

Single Row Angular Contact Ball Bearings



The raceways of the single row angular contact ball bearings are in such position, that the connecting line of their contact points with the balls form an acute angle with the perpendicular line to the bearing axis, or contact angle.

Bearings of design B have a contact angle $\alpha = 40^\circ$ and have a high number of balls with good conformability which ensures their high load rating.

They can carry radial loads acting simultaneously with high axial forces in one direction. Bearings are arranged in pairs so that axial guiding in both direction can be achieved.

Single row angular contact ball bearings of the design AA with a contact angle of $\alpha = 26^\circ$ are used in applications with a higher axial load.

Bearings of the design B and AA are non-separable, although both rings have only one rib.

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Dimensions						Bearing designation	Basic load rating		Fatigue load limit	Limiting speed for lubrication with		Mass
							dynamic	static				
d	D	B	r _s min	r _{1s} min	a		C _r	C _{or}	C _u	grease	oil	
mm							kN			min ⁻¹		kg
10	30	9	0.6	0.15	9	7200AA	5.6	2.8	0.127	22000	28000	0.032
10	30	9	0.6	0.3	13	7200B	5.3	2.7	0.123	19000	27000	0.030
12	32	10	0.6	0.15	10	7201AA	7.1	3.4	0.154	20000	25000	0.037
12	32	10	0.6	0.3	14	7201B	6.9	3.2	0.145	18000	24000	0.036
12	37	12	0.6	0.3	16	7301B	10.5	4.9	0.208	16000	22000	0.060
15	35	11	0.6	0.15	11	7202AA	8.4	4.4	0.222	17000	22000	0.045
15	35	11	0.6	0.3	16	7202B	7.9	4.2	0.191	16000	22000	0.045
15	42	13	1.0	0.6	16	7302B	12.4	6.5	0.276	14000	19000	0.080
17	40	12	0.6	0.3	13	7203AA	10.5	5.7	0.260	15000	20000	0.062
17	40	12	0.6	0.3	18	7203B	9.9	5.5	0.250	14000	19000	0.065
17	47	14	1.0	0.3	14.6	7303AA	16.2	8.1	0.368	13000	19000	0.065
17	47	14	1.0	0.6	20	7303B	14.1	8.1	0.368	13000	17000	0.110
20	47	14	1.0	0.3	15	7204AA	14.0	7.8	0.354	13000	18000	0.110
20	47	14	1.0	0.6	21	7204B	13.4	7.6	0.323	12000	16000	0.110
20	52	15	1.1	0.6	15.9	7304AA	18.1	10.0	0.454	12000	17000	0.150

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mm							kN			min ⁻¹		kg
20	52	15	1.1	0.6	23	7304B	17.3	9.6	0.408	11000	15000	0.140
25	52	15	1.0	0.3	16	7205AA	15.9	9.9	0.450	11000	16000	0.140
25	52	15	1.0	0.6	24	7205B	14.8	9.3	0.401	10000	14000	0.130
25	62	17	1.1	0.6	18.6	7305AA	25.1	14.0	0.636	9500	14000	0.230
25	62	17	1.1	0.6	27	7305B	24.3	14.1	0.640	9000	13000	0.230
30	62	16	1.0	0.3	19	7206AA	22.0	14.0	0.636	9000	13000	0.210
30	62	16	1.0	0.6	27	7206B	20.5	13.5	0.567	8500	12000	0.200
30	72	19	1.1	0.6	21.6	7306AA	29.5	17.9	0.813	8500	12000	0.350
30	72	19	1.1	0.6	31	7306B	29.3	18.1	0.770	8000	11000	0.340
35	72	17	1.1	0.6	21	7207AA	29.1	19.1	0.868	8000	11000	0.310
35	72	17	1.1	0.6	31	7207B	28.3	14.8	0.630	7500	10000	0.280
35	80	21	1.5	0.6	24.1	7307AA	38.8	24.9	1.132	7500	10000	0.470
35	80	21	1.5	0.6	35	7307B	38.3	24.4	1.052	7000	9500	0.450
40	80	18	1.1	0.6	23	7208AA	35.2	24.4	1.109	7500	10000	0.370
40	80	18	1.1	0.6	34	7208B	34.5	23.8	1.013	6700	9000	0.420
40	90	23	1.5	0.6	26.8	7308AA	47.4	31.1	1.413	6700	9000	0.660
40	90	23	1.5	0.6	39	7308B	46.5	29.5	1.255	6300	8500	0.630
45	85	19	1.1	0.6	25	7209AA	36.8	27.2	1.236	6700	9000	0.410
45	85	19	1.1	0.6	37	7209B	34.0	24.6	1.056	6300	8500	0.420
45	100	25	1.5	0.6	29.4	7309AA	61.8	41.0	1.864	6000	8000	0.860
45	100	25	1.5	0.6	43	7309B	59.6	39.6	1.800	5600	7500	0.850
50	90	20	1.1	0.6	26	7210AA	40.8	30.5	1.386	6300	8500	0.460
50	90	20	1.1	0.6	39	7210B	40.4	25.6	1.089	5600	8000	0.470
50	110	27	2.0	1.0	32.3	7310AA	74.5	54.1	2.459	5600	7500	1.080
50	110	27	2.0	1.0	47	7310B	68.1	48.0	2.034	5000	6700	1.100
55	100	21	1.5	0.6	29	7211AA	50.5	38.1	1.839	5600	7000	0.610
55	100	21	1.5	0.6	43	7211B	46.3	36.0	1.500	5300	7000	0.620
55	120	29	2.0	1.0	35.1	7311AA	88.4	63.5	2.886	5000	7300	1.420
55	120	29	2.0	1.0	51	7311B	82.2	56.2	2.554	4500	6300	1.400
60	110	22	1.5	0.6	31	7212AA	58.2	46.1	2.095	5300	6700	0.800
60	110	22	1.5	0.6	47	7212B	56.1	44.3	1.885	4800	6300	0.800

