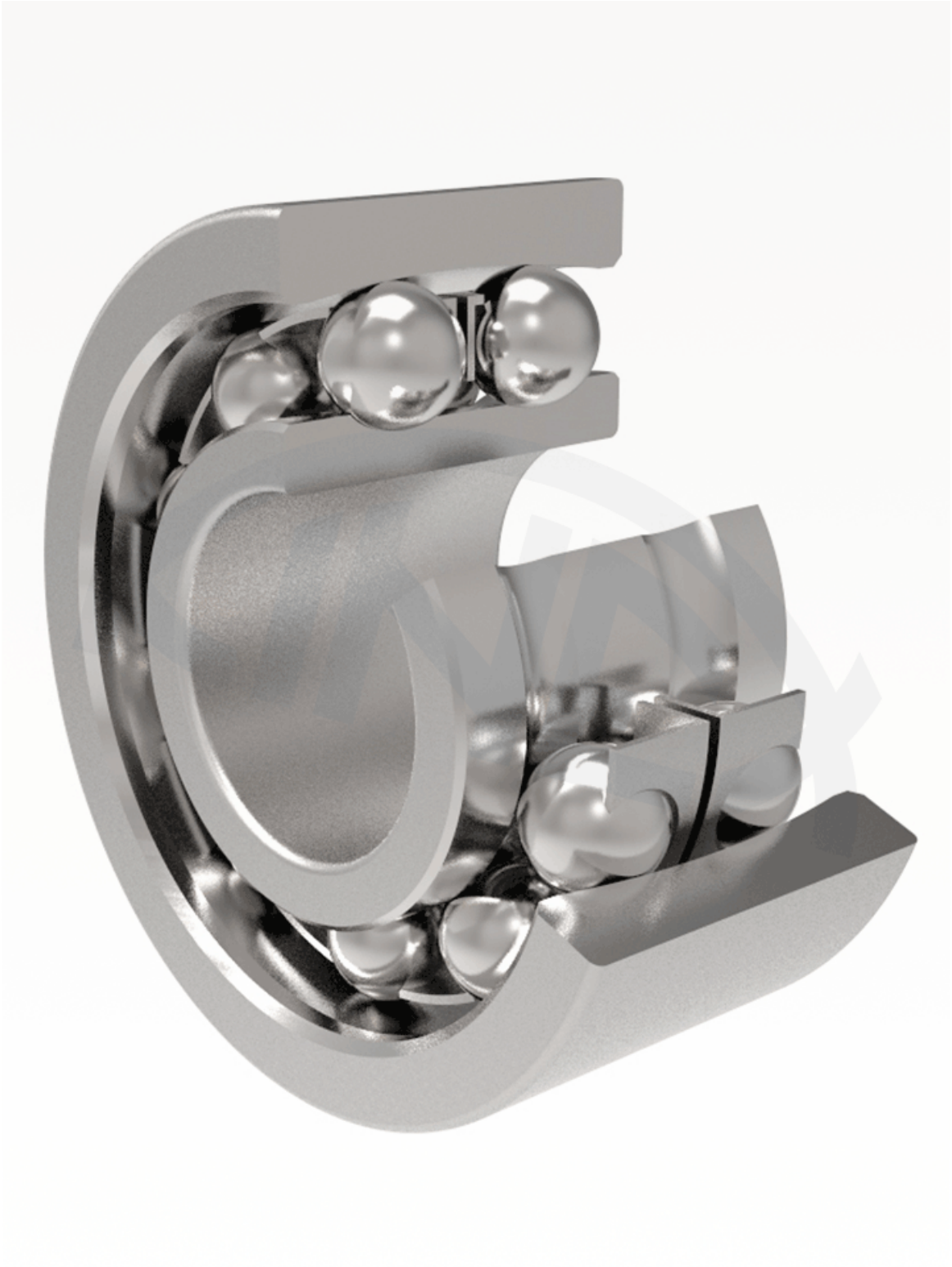
Double Row Self-Aligning Ball Bearings



The double row self-aligning ball bearings have two rows of balls and a spherical raceway on the outer ring. Certain misalignment of the inner ring referring to the outer ring around the bearing centre will work independently of the bearing operation.

The bearings are used for applications which presume certain bore misalignment in the bearing housings or deflaction and oscillation of the shaft at long mutual distance of the bearing. The bearings are non-separable. With respect to their small contact angle and the imperfect conformity of the balls to the raceways, they are not recommended for carrying larger axial forces. The bearings are manufactured with cylindrical or tapered bores.

