

Cylindrical bore

Tapered bore
taper 1:12

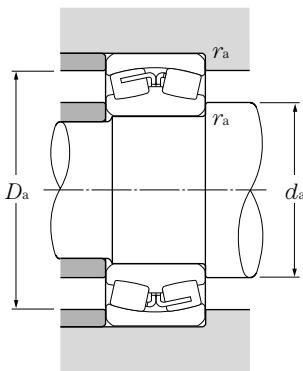
d 120 ~ 160mm

d	Boundary dimensions			dynamic C _r	Basic load ratings		Limiting speeds ^①		Bearing numbers		
	D	B	r _{s min} ^③		static C _{or}	dynamic C _r	grease	oil	cylindrical bore	tapered ^② bore	
120	180	60	2	390	670	39,500	68,500	1,500	2,300	24024B	24024BK30
	180	60	2	395	695	40,000	71,000	1,500	2,300	24024C	24024CK30
	200	62	2	455	705	46,500	71,500	1,400	2,100	23124B	23124BK
	200	80	2	575	945	58,500	96,500	1,400	2,100	24124B	24124BK30
	215	58	2.1	485	700	49,500	71,500	1,400	2,200	22224B	22224BK
	215	76	2.1	585	880	59,500	89,500	1,300	2,000	23224B	23224BK
	260	86	3	880	1,120	89,500	114,000	1,300	2,000	22324B	22324BK
130	200	52	2	375	620	38,500	63,500	1,500	2,300	23026B	23026BK
	200	69	2	505	895	51,500	91,000	1,300	2,100	24026B	24026BK30
	200	69	2	490	860	50,000	87,500	1,300	2,100	24026C	24026CK30
	210	64	2	495	795	50,500	81,000	1,300	2,000	23126B	23126BK
	210	80	2	585	995	60,000	102,000	1,300	2,000	24126B	24126BK30
	230	64	3	570	790	58,000	80,500	1,300	2,000	22226B	22226BK
	230	80	3	685	1,060	70,000	108,000	1,200	1,900	23226B	23226BK
280	93	4	1,000	1,290	102,000	131,000	1,200	1,800	22326B	22326BK	
140	210	53	2	405	690	41,000	70,500	1,400	2,200	23028B	23028BK
	210	69	2	510	945	52,000	96,500	1,200	1,900	24028B	24028BK30
	210	69	2	520	940	53,000	95,500	1,200	1,900	24028C	24028CK30
	225	68	2.1	540	895	55,000	91,000	1,200	1,800	23128B	23128BK
	225	85	2.1	670	1,150	68,500	117,000	1,200	1,800	24128B	24128BK30
	250	68	3	685	975	70,000	99,500	1,200	1,900	22228B	22228BK
	250	88	3	805	1,270	82,000	129,000	1,100	1,700	23228B	23228BK
300	102	4	1,130	1,460	115,000	149,000	1,100	1,700	22328B	22328BK	
150	225	56	2.1	445	775	45,500	79,000	1,300	2,000	23030B	23030BK
	225	75	2.1	585	1,060	59,500	108,000	1,200	1,800	24030B	24030BK30
	225	75	2.1	600	1,090	61,000	111,000	1,200	1,800	24030C	24030CK30
	250	80	2.1	730	1,190	74,500	121,000	1,100	1,700	23130B	23130BK
	250	100	2.1	885	1,520	90,500	155,000	1,100	1,700	24130B	24130BK30
	270	73	3	775	1,160	79,000	119,000	1,100	1,700	22230B	22230BK
	270	96	3	935	1,460	95,000	149,000	1,000	1,600	23230B	23230BK
320	108	4	1,270	1,750	130,000	179,000	1,000	1,600	22330B	22330BK	
160	220	45	2	320	610	33,000	62,500	1,300	2,000	23932	23932K
	240	60	2.1	505	885	51,500	90,000	1,200	1,900	23032B	23032BK
	240	80	2.1	650	1,200	66,500	122,000	1,100	1,700	24032B	24032BK30
	240	80	2.1	665	1,250	67,500	127,000	1,100	1,700	24032C	24032CK30

① This value was achieved with machined cages and molded resin cages; for pressed cages, 75% of this value is allowable.

