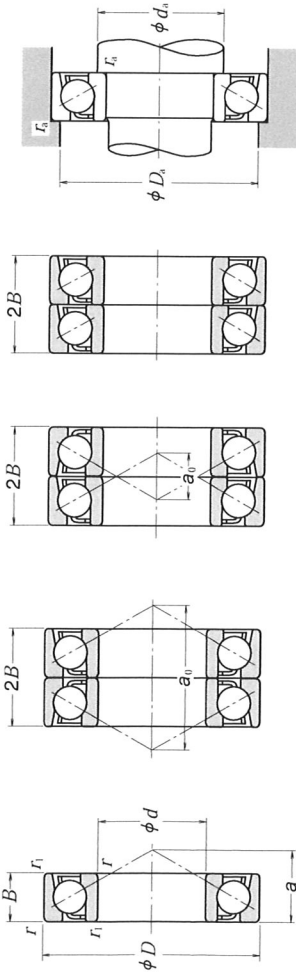


ANGULAR CONTACT BALL BEARINGS

SINGLE/MATCHED MOUNTINGS
Bore Diameter 40 – 55 mm



Boundary Dimensions (mm)	Single			Back-to-Back DB			Face-to-Face DF			Tandem DT			Abutment and Fillet Dimensions (mm)		Mass (kg) approx.
	d	D	r	C _r	C _{0r}	f ₀	Eff. Load Centers (mm)	a	d _a min.	r _a max.					
40	80	18	1.1	38 500	24 500	3 900	2 500	34.2	7 500	11 000	34.2	47	73	1	0.357
	80	18	1.1	36 500	25 200	3 700	2 570	34.2	14 000	19 000	34.2	47	73	1	0.418
	90	23	1.5	49 000	33 000	5 000	3 350	30.3	7 100	9 000	30.3	49	81	1.5	0.633
	90	23	1.5	45 000	30 500	4 500	3 100	38.8	6 300	8 500	38.8	49	81	1.5	0.648
	90	23	1.5	53 000	33 000	5 400	3 350	38.8	7 100	10 000	38.8	49	81	1.5	0.619
45	68	12	0.6	15 100	12 700	1 540	1 290	19.2	12 000	17 000	19.2	50	63	0.6	0.13
	68	12	0.6	16 000	13 400	1 630	1 360	13.6	14 000	20 000	13.6	50	63	0.6	0.129
	75	16	1	23 100	18 700	2 360	1 910	25.3	9 500	13 000	25.3	51	69	1	0.25
	75	16	1	24 400	19 300	2 490	1 960	16.0	14 000	19 000	16.0	51	69	1	0.274
	85	19	1.1	39 500	28 700	4 050	2 930	28.3	8 500	12 000	28.3	52	78	1	0.411
50	85	19	1.1	41 000	27 100	4 100	2 760	36.8	7 100	10 000	36.8	52	78	1	0.40
	100	25	1.5	63 500	43 500	6 450	4 450	33.4	6 300	8 500	33.4	54	91	1.5	0.848
	100	25	1.5	58 500	40 000	5 950	4 100	42.9	5 600	7 500	42.9	54	91	1.5	0.869
	100	25	1.5	62 500	39 500	6 400	4 050	42.9	6 300	9 000	42.9	54	91	1.5	0.823
	72	12	0.6	15 900	14 200	1 630	1 450	20.2	11 000	15 000	20.2	55	67	0.6	0.132
55	80	16	1	24 500	21 100	2 500	2 150	26.8	8 500	12 000	26.8	56	74	1	0.263
	80	16	1	26 000	21 900	2 650	2 230	16.7	12 000	17 000	16.7	56	74	1	0.293
	90	20	1.1	41 500	31 500	4 200	3 500	30.2	8 000	11 000	30.2	57	83	1	0.466
	90	20	1.1	37 500	28 600	3 800	2 920	39.4	5 600	8 000	39.4	57	83	1	0.477
	90	20	1.1	42 000	29 700	4 300	3 050	39.4	6 300	9 500	39.4	57	83	1	0.453
65	110	27	2	74 000	52 000	7 550	5 300	36.6	5 600	7 500	36.6	60	100	2	1.1
	110	27	2	68 000	48 000	6 950	4 900	47.1	5 000	6 700	47.1	60	100	2	1.12
	110	27	2	78 000	50 500	7 950	5 150	47.1	5 600	8 000	47.1	60	100	2	1.07
	80	13	1	18 100	16 800	1 840	1 710	22.2	10 000	14 000	22.2	61	74	1	0.184
	90	18	1.1	32 500	27 700	3 300	2 830	15.5	7 500	11 000	15.5	62	83	1	0.391

Notes (1) For applications operating near the limiting speed, refer to Page B49.
(2) The suffixes A, A5, B, and C represent contact angles of 30°, 25°, 40°, and 15° respectively.

