

Single-Row Angular Contact Ball Bearings for high frequency of rotation



Single-row angular contact ball bearings for high rotation frequency and high accuracy of seating differ from normal angular contact ball bearings by inner design of bearing rings, by value of contact angle between ball and normal raceways of rings, by workmanship of cage and by high precise tolerance class of running.

The bearings are non-separable and their suitable seating arrangement assures required firmness and accuracy of housing. Bearings with ceramic balls are manufactured for extreme high speed with requirements for low friction and low heat generation in bearing, which gives less lubrication demands and higher lifetime of seating.

KINEX BEARINGS, a.s. delivers the single-row ball bearings with contact angles of $\alpha = 10^\circ$, $\alpha = 12^\circ$, $\alpha = 15^\circ$, $\alpha = 25^\circ$ and $\alpha = 26^\circ$.

[Download the current general catalogue EN](#)

Dimensions			Bearing designation	Basic load rating		Fatigue load limit	Limiting speed for lubrication with		Axial preload Fp of not installed matcher bearings			Auxiliary dimensions			Mass
				dynamic	static		grease	oil	L	M	S	r _s min	r _{ls} min	a	
d	D	B		C _r	C _{or}	C _u									
mm				kN			min ⁻¹		N			mm			kg
10	30	9	B7200CBTB	5	2.29	0.1	60000	89000	20	70	140	0.6	0.3	6	0.027
10	30	9	B7200CATB	6.67	2.9	0.13	42000	63000	33	105	213	0.6	0.3	6.5	0.028
10	30	9	B7200CTA	5.9	3.2	0.15	56000	85000	28	100	200	0.6	0.3	7.18	0.028
10	30	9	B7200ATA	5.7	3	0.14	50000	73000	32	141	320	0.6	0.3	9.16	0.028
12	32	10	B7201CBTB	5.48	2.65	0.12	56000	84000	22	77	154	0.6	0.3	7	0.035
12	32	10	B7201CATB	7.43	3.46	0.16	38000	56000	37	118	235	0.6	0.3	7.5	0.036
15	32	9	B7002CTA	6.5	3.5	0.16	45000	70000	30	110	225	0.3	0.15	7.648	0.043
15	32	9	B7002ATA	6.2	3.2	0.15	40000	65000	37	155	355	0.3	0.15	9.98	0.043
15	35	11	B7202CBTB	6.48	3.45	0.16	50000	75000	25	90	180	0.6	0.3	7.5	0.042
15	35	11	B7202CATB	8.26	4.18	0.19	33000	50000	41	132	264	0.6	0.3	8	0.043
17	35	10	B7003CTA	7.4	4.45	0.2	44000	67500	40	150	260	0.3	0.15	8.48	0.039
17	35	10	B7003ATA	7.1	4.25	0.19	38000	56000	50	190	420	0.3	0.15	16.78	0.039
17	40	12	B7203CBTB	7.83	4.25	0.19	45000	67000	31	109	219	0.6	0.3	8.5	0.06
17	40	12	B7203CATB	10.2	5.29	0.24	28000	42000	51	163	326	0.6	0.3	9	0.061
20	42	12	B7004CTA	11.1	6.2	0.28	39000	57000	55	180	400	0.6	0.3	9.15	0.066
20	42	12	B7004ATA	10.9	6	0.27	35000	50000	75	290	645	0.6	0.3	12.22	0.066
20	47	14	B7204CBTB	9.6	5.54	0.25	40000	60000	38	134	268	1	0.6	10	0.098
20	47	14	B7204CATB	13.67	7.32	0.33	25000	38000	68	218	437	1	0.6	10.5	0.1
20	47	14	B7204AATB	13	6.99	0.32	22000	33000	156	455	910	1	0.6	15	0.102
25	47	12	B7005CTA	12.85	8.6	0.39	35000	50000	65	220	470	0.6	0.3	10.32	0.08
25	47	12	B7005ATA	12.3	8.2	0.37	30000	45000	100	360	740	0.6	0.3	13.89	0.08
25	52	15	B7205CBTB	13.12	7.96	0.36	33000	50000	53	183	367	1	0.6	11	0.119
25	52	15	B7205CATB	14.81	8.63	0.39	22000	33000	74	237	474	1	0.6	11.5	0.122