② Bearings appended with "K" have a tapered bore ratio of 1:12; bearings appended with "K30" have a tapered bore ratio of 1:30.

③ Smallest allowable dimension for chamfer dimension r.



Equivalent bearing load

dynamic
 $P_r = X F_r + Y F_a$

$\frac{F_a}{F_r} \leq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	Y_1	0.67	Y_2

static

$P_{or} = F_r + Y_0 F_a$

For values of e , Y_1 , Y_2 and Y_0 see the table below.

Abutment and fillet dimensions			Constant	Axial load factors			Mass (approx.)	
mm							kg	
d_a	D_a	r_{as}	e	Y_1	Y_2	Y_0	cylindrical bore	tapered bore
min	max	max						
130	170	2	0.33	2.06	3.07	2.02	5.48	5.39
130	170	2	0.32	2.12	3.15	2.07	5.48	4.91
130	190	2	0.31	2.17	3.24	2.13	7.7	7.46
130	190	2	0.40	1.68	2.50	1.64	10.3	10.1
132	203	2	0.27	2.47	3.68	2.42	9.1	8.89
132	203	2	0.36	1.89	2.82	1.85	12.1	11.7
134	246	2.5	0.37	1.80	2.69	1.76	21.5	21
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140	190	2	0.26	2.63	3.92	2.57	5.9	5.69
140	190	2	0.34	1.98	2.95	1.94	8.08	7.95
140	190	2	0.32	2.12	3.15	2.07	7.91	7.78
140	200	2	0.30	2.23	3.32	2.18	8.47	8.2
140	200	2	0.38	1.78	2.65	1.74	11	10.8
144	216	2.5	0.28	2.39	3.56	2.33	11.2	10.9
144	216	2.5	0.35	1.92	2.86	1.88	14.3	13.9
148	262	3	0.37	1.81	2.69	1.77	26.8	26.2
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150	200	2	0.25	2.73	4.06	2.67	6.35	6.12
150	200	2	0.32	2.09	3.12	2.05	8.57	8.43
150	200	2	0.30	2.23	3.32	2.18	8.48	7.66
152	213	2	0.30	2.25	3.35	2.20	10.2	9.86
152	213	2	0.38	1.80	2.68	1.76	13.3	13.1
154	236	2.5	0.28	2.39	3.55	2.33	14	13.7
154	236	2.5	0.36	1.90	2.83	1.86	18.8	18.2
158	282	3	0.37	1.80	2.69	1.76	33.8	33
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162	213	2	0.24	2.76	4.11	2.70	7.73	7.45
162	213	2	0.33	2.06	3.07	2.02	10.7	10.5
162	213	2	0.30	2.25	3.34	2.20	10.5	10.3
162	238	2	0.32	2.11	3.15	2.06	15.6	15.1
162	238	2	0.40	1.69	2.51	1.65	20.2	20
164	256	2.5	0.27	2.46	3.66	2.4	18.1	17.7
164	256	2.5	0.36	1.88	2.79	1.83	24.1	23.4
168	302	3	0.35	1.92	2.86	1.88	42.7	41.8
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170	210	2	0.18	3.69	5.49	3.61	5.5	5.33
172	228	2	0.25	2.74	4.09	2.68	9.42	9.09
172	228	2	0.32	2.10	3.13	2.06	13	12.8
172	228	2	0.31	2.18	3.24	2.13	12	11.8

Note: When the outer diameter of a Spherical Roller Bearing is 320mm or larger, an oil groove is on OD. See page B-230 on dimensions. We can make bearings with oil hole or oil groove in the outer ring, per your request, for an outer diameter of 320mm or less. Such bearings are indicated by attaching "D1" to the end of the bearing number. (ex. 23032BD1)