Download the current general catalogue EN

Dimensions				Bearing designation		Basic load ratings		Fatigue load limit	Limiting speed for lubrication with		Mass		Corresponding adapter sleeve	Coefficients			
						dynamic	static										
d	D	B	$r_{s\,min}$	Cylindrical Bore	Tapered Bore	C_r	C_{or}	C_u	grease	oil	~	K		e	Y_1	Y_2	Y
mm						kN			min^{-1}		kg						
10	30	9	0.6	1200	–	3.7	1.6	0.07	20000	21000	0.035	–	–	0.32	2.0	3.0	2.0
10	30	14	0.6	2200	–	7.1	1.6	0.07	24000	28000	0.050	–	–	0.65	1.0	1.5	1.0
10	35	11	0.6	1300	–	7.2	1.6	0.07	20000	24000	0.060	–	–	0.33	1.9	3.0	2.0
12	32	10	0.6	1201	–	6.8	2.0	0.09	19000	21000	0.042	–	–	0.34	1.9	2.9	2.0
12	32	14	0.6	2201	–	8.1	1.7	0.08	22000	26000	0.059	–	–	0.57	1.1	1.7	1.2
12	37	12	1.0	1301	–	9.4	2.1	0.10	18000	22000	0.070	–	–	0.35	1.8	2.8	1.9
12	37	17	1.0	2301	–	12.5	2.7	0.12	17000	22000	0.104	–	–	0.6	1.05	1.6	1.1
15	35	11	0.6	1202	–	6.8	2.0	0.09	16000	20000	0.051	–	–	0.33	1.9	2.9	2.0
15	35	14	0.6	2202	–	8.5	1.8	0.08	16000	18000	0.060	–	–	0.49	1.3	2.0	1.3
15	42	13	1.0	1302	–	9.5	2.3	0.10	16000	20000	0.100	–	–	0.33	1.9	2.9	2.0
15	42	17	1.0	2302	–	12.0	2.9	0.13	14000	18000	0.143	–	–	0.52	1.2	1.9	1.3
17	40	12	0.6	1203	1203K	7.9	2.0	0.09	16000	20000	0.076	0.074	H203	0.31	2.1	3.2	2.2
17	40	16	0.6	2203	–	10.5	2.4	0.11	14000	16000	0.090	–	–	0.50	1.3	1.9	1.3
17	47	14	1.0	1303	–	12.5	3.2	0.14	14000	17000	0.140	–	–	0.33	1.9	3.0	2.0
17	47	19	1.0	2303	–	14.5	3.6	0.16	13000	16000	0.176	–	–	0.52	1.2	1.9	1.3
20	47	14	1.0	1204	1204K	10.0	2.9	0.13	14000	17000	0.120	0.118	H204	0.27	2.3	3.6	2.4
20	47	18	1.0	2204	–	11.5	2.8	0.13	13000	14000	0.150	–	–	0.49	1.3	2.0	1.4
20	52	15	1.1	1304	–	12.5	3.4	0.15	12000	15000	0.170	–	–	0.29	2.2	3.3	2.3
20	52	21	1.1	2304	–	20.5	5.5	0.25	12000	12000	0.220	–	–	0.51	1.2	1.9	1.3
25	52	15	1.0	1205	1205K	12.0	3.3	0.15	12000	14000	0.140	0.138	H205	0.27	2.3	3.6	2.4
25	52	18	1.0	2205	2205K	12.5	3.4	0.16	12000	14000	0.163	0.158	H305	0.43	1.5	2.3	1.5
25	62	17	1.1	1305	1305K	17.8	5.1	0.23	10000	13000	0.257	0.252	H305	0.28	2.3	3.5	2.4
25	62	24	1.1	2305	2305K	26.5	6.5	0.30	10000	11000	0.355	0.327	H2305	0.47	1.3	2.1	1.4
30	62	16	1.0	1206	1206K	15.8	4.7	0.21	10000	12000	0.230	0.226	H206	0.25	2.6	4.0	2.7
30	62	20	1.0	2206	2206K	15.2	4.6	0.21	10000	12000	0.260	0.254	H306	0.40	1.6	2.5	1.7
30	72	19	1.1	1306	1306K	21.5	6.3	0.29	8500	11000	0.398	0.392	H306	0.26	2.5	3.8	2.6
30	72	27	1.1	2306	2306K	31.5	8.7	0.40	8000	10000	0.520	0.509	H2306	0.44	1.4	2.2	1.5
35	72	17	1.1	1207	1207K	15.8	5.1	0.23	8500	10000	0.320	0.315	H207	0.23	2.7	4.2	2.9
35	72	23	1.1	2207	2207K	21.8	6.7	0.30	8500	10000	0.440	0.433	H307	0.37	1.7	2.6	1.8