Dimensions			Bearing designation	Basic load rating		Fatigue load limit	Limiting speed for lubrication with		Axial preload Fp of not installed matcher bearings			Auxiliary dimensions			Mass
				dynamic	static										
d	D	B		C _r	C _{or}	C _u	grease	oil	L	M	S	r _s min	r _{1s} min	a	
mm				kN			min ⁻¹		N			mm			kg
25	52	15	B7205AATB	13.96	8.15	0.37	20000	30000	167	488	977	1	0.6	17	0.124
30	55	13	B7006CTA	15.2	10.3	0.47	26000	40000	75	260	555	1	0.6	12.2	0.115
30	55	13	B7006ATA	14.5	10.1	0.46	24000	38000	105	405	885	1	0.6	25.85	0.115
30	62	16	B7206CBTB	16.81	10.72	0.49	28000	42000	67	235	470	1	0.6	12	0.184
30	62	16	B7206CATB	20.57	12.42	0.56	20000	30000	102	325	655	1	0.6	13	0.189
30	62	16	B7206AATB	19.42	11.58	0.53	17000	25000	233	679	1740	1	0.6	19	0.192
35	62	14	B7007AATB	17.3	12.05	0.55	9400	11000	207	605	1210	1	0.6	18.5	0.148
35	62	14	B7007CTA	19.4	14.4	0.65	22000	36000	100	330	710	1	0.6	13.49	0.155
35	62	14	B7007ATA	18.8	13.25	0.6	20000	32000	140	530	1150	1	0.6	28.98	0.155
35	72	17	B7207CBTB	21.01	14.34	0.65	25000	38000	84	280	588	1.1	0.6	13	0.268
35	72	17	B7207CATB	28.93	18.6	0.85	16000	24000	144	462	925	1.1	0.6	14	0.275
35	72	17	B7207AATB	27.2	17.4	0.79	13000	20000	326	952	1900	1.1	0.6	10	0.281
40	68	15	B7008AATB	18.56	14.13	0.64	8400	10000	222	645	1290	1	0.6	20.5	0.185
40	68	15	B7008CTA	20.6	16.1	0.73	20000	34000	105	350	755	1	0.6	14.73	0.185
40	68	15	B7008ATA	19.6	15.2	0.69	19000	30000	150	560	1200	1	0.6	20.1	0.185
40	80	18	B7208CBTB	24.5	17.3	0.79	22000	33000	98	343	686	1.1	0.6	14	0.337
40	80	18	B7208CATB	36.73	23.77	1.08	13000	20000	180	587	1170	1.1	0.6	15.5	0.347
45	75	16	B7009CTA	25.3	20.4	0.93	18000	30000	140	470	935	1	0.6	0.03	0.26
45	75	16	B7009ATA	24	19.3	0.88	17000	28000	195	750	1500	1	0.6	21.98	0.26
45	85	19	B7209CBTB	28.29	20.31	0.92	20000	30000	113	396	792	1.1	0.6	15	0.381
45	85	19	B7209CATB	36.85	24.61	1.12	12600	19000	184	590	1175	1.1	0.6	16.5	0.381
45	68	12	B71909CTA	14.9	12.6	0.57	20000	32000	90	320	535	0.6	0.3	13	0.13
45	68	12	B71909ATA	14.2	12	0.55	18000	30000	100	390	840	0.6	0.3	18.19	0.13
50	80	16	B7010AATB	22.66	18.52	0.84	9500	11000	270	793	1580	1	0.6	15.8	0.253
50	80	16	B7010CTA	26	21.8	0.99	17000	28000	150	510	965	1	0.6	19.73	0.25
50	80	16	B7010ATA	24.6	20.8	0.95	15000	24000	210	750	1550	1	0.6	23.15	0.25
50	90	20	B7210CBTB	32.33	23.56	1.07	18000	27000	129	450	905	1.1	0.6	16	0.432
50	90	20	B7210CATB	38.99	27.26	1.24	12000	18000	195	623	1245	1.1	0.6	17.5	0.443
50	90	20	B7210AATB	36.56	25.92	1.18	10600	16000	438	1275	2550	1.1	0.6	26	0.447
55	90	18	B7011AATB	30.99	25.38	1.15	6300	7500	371	1080	2160	1.1	0.6	26.5	0.395
55	100	21	B7211CBTB	38.46	29.12	1.32	17000	25000	153	538	1075	1.5	1	17	0.567
55	100	21	B7211CATB	48.2	34.5	1.57	11000	17000	241	771	1540	1.5	1	18.5	0.582
60	95	18	B7012CTA	35.1	32	1.45	14000	22000	210	700	1305	1.1	1	21.66	0.41
60	95	18	B7012ATA	33.4	30.4	1.38	13000	20000	290	1000	2100	1.1	1	27.1	0.41
60	110	22	B7212CBTB	42.98	33.8	1.54	15000	22000	172	602	1200	1.5	1	18	0.735
60	110	22	B7212CATB	58.26	42.6	1.94	10000	15000	291	932	1860	1.5	1	20	0.754
60	110	22	B7212AATB	54.82	39.96	1.82	8900	13000	657	1915	3830	1.5	1	32	0.759
65	120	23	B7213CATB	70.5	54.78	2.49	8900	13000	352	1128	2250	1.5	1	21.5	0.994
70	110	20	B7014AATB	41.15	36.46	1.66	7900	12000	493	1140	2050	1.1	0.6	32	0.597

