A
		C	C <sub>0</sub>				
-	kg	kN		r/min		-	
52202	0.081	15.98	25.13	0.92	5326.5	7537.5	0.0038
52204	0.15	21.31	37.69	1.41	4321.5	6030	0.0085
52205	0.22	26.63	50.25	1.87	3819	5326.5	0.015
52305	0.33	34.67	60.3	2.25	3216	4522.5	0.018
52406	1	70.55	122.61	4.52	2211	3216	0.097
52206	0.25	25.23	51.26	1.87	3618	5025	0.013
52306	0.47	35.98	65.83	2.41	2814	4020	0.026
52407	1.45	76.48	137.69	5.13	2010	2814	0.15
52207	0.41	35.28	73.87	2.71	3015	4321.5	0.028
52208	0.55	44.42	96.98	3.62	2814	3819	0.058
52307	0.68	49.65	96.98	3.57	2412	3417	0.048
52308	1.05	62.11	122.61	4.52	2211	3015	0.077
52408	2.05	96.08	183.92	6.83	1809	2412	0.26
52209	0.6	39.2	86.93	3.22	2613	3618	0.038
52309	1.25	76.48	153.77	5.63	2010	2814	0.12
52409	2.7	124.62	241.2	9.05	1608	2211	0.37
52210	0.71	49.65	116.58	4.32	2412	3417	0.069
52310	1.75	82.31	170.85	6.33	1809	2613	0.19
52211	1.1	58.79	134.67	4.92	2211	3015	0.11
52311	2.4	101.51	225.12	8.34	1608	2211	0.26
52411	4.7	195.98	402	14.67	1306.5	1809	0.79
52212	1.2	59.5	140.7	5.13	2010	2814	0.12
52312	2.55	101.51	225.12	8.34	1608	2211	0.26
52412M	6.35	200	432.15	16.08	1206	1708.5	0.96
52213	1.35	60.8	150.75	5.53	2010	2814	0.14
52214	1.5	62.71	160.8	5.88	1909.5	2613	0.16
52313	2.75	106.53	241.2	8.84	1608	2211	0.3
52314	3.65	135.68	321.6	11.86	1407	2010	0.53
52414M	9.7	235.17	552.75	19.4	804	1105.5	1.6
52215	1.55	64.02	170.85	6.23	1909.5	2613	0.17
52315	4.8	163.82	391.95	14.07	1306.5	1809	0.79
52216	1.7	76.48	209.04	7.69	2412	3417	0.22
52316	4.95	159.8	391.95	13.77	1306.5	1809	0.79
52217	2.4	97.99	276.38	9.85	1608	2211	0.39
52218	3.2	112.56	291.45	11.68	1507.5	2010	0.55
52220	4.2	119.6	326.63	10.85	1306.5	1809	0.62
52320	8.95	226.13	572.85	18.39	1005	1407	1.9
52222	4.65	125.63	366.83	11.66	1306.5	1809	0.79
52224	5.25	127.64	391.95	11.86	1206	1708.5	1
52226	8	182.91	587.93	16.68	1105.5	1507.5	1.8
52228	8.65	190.95	623.1	17.69	1005	1407	2
52230M	11.5	239.19	804	22.11	954.75	1306.5	3.3
52232M	12	239.19	834.15	22.51	904.5	1306.5	3.8
52234M	15	271.35	934.65	24.12	854.25	1206	5.4
52236M	16	303.51	1125.6	28.64	804	1105.5	6.1

# Thrust ball bearing

## Two-way thrust ball bearing with self-aligning seat ring



Type		Main dimensions			Dimensions									
Bearing	Seat Washer	d	D	H	D1	D2	D3	H	B	C	R	s	r <sub>1,2</sub> Min.	r <sub>3,4</sub> Min.
-		mm			mm									
54306	U306	25	60	46	32	45	62	41.3	9	7	50	19.5	1	0.3
54207	U207	30	62	42	37	48	65	37.8	8	7	50	21	1	0.3
54208	U208	30	68	44	42	55	72	38.6	9	7	56	25	1	0.6
54307	U307	30	68	52	37	52	72	47.2	10	7.5	56	21	1	0.3
54308	U308	30	78	59	42	60	82	54.1	12	8.5	64	23.5	1	0.6
54209	U209	35	73	45	47	60	78	39.6	9	7.5	56	23	1	0.6
54309	U309	35	85	62	47	65	90	56.2	12	10	64	21	1	0.6
54409	U409	35	100	86	47	72	105	78.9	17	12.5	80	23.5	1.1	0.6
54310	U310	40	95	70	52	72	100	64.7	14	11	72	23	1.1	0.6
54410	U410	40	110	92	52	80	115	83.2	18	14	90	30	1.5	0.6
54211	U211	45	90	55	57	72	95	49.6	10	9	72	32.5	1	0.6
54312	U312	50	110	78	62	85	115	70.7	15	11.5	90	36.5	1.1	0.6
54316	U316	65	140	95	82	110	145	86.1	18	15	112	45.5	1.5	1
54416M	U416	65	170	140	83	125	175	128.5	27	22	125	30.5	2.1	1
54317	U317	70	150	105	88	115	155	95.2	19	17.5	112	39	1.5	1
54420M	U420	80	210	176	103	155	220	159.9	33	27	160	43.5	3	1.1

Type		Shoulder and chamfer dimensions				Weight Bearing washer	Basic load rating		Fatigue load limit P <sub>u</sub>	Rated speed reference speed r/min	Maximum speed	Calculate the coefficient A
Bearing	Seat Washer	d <sub>a</sub>	D <sub>a</sub> Max.	r <sub>a</sub> Max.	r <sub>b</sub> Max.		Dynamic C	Static C <sub>0</sub>				
-		mm				kg	kN					-
54306	U306	30	45	1	0.3	0.58	35.98	65.83	2.41	2814	3819	0.026
54207	U207	35	48	1	0.3	0.53	35.28	73.87	2.71	2814	4020	0.028
54208	U208	40	55	1	0.6	0.63	44.42	96.98	3.62	2814	3819	0.058
54307	U307	35	52	1	0.3	0.85	49.65	96.98	3.57	2412	3417	0.048
54308	U308	40	60	1	0.6	1.15	62.11	122.61	4.52	2211	3015	0.077
54209	U209	45	60	1	0.6	0.78	39.2	86.93	3.22	2613	3618	0.038
54309	U309	45	65	1	0.6	1.6	76.48	153.77	5.63	1909.5	2814	0.12
54409	U409	45	72	1	0.6	3	124.62	241.2	9.05	1507.5	2010	0.37
54310	U310	50	72	1	0.6	2.3	82.31	170.85	6.33	1708.5	2412	0.19
54410	U410	50	80	1.5	0.6	4.45	148.74	306.53	11.46	1407	1909.5	0.6
54211	U211	55	72	1	0.6	1.3	58.79	134.67	4.92	2211	3015	0.11
54312	U312	60	85	1	0.6	2.9	101.51	225.12	8.34	1507.5	2211	0.26
54316	U316	80	110	1.5	1	5.55	159.8	391.95	13.77	1306.5	1809	0.79
54416M	U416	80	125	2	1	17.5	308.54	753.75	25.13	854.25	1206	2.3
54317	U317	85	115	1.5	1	7.95	174.87	407.03	14.07	1105.5	1507.5	1.1
54420M	U420	100	155	2.5	1	29	372.86	1065.3	31.66	703.5	954.75	5.8



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