35	80	21	1.5	1307	1307K	25.0	8.0	0.36	7500	9500	0.540	0.532	H307	0.25	2.6	4.0	2.7

Dimensions				Bearing designation		Basic load ratings		Fatigue load limit	Limiting speed for lubrication with		Mass		Corresponding adapter sleeve	Coefficients			
						dynamic	static										
d	D	B	$r_{s\,min}$	Cylindrical Bore	Tapered Bore	C_r	C_{or}	C_u	grease	oil	~	K		e	Y_1	Y_2	Y
mm						kN			min^{-1}		kg						
35	80	31	1.5	2307	2307K	39.2	11.0	0.50	7100	9000	0.680	0.670	H2307	0.46	1.4	2.1	1.4
40	80	18	1.1	1208	1208K	19.2	6.4	0.29	7500	9000	0.418	0.412	H208	0.22	2.9	4.4	3.0
40	80	23	1.1	2208	2208K	22.5	7.4	0.34	7500	9000	0.510	0.502	H308	0.33	1.9	2.9	2.0
40	90	23	1.5	1308	1308K	29.5	9.5	0.43	6700	8500	0.720	0.620	H308	0.24	2.6	4.1	2.7
40	90	33	1.5	2308	2308K	44.8	13.2	0.60	6300	8000	0.962	0.950	H2308	0.43	1.5	2.3	1.5
45	85	19	1.1	1209	1209K	21.8	7.3	0.33	7100	8500	0.468	0.462	H209	0.21	3.0	4.6	3.1
45	85	23	1.1	2209	2209K	23.2	8.0	0.36	7100	8500	0.547	0.537	H309	0.31	2.1	3.2	2.2
45	100	25	1.5	1309	1309K	38.0	12.8	0.58	6300	7500	0.958	0.944	H309	0.25	2.5	3.9	2.7
45	100	36	1.5	2309	2309K	55.0	16.2	0.74	5600	7100	1.277	1.263	H2309	0.42	1.5	2.3	1.6
50	90	20	1.1	1210	1210K	22.8	8.1	0.37	6300	8000	0.526	0.517	H210	0.20	3.1	4.9	3.3
50	90	23	1.1	2210	2210K	23.2	8.5	0.38	6300	8000	0.599	0.585	H310	0.29	2.2	3.4	2.3
50	110	27	2.0	1310	1310K	43.2	14.2	0.65	5600	6700	1.208	1.191	H310	0.24	2.7	4.1	2.8
50	110	40	2.0	2310	2310K	64.5	19.8	0.90	5000	6300	1.689	1.671	H2310	0.43	1.5	2.3	1.6
55	100	21	1.5	1211	1211K	26.8	10.0	0.45	6000	7100	0.718	0.706	H211	0.20	3.2	5.0	3.4
55	100	25	1.5	2211	2211K	26.8	10.0	0.45	6000	7100	0.810	0.792	H311	0.28	2.3	3.5	2.4
55	120	29	2.0	1311	1311K	51.6	18.2	0.83	5000	6300	1.580	1.560	H311	0.24	2.7	4.2	2.8
55	120	43	2.0	2311	2311K	75.2	23.5	1.07	4800	6000	2.094	2.070	H2311	0.41	1.5	2.4	1.6
60	110	22	1.5	1212	1212K	30.2	11.5	0.52	5300	6300	0.900	0.887	H212	0.19	3.4	5.3	3.6
60	110	28	1.5	2212	2212K	34.0	12.5	0.57	5300	6300	1.096	1.076	H312	0.28	2.3	3.5	2.4
60	130	31	2.0	1312	1312K	57.2	20.8	0.94	4500	5600	1.960	1.930	H312	0.23	2.8	4.3	2.9
60	130	46	2.0	2312	2312K	86.8	27.5	1.25	4300	5300	2.610	2.540	H2312	0.41	1.6	2.4	1.6
65	120	23	1.5	1213	1213K	31.0	12.5	0.57	4800	6000	1.080	0.901	H213	0.17	3.7	5.7	3.9
65	120	31	1.5	2213	2213K	43.5	16.2	0.74	4800	6000	1.467	1.436	H313	0.28	2.2	3.5	2.3
65	140	33	2.1	1313	1313K	61.8	22.8	1.01	4300	5300	2.370	2.330	H313	0.23	2.8	4.3	2.9
65	140	48	2.1	2313	2313K	96.0	32.5	1.48	3800	4800	3.220	3.150	H2313	0.38	1.6	2.5	1.7
70	125	24	1.5	1214	1214K	34.5	13.5	0.61	4600	5600	1.290	1.265	H214	0.18	3.5	5.4	3.7