Dimensions			Bearing designation	Basic load rating		Fatigue load limit	Limiting speed for lubrication with		Axial preload Fp of not installed matcher bearings			Auxiliary dimensions			Mass
				dynamic	static		grease	oil	L	M	S	r _s min	r _{1s} min	a	
d	D	B		C _r	C _{or}	C _u	grease	oil	L	M	S	r _s min	r _{1s} min	a	
mm				kN			min ⁻¹		N			mm			
70	110	20	B7014CTA	48.4	45	2.05	13000	19000	280	930	1825	1.1	0.6	22.06	0.6
70	110	20	B7014ATA	45.9	42.9	1.95	11000	17000	390	1390	2910	1.1	0.6	30.99	0.6
70	125	24	B7214CBTB	58.56	47.66	2.17	12600	19000	234	820	1640	1.5	1	20.5	1.04
70	125	24	B7214CATB	76.65	60.13	2.73	7900	12000	373	1190	2350	1.5	1	22.5	1.07
75	130	25	B7215CATB	76.53	61.39	2.83	7500	11000	383	1250	2450	1.5	1	23.5	1.16
75	130	25	B7215AATB	71.52	58.32	2.68	6700	10000	858	2500	500	1.5	1	37.5	1.26
80	125	22	B7016CATB	55.36	50.01	2.3	7500	11000	276	885	1770	1.1	0.6	22	0.841
80	125	22	B7016AATB	53.44	49.44	2.28	6700	10000	267	855	1710	1.1	0.6	36	0.848
80	125	22	B7016CTA	60.6	57.5	2.65	10000	18000	350	1140	2290	1.1	0.6	24.73	0.85
80	125	22	B7016ATA	57.9	55.1	2.54	9000	15000	500	1800	3700	1.1	0.6	34.9	0.85
80	140	26	B7216CATB	89.5	73.05	3.48	6700	10000	447	1432	2860	2	1	24.5	1.41
80	140	26	B7216AATB	84.07	68.04	3.24	6300	9400	1008	2940	5880	2	1	40	1.42
85	130	22	B7017AATA	54.44	52.69	2.48	4200	5000	653	1900	3800	1.1	0.6	37	0.912
85	130	22	B7017CTA	62	58.7	2.77	10000	17000	380	1240	2350	1.1	0.6	25.4	0.91
85	130	22	B7017ATA	61.4	58.2	2.74	9000	15000	540	1870	3900	1.1	0.6	30.06	0.91
85	150	28	B7217CATB	100.52	86.08	4.24	6300	9400	502	1608	3210	2	1	26.5	1.8
85	150	28	B7217AATB	94.26	80.67	3.97	6000	8900	1310	3290	6590	2	1	42.5	1.82