Dimensions						Bearing designation	Basic load rating		Fatigue load limit	Limiting speed for lubrication with		Mass
							dynamic	static				
d	D	B	r _s min	r _{1s} min	a		C _r	C _{or}	C _u	grease	oil	
mm							kN			min ⁻¹		kg
60	130	31	2.1	1.1	37.6	7312AA	101.0	73.6	3.345	4800	6300	1.710
60	130	31	2.1	1.1	55	7312B	91.5	65.4	2.736	4300	5600	1.750
65	120	23	1.5	0.6	33	7213AA	66.6	52.5	2.386	4800	6300	1.000
65	120	23	1.5	0.6	50.5	7213B	65.7	50.2	2.118	4300	6000	1.000
65	140	33	2.1	1.1	40.4	7313AA	116.0	84.6	3.845	4300	5600	2.230
65	140	33	2.1	1.1	60	7313B	102.3	75.3	3.177	3800	5300	2.150
70	125	24	1.5	0.6	35	7214AA	69.3	57.4	2.610	4500	5800	1.100
70	125	24	1.5	0.6	53	7214B	70.4	56.3	2.375	4000	5600	1.100
70	150	35	2.1	1.1	43.1	7314AA	128.5	96.1	4.271	4000	5300	2.670
70	150	35	2.1	1.1	64	7314B	114.6	85.9	3.436	3600	5000	2.650
75	130	25	1.5	0.6	36	7215AA	75.3	63.0	2.863	4300	5600	1.200
75	130	25	1.5	0.6	56	7215B	68.6	58.2	2.425	3800	5300	1.200
75	160	37	2.1	1.1	45.9	7315AA	139.9	108.5	4.717	3800	5000	3.100
75	160	37	2.1	1.1	68	7315B	127.7	95.4	3.816	3400	4800	3.200
80	140	26	2.0	1.0	39	7216AA	85.0	73.5	3.266	4000	5300	1.450
80	140	26	2.0	1.0	59	7216B	78.7	65.7	2.682	3800	5300	1.450
80	170	39	2.1	1.1	48.6	7316AA	151.5	121.7	5.291	3600	4800	3.600
80	170	39	2.1	1.1	72	7316B	141.4	107.9	4.150	3200	4800	3.800
85	150	28	2.0	1.0	42	7217AA	94.7	81.4	3.539	3800	5000	1.800
85	150	28	2.0	1.0	63	7217B	83.2	74.1	2.917	3600	5000	1.850
85	180	41	3.0	1.1	76	7317B	155.8	120.9	4.478	3000	4000	4.450
90	160	30	2.0	1.0	44	7218AA	116.9	100.0	4.255	3600	4800	2.250
90	160	30	2.0	1.0	67	7218B	107.6	92.4	3.554	3200	4300	2.300
90	190	43	3.0	1.1	80	7318B	157.9	136.9	4.978	3000	4000	5.300
95	170	32	2.1	1.1	47	7219AA	128.2	108.9	4.537	3400	4500	2.700
95	170	32	2.1	1.1	72	7219B	121.4	106.7	3.981	3000	4000	2.700
95	200	45	3.0	1.1	84	7319B	172.0	154.1	5.407	2800	4000	6.400
100	180	34	2.1	1.1	50	7220AA	141.9	122.0	5.083	3200	4300	3.250
100	180	34	2.1	1.1	76	7220B	140.7	122.5	4.706	2800	3800	3.300
100	215	47	3.0	1.1	90	7320B	190.0	177.3	5.930	2600	3800	7.290
110	200	38	2.1	1.1	84	7222B	153.8	144.3	5.010	2400	3400	4.350

Dimensions						Bearing designation	Basic load rating		Fatigue load limit	Limiting speed for lubrication with		Mass
							dynamic	static				
d	D	B	r _s min	r _{1s} min	a		C _r	C _{or}	C _u	grease	oil	
mm							kN			min ⁻¹		kg
110	240	50	3.0	1.1	99	7322B	225.8	225.3	7.268	2200	3400	9.840
120	215	40	2.1	1.1	90	7224B	165.4	161.4	5.249	2200	3200	5.200
130	230	40	3.0	1.1	96	7226B	170.8	174.2	5.619	1800	2800	6.050