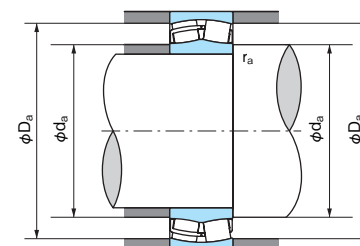
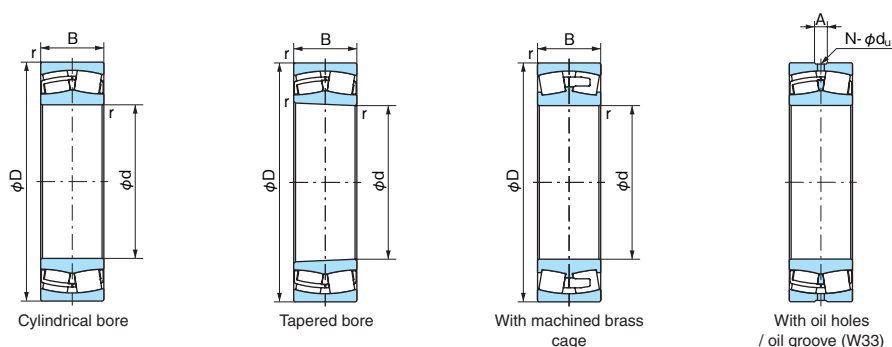


Spherical Roller Bearings

Bore Diameter: 20~50mm



■ Dynamic equivalent radial load
 $P_r = X F_r + Y F_a$

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

Values of Y_1 , Y_2 and e from table.

■ Static equivalent radial load
 $P_0 = F_r + Y_0 F_a$

Values Y_0 from table.