90	140	24	B7018CATB	67.63	62.47	3.05	6300	9400	338	1080	2160	1.5	1	24	1.15
90	140	24	B7018AATB	65.29	61.75	3.01	4000	4700	783	2280	4570	1.5	1	40	1.16
90	140	24	B7018CTA	74	72.4	3.53	10000	16000	450	1450	2800	1.5	1	27.41	1.15
90	140	24	B7018ATA	70.1	69	3.36	9000	15000	620	2200	4580	1.5	1	38.81	1.15
90	180	34	B7220AATB	141.1	120.96	6.39	5300	7900	1690	4930	9870	2.1	1.1	51	3.32
100	150	24	B7020CTA	80.8	80.8	4.11	8000	14000	470	1520	3070	1.5	0.6	28.75	1.29
100	150	24	B7020ATA	76.4	76.4	3.88	7000	12000	680	2340	4950	1.5	0.6	41.15	1.29
100	180	34	B7220CTA	145.6	125.6	6.76	8000	12000	800	2500	5350	2.1	1.1	35.76	3.35
100	180	34	B7220ATA	138.9	120	6.45	7000	10000	1300	4400	8850	2.1	1.1	49.77	3.35
120	180	28	B7024CATB	101.1	103.66	5.77	5000	7500	505	1617	3230	2	1	30	2.1
120	180	28	B7024AATB	96.1	101.28	5.64	3000	3500	1153	3363	6727	2	1	50.5	2.09
120	180	28	B7024CTA	103.1	107.8	6	7000	10000	670	2000	4100	2	1	34.1	2.1
120	180	28	B7024ATA	97.5	102.1	5.68	6000	9000	950	3200	6550	2	1	48.98	2.1
10	30	9	C B7200CTA	4.1	2.1	0.1	65000	100000	15	60	130	0.6	0.3	7.18	0.028
10	30	9	C B7200ATA	3.9	2	0.09	55000	85000	22	80	195	0.6	0.3	9.16	0.028
15	32	9	C B7002CTA	4.4	2.3	0.1	55000	85000	11	52	115	0.3	0.15	7.648	0.043
15	32	9	C B7002ATA	4.2	2.2	0.1	50000	72000	18	68	170	0.3	0.15	9.98	0.043
17	35	10	C B7003CTA	5.8	3.4	0.15	55000	80000	18	75	165	0.3	0.15	8.48	0.039
17	35	10	C B7003ATA	5.55	3	0.14	45000	65000	30	100	230	0.3	0.15	16.78	0.039
20	42	12	C B7004CTA	7.4	4.2	0.19	45000	65000	25	100	200	0.6	0.3	9.15	0.066
20	42	12	C B7004ATA	7.2	4	0.18	35000	55000	30	120	300	0.6	0.3	12.22	0.066
25	47	12	C B7005CTA	8.9	5.7	0.26	40000	55000	30	120	250	0.6	0.3	10.32	0.08