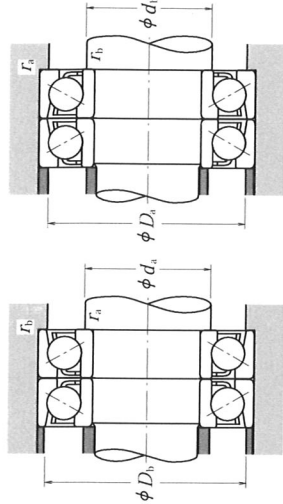
Dynamic Equivalent Load $P = X F_r + Y F_a$

Contact Angle	e	Single, DT			DB or DF					
		X	Y	Z	X	Y	Z			
15°	0.176	0.38	1	0	0.44	1.47	1	1.65	0.72	2.39
	0.357	0.40	1	0	0.44	1.40	1	1.57	0.72	2.28
	0.714	0.43	1	0	0.44	1.30	1	1.46	0.72	2.11
	1.07	0.46	1	0	0.44	1.23	1	1.38	0.72	2.00
	1.43	0.47	1	0	0.44	1.19	1	1.34	0.72	1.93
25°	0.357	0.50	1	0	0.44	1.12	1	1.26	0.72	1.82
	0.714	0.53	1	0	0.44	1.02	1	1.14	0.72	1.66
	1.07	0.55	1	0	0.44	1.00	1	1.12	0.72	1.63
	1.43	0.58	1	0	0.41	0.87	1	0.92	0.67	1.41
	1.79	0.61	1	0	0.39	0.76	1	0.78	0.63	1.24
30°	0.50	0.60	1	0	0.35	0.57	1	0.55	0.57	0.93
	0.60	0.60	1	0	0.35	0.57	1	0.55	0.57	0.93

*For i, use 2 for DB, DF and 1 for DT

Static Equivalent Load $P_0 = X_0 F_r + Y_0 F_a$

Contact Angle	Single, DT			DB or DF		
	X ₀	Y ₀	Z ₀	X ₀	Y ₀	Z ₀
15°	0.5	0.46	1	0.52	0.46	1
25°	0.5	0.38	1	0.76	0.38	1
30°	0.5	0.33	1	0.66	0.33	1
40°	0.5	0.26	1	0.52	0.26	1



Bearing Numbers (°)	Basic Load Ratings (Matched) (N)			Limiting Speeds (Matched) (min ⁻¹)			Load Center Spacings (mm)			Abutment and Fillet Dimensions (mm)		
	C _r	C _{0r}	C _{ir}	Grease	Oil	DB	DF	DB	DF	d _k (°) min.	D _b max.	r _a (°) max.
*7208 BEA	59 000	50 500	6 000	6 000	8 500	68.3	32.3	45	75	0.6	75	0.6
	79 500	66 000	8 100	5 600	15 000	34.1	1.9	46	75	0.6	75	0.6
	73 000	60 500	7 400	5 000	6 700	60.5	14.5	46	84	1	84	1
*7308 BEA	24 600	25 400	2 510	9 500	13 000	38.4	14.4	—	65.5	0.3	—	65.5
	26 000	26 800	2 730	12 000	16 000	27.1	3.1	—	65.5	0.3	—	65.5
	37 500	37 500	3 850	7 500	10 000	50.6	18.6	50	70	0.6	70	0.6
7909 A5	39 500	38 500	4 050	11 000	15 000	32.1	0.1	—	70	0.6	—	70
	64 500	63 500	6 550	7 100	9 500	56.5	18.5	50	80	0.6	80	0.6
	58 500	57 500	5 950	5 000	6 700	73.5	35.5	50	80	0.6	80	0.6
*7209 BEA	66 500	57 500	6 750	5 600	8 000	73.5	35.5	50	80	0.6	80	0.6
	103 000	87 000	10 500	5 000	14 000	36.4	1.6	—	80	0.6	—	80
	95 000	80 500	9 650	4 500	6 000	66.9	16.9	51	94	1	94	1
7309 A	25 900	28 400	2 640	9 000	12 000	40.5	16.5	—	69.5	0.3	—	69.5
	27 400	30 000	2 800	3 050	11 000	28.3	4.3	—	69.5	0.3	—	69.5
	40 000	42 000	4 050	4 300	7 100	9.500	21.5	55	75	0.6	75	0.6
7010 A	42 000	44 000	4 300	10 000	14 000	33.4	1.4	—	75	0.6	—	75
	67 000	63 000	6 850	6 300	9 000	60.4	20.4	55	85	0.6	85	0.6
	60 500	57 000	6 200	4 500	6 300	78.7	38.7	55	85	0.6	85	0.6
*7210 BEA	69 500	63 500	7 100	6 450	7 500	78.7	38.7	55	85	0.6	85	0.6
	121 000	104 000	12 300	4 500	6 000	38.7	1.3	—	85	0.6	—	85
	111 000	96 000	11 300	4 000	5 000	73.2	19.2	56	104	1	104	1
*7310 BEA	29 300	33 500	2 990	8 000	11 000	44.5	18.5	—	75	0.6	—	75
	31 000	35 500	3 150	3 600	9 500	31.0	5.1	—	75	0.6	—	75
	52 500	55 500	5 350	6 300	8 500	59.9	23.9	60	85	0.6	85	0.6

Note (1) For bearings marked — in the column for d_k, d_b, and r_a for shafts are d_k (min), and r_a (max.) respectively.
Remarks The bearings denoted by an asterisk (*) are NSKHPS Angular contact ball bearings and the column of Duplex in Bearing Numbers indicates the universal matching.