Boundary dimensions (mm)				Bearing No.		Basic dynamic load rating Cr (N)	Basic static load rating Cor (N)	Limiting speed (min ⁻¹)			Dimensions of lubrication holes and grooves			Abutment and fillet dimensions (mm)			Constant e	Axial load factor			Mass (kg) Cylindrical bore (Reference)	Bearing No.	
d	D	B	r (min)	Cylindrical bore	Tapered bore			Grease lubrication	Oil lubrication		Hole diameter d _h	Groove width A	Hole count N	d _a (min)	D _a (max)	r _a (max)		Y ₁	Y ₂	Y ₀		Cylindrical bore	Tapered bore
20	52	15	1.1	21304E	21304EK	47000	33500	11,000	14,000		3	6	4	27.0	45.0	1.0	0.31	2.20	3.27	2.15	0.18	21304E	21304EK
	52	18	1	22205EX	22205EXK	63000	48000	10,500	13,000		3	5	4	30.5	46.5	1.0	0.35	1.91	2.85	1.87	0.19	22205EX	22205EXK
25	52	18	1	22205AEX	22205AEXK	48500	34500	13,300	16,500		3	5	4	30.5	46.5	1.0	0.43	1.57	2.33	1.53	0.18	22205AEX	22205AEXK
	62	17	1.1	21305E	21305EK	64000	47500	9,000	11,500		6	6	4	32.0	53.0	1.0	0.28	2.39	3.56	2.34	0.29	21305E	21305EK
30	62	20	1	22206EX	22206EXK	84500	65000	8,500	11,000		3	5	4	35.5	56.5	1.0	0.33	2.04	3.04	2.00	0.30	22206EX	22206EXK
	62	20	1	22206AEX	22206AEXK	68000	48500	11,200	14,400		3	5	4	35.5	56.5	1.0	0.40	1.70	2.53	1.66	0.29	22206AEX	22206AEXK
	72	19	1.1	21306E	21306EK	83000	62500	8,000	9,500		3	5	4	38.0	65.0	1.0	0.27	2.49	3.71	2.43	0.43	21306E	21306EK
	72	19	1.1	21306AX	21306AXK	73000	50900	9,700	12,700		3	5	4	38.0	65.0	1.0	0.35	1.95	2.90	1.90	0.43	21306AX	21306AXK
35	72	23	1.1	22207EX	22207EXK	112000	88500	7,500	9,500		3	6	4	42.0	65.0	1.0	0.32	2.10	3.13	2.06	0.46	22207EX	22207EXK
	72	23	1.1	22207AEX	22207AEXK	94500	70000	9,600	12,400		3	6	4	42.0	65.0	1.0	0.39	1.74	2.60	1.71	0.46	22207AEX	22207AEXK
	80	21	1.5	21307E	21307EK	96000	76000	7,000	8,500		3	5	4	44.0	71.0	1.5	0.27	2.49	3.71	2.43	0.57	21307E	21307EK
	80	21	1.5	21307AX	21307AXK	89000	63100	9,000	11,200		3	5	4	44.0	71.0	1.5	0.33	2.03	3.03	1.99	0.56	21307AX	21307AXK
40	80	31	1.5	22307AEX	22307AEXK	145000	107000	9,000	11,500		3	6	4	43.5	71.5	1.5	0.48	1.41	2.10	1.38	0.78	22307AEX	22307AEXK
	80	23	1.1	22208EX	22208EXK	126000	102000	6,700	8,500		3	6	4	47.0	73.0	1.0	0.28	2.37	3.53	2.32	0.56	22208EX	22208EXK
	80	23	1.1	22208AEX	22208AEXK	106000	81000	8,500	10,900		3	6	4	47.0	73.0	1.0	0.34	1.99	2.96	1.94	0.56	22208AEX	22208AEXK
	90	23	1.5	21308E	21308EK	119000	95500	6,000	7,500		3	5	4	50.0	81.0	1.5	0.26	2.55	3.80	2.50	0.78	21308E	21308EK
	90	23	1.5	21308AX	21308AXK	116000	84400	7,500	9,750		3	5	4	50.0	81.0	1.5	0.32	2.09	3.11	2.04	0.79	21308AX	21308AXK
	90	33	1.5	22308EX	22308EXK	185000	151000	5,300	6,700		4	7	4	48.5	81.5	1.5	0.37	1.83	2.72	1.79	1.07	22308EX	22308EXK
45	90	33	1.5	22308AEX	22308AEXK	172000	134000	7,800	10,000		4	7	4	48.5	81.5	1.5	0.43	1.55	2.31	1.54	1.05	22308AEX	22308AEXK
	85	23	1.1	22209EX	22209EXK	133000	110000	6,000	7,500		3	6	4	52.0	78.0	1.0	0.26	2.55	3.80	2.50	0.61	22209EX	22209EXK
	85	23	1.1	22209AEX	22209AEXK	113000	85500	7,900	10,200		3	6	4	52.0	78.0	1.0	0.31	2.15	3.21	2.11	0.60	22209AEX	22209AEXK
	100	25	1.5	21309E	21309EK	150000	124000	5,000	6,300		3	5	4	55.0	92.0	1.5	0.26	2.62	3.90	2.56	1.05	21309E	21309EK
	100	25	1.5	21309AX	21309AXK	143000	105000	6,750	9,000		3	5	4	55.0	92.0	1.5	0.31	2.16	3.22	2.11	1.05	21309AX	21309AXK
	100	36	1.5	22309EX	22309EXK	230000	182000	4,500	5,600		4	8	4	53.5	91.5	1.5	0.37	1.83	2.72	1.79	1.41	22309EX	22309EXK
50	100	36	1.5	22309AEX	22309AEXK	208000	157000	7,050	9,150		4	8	4	53.5	91.5	1.5	0.43	1.57	2.34	1.54	1.41	22309AEX	22309AEXK
	90	23	1.1	22210EX	22210EXK	142000	122000	5,600	7,100		3	6	4	57.0	83.0	1.0	0.24	2.79	4.15	2.73	0.65	22210EX	22210EXK
	90	23	1.1	22210AEX	22210AEXK	119000	93500	7,350	9,600		3	6	4	57.0	83.0	1.0	0.29	2.34	3.48	2.28	0.65	22210AEX	22210AEXK
	110	27	2	21310E	21310EK	178000	151000	4,500	5,600		3	5	4	61.0	101.0	2.0	0.25	2.71	4.04	2.65	1.36	21310E	21310EK
	110	27	2	21310AX	21310AXK	170000	127000	6,000	8,250		3	5	4	61.0	101.0	2.0	0.30	2.24	3.34	2.19	1.36	21310AX	21310AXK
	110	40	2	22310EX	22310EXK	280000	235000	4,300	5,300		4	8	4	60.0	100.0	2.0	0.36	1.85	2.75	1.81	1.92	22310EX	22310EXK
	110	40	2	22310AEX	22310AEXK	254000	205000	6,300	8,250		4	8	4	60.0	100.0	2.0	0.42	1.62	2.42	1.59	1.88	22310AEX	22310AEXK

Note: Suffix K or K30 means tapered bore (1/12 or 1/30).