Dimensions			Bearing designation	Basic load rating		Fatigue load limit	Limiting speed for lubrication with		Axial preload Fp of not installed matcher bearings			Auxiliary dimensions			Mass
				dynamic	static		grease	oil	L	M	S	r _s min	r _{1s} min	a	
d	D	B		C _r	C _{or}	C _u	grease	oil	L	M	S	r _s min	r _{1s} min	a	
mm				kN			min ⁻¹		N			mm			kg
25	47	12	C B7005ATA	8.5	5.6	0.25	35000	50000	35	180	410	0.6	0.3	13.89	0.08
30	55	13	C B7006CTA	10.6	7.2	0.33	30000	45000	37	140	300	1	0.6	12.2	0.115
30	55	13	C B7006ATA	10.1	6.9	0.31	28000	43000	40	200	450	1	0.6	25.85	0.115
35	62	14	C B7007CTA	13.4	10	0.45	30000	45000	48	180	380	1	0.6	13.49	0.155
35	62	14	C B7007ATA	13	9.4	0.43	25000	40000	60	270	600	1	0.6	28.98	0.155
40	68	15	C B7008CTA	14.2	11	0.5	26000	40000	50	190	410	1	0.6	14.73	0.185
40	68	15	C B7008ATA	13.2	10.6	0.48	22000	35000	60	280	630	1	0.6	20.1	0.185
45	68	12	C B71909CTA	10.8	9.1	0.41	25000	38000	35	140	310	0.6	0.3	13	0.11
45	68	12	C B71909ATA	10.1	8.8	0.4	22000	35000	70	200	450	0.6	0.3	18.19	0.11
45	75	16	C B7009CTA	17.7	14.3	0.65	23000	37000	70	250	530	1	0.6	16.03	0.23
45	75	16	C B7009ATA	16.8	13.5	0.61	21000	33000	85	370	840	1	0.6	21.98	0.23
50	80	16	C B7010CTA	18.5	15.3	0.7	22000	35000	75	280	580	1	0.6	19.73	0.21
50	80	16	C B7010ATA	17.5	14.6	0.66	18000	30000	90	400	880	1	0.6	23.15	0.21
60	95	18	C B7012CTA	24.6	22.4	1.02	18000	30000	100	360	780	1.1	1	21.66	0.35
60	95	18	C B7012ATA	23.4	21.3	0.97	15000	25000	130	540	1150	1.1	1	27.1	0.35
70	110	20	C B7014CTA	33.4	31.2	1.42	15000	25000	140	500	1020	1.1	0.6	22.06	0.5
70	125	24	C B7014ATA	32.1	21.8	0.99	14000	20000	180	720	1600	1.5	1	30.99	0.5
80	125	22	C B7016CTA	42.4	40.2	1.85	14000	22000	180	620	1350	1.1	0.6	24.73	0.71
80	125	22	C B7016ATA	40.5	38.6	1.78	13000	20000	250	950	1950	1.1	0.6	34.9	0.71
85	130	22	C B7017CTA	43.4	41.4	1.95	12000	19000	190	640	1400	1.1	0.6	25.4	0.77
85	130	22	C B7017ATA	43	40.7	1.92	10000	18000	260	1000	2100	1.1	0.6	30.06	0.77
90	140	24	C B7018CTA	51.8	57.9	2.82	12000	19000	230	760	1590	1.5	1	27.41	0.97
90	140	24	C B7018ATA	49.1	40.5	1.97	10000	17000	315	1150	2550	1.5	1	38.81	0.97
100	150	24	C B7020CTA	55.7	55.7	2.83	11000	18000	235	815	1700	1.5	0.6	28.75	1.1
100	150	24	C B7020ATA	52.7	52.7	2.68	9000	15000	335	1265	2710	1.5	0.6	41.15	1.1
100	180	34	C B7220CTA	95.9	86	4.63	10000	15000	450	1460	2950	2.1	1.1	35.76	2.89
100	180	34	C B7220ATA	89.5	83	4.46	8000	13000	640	2200	5580	2.1	1.1	49.77	2.89
120	180	28	C B7024CTA	71.1	75.4	4.2	9000	14000	320	1100	2220	2	1	34.1	1.85
120	180	28	C B7024ATA	67.3	71.5	3.98	8000	12000	450	1680	3550	2	1	48.98	1.85