70	125	31	1.5	2214	2214K	44.0	17.0	0.77	4500	5600	1.620	1.585	H314	0.27	2.4	3.7	2.5
70	150	35	2.1	1314	1314K	74.5	27.5	1.19	4000	5000	2.980	2.935	H314	0.22	2.8	4.4	3
70	150	51	2.1	2314	2314K	110.0	37.5	1.62	3600	4500	3.920	3.830	H2314	0.38	1.7	2.6	1.8
75	130	25	1.5	1215	1215K	38.8	15.2	0.69	4300	5300	1.350	1.330	H215	0.18	3.6	5.6	3.8
75	130	31	1.5	2215	2215K	44.2	18.0	0.82	4300	5300	1.720	1.680	H315	0.25	2.5	3.9	2.6
75	160	37	2.1	1315	1315K	79.0	29.8	1.24	3800	4500	3.550	3.500	H315	0.22	2.8	4.4	3.1
75	160	55	2.1	2315	2315K	122.0	42.8	1.80	3400	4300	4.710	4.600	H2315	0.38	1.7	2.6	1.8
80	140	26	2.0	1216	1216K	39.5	16.8	0.72	4000	5000	1.650	1.620	H216	0.16	3.9	6.1	3.8
80	140	33	2.0	2216	2216K	48.8	20.2	0.88	4000	5000	2.190	2.120	H316	0.25	2.5	3.9	2.6
80	170	39	2.1	1316	1316K	88.5	32.8	1.32	3600	4300	4.190	4.130	H316	0.22	2.9	4.5	3.1
80	170	58	2.1	2316	2316K	128.0	45.5	1.85	3200	4000	5.700	5.560	H2316	0.37	1.7	2.6	1.8
85	150	28	2.0	1217	1217K	48.8	20.5	0.86	3800	4500	2.100	2.065	H217	0.17	3.7	5.7	3.9
85	150	36	2.0	2217	2217K	58.2	23.5	0.99	3800	4500	2.530	2.470	H317	0.25	2.5	3.8	2.6
85	180	41	3.0	1317	1317K	97.8	37.8	1.48	3400	4000	4.950	4.870	H317	0.22	2.9	4.5	3.0
85	180	60	3.0	2317	2317K	134.0	48.8	1.95	3000	3800	6.730	6.570	H2317	0.37	1.7	2.7	1.8
90	160	30	2.0	1218	1218K	56.5	23.2	0.94	3600	4300	2.440	2.400	H218	0.17	3.8	5.8	3.9
90	160	40	2.0	2218	2218K	70.0	28.5	1.16	3600	4300	3.220	3.150	H318	0.27	2.4	3.6	2.5
90	190	43	3.0	1318	1318K	115.0	44.5	1.71	3200	3800	5.990	5.900	H318	0.22	2.8	4.4	3.0
90	190	64	3.0	2318	2318K	142.0	57.2	2.22	2800	3600	8.270	8.080	H2318	0.38	1.7	2.6	1.8
95	170	32	2.1	1219	1219K	63.5	27.0	1.06	3400	4000	3.060	3.000	H219	0.17	3.7	5.7	3.9
95	170	43	2.1	2219	2219K	82.8	33.8	1.33	3400	4000	4.200	4.100	H319	0.27	2.4	3.6	2.5
95	200	45	3.0	1319	1319K	125.0	46.0	1.72	3000	3600	6.980	6.880	H319	0.23	2.8	4.3	2.9

Dimensions				Bearing designation		Basic load ratings		Fatigue load limit	Limiting speed for lubrication with		Mass		Corresponding adapter sleeve	Coefficients			
						dynamic	static										
d	D	B	$r_{s\ min}$	Cylindrical Bore	Tapered Bore	C_r	C_{or}	C_u	grease	oil	~	K		e	Y_1	Y_2	Y
mm						kN			min^{-1}		kg						
95	200	67	3.0	2319	2319K	162.0	68.8	2.62	2600	3400	9.560	9.340	H2319	0.38	1.7	2.6	1.8
100	180	34	2.1	1220	1220K	68.5	29.2	1.12	3200	3800	3.700	3.640	H220	0.17	3.6	5.6	3.8
100	180	46	2.1	2220	2220K	97.2	40.5	1.56	3200	3800	4.610	4.500	H320	0.27	2.4	3.6	2.5
100	215	52	3.0	1320	1320K	135.0	48.0	1.74	2800	3200	8.640	8.530	H320	0.24	2.7	4.1	2.8
100	215	73	3.0	2320	2320K	192.0	78.5	2.86	2400	3200	12.400	12.100	H2320	0.38	1.7	2.6	1.7