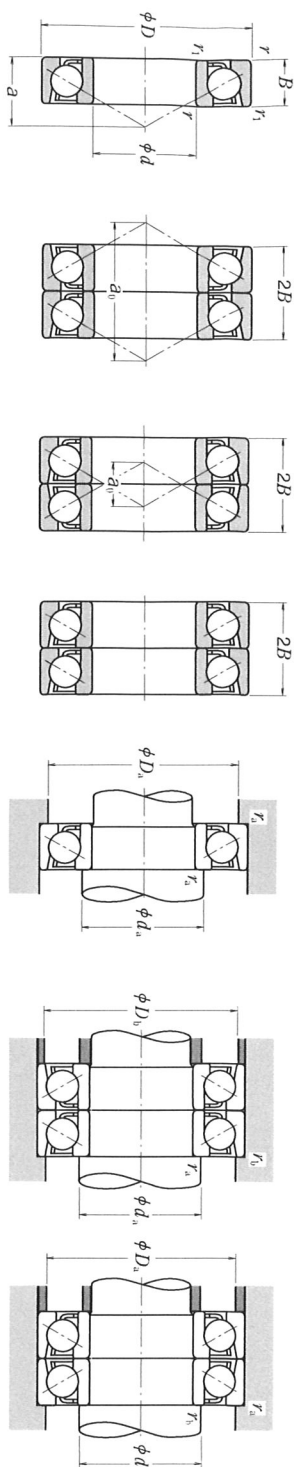


ANGULAR CONTACT BALL BEARINGS SINGLE/MATCHED MOUNTINGS Bore Diameter 40 – 55 mm



Dynamic Equivalent Load $P = X F_r + Y F_a$									
Contact Angle α	$i f_0 F_a^* / C_0$	Single DT			DB or DF			Single or DT mounting	$F_a > 0.5 F_r + Y_0 F_a$ see $F_1 = F_r$
		X	Y	e	X	Y	e		
15°	0.178	0.38	1	0	0.44	1.47	1	1.55	0.72
	0.317	0.40	1	0	0.44	1.40	1	1.57	0.72
	0.7/4	0.43	1	0	0.44	1.30	1	1.46	0.72
	1.0/7	0.46	1	0	0.44	1.23	1	1.38	0.72
20°	1.4/3	0.47	1	0	0.44	1.19	1	1.34	0.72
	2.1/4	0.50	1	0	0.44	1.12	1	1.26	0.72
	3.5/5	0.55	1	0	0.44	1.02	1	1.14	0.72
25°	5.3/5	0.56	1	0	0.44	1.00	1	1.12	0.72
	—	0.68	1	0	0.41	0.87	1	0.92	0.67
30°	—	0.80	1	0	0.39	0.76	1	0.78	0.63
40°	—	1.14	1	0	0.35	0.57	1	0.55	0.57

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

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

Contact Angle	X_0	Y_0	X_0	Y_0
15°	0.5	0.46	1	0.52
20°	0.5	0.38	1	0.76
30°	0.5	0.33	1	0.66
40°	0.5	0.26	1	0.52

Boundary Dimensions (mm)				Basic Load Ratings (Single)		Factor	Limiting Speeds (1)		Eff. Load Centers (mm)	Abutment and Fillet Dimensions (mm)		Mass (kg)	Bearing Numbers (2)		Duplex	Basic Load Ratings (Matched)		Limiting Speeds (1) (Matched)	Load Center Spacing (mm)		Abutment and Fillet Dimensions (mm)							
d	D	B	r	r ₁	C ₁	C ₁₀	Grease	Oil	a	d _a	D _a	r _a	approx.	Single	Standard	Option	C ₁	C ₁₀	Grease	Oil	DB	DF	D _a	r _b				
40	80	18	1.1	0.6	38 500	24 500	—	7 500	11 000	34.2	47	73	1	0.357	*7208 BEA T85	MR, T7	—	—	6 000	8 500	68.3	32.3	45	75	0.6			
	80	18	1.1	0.6	36 500	25 200	—	14 000	19 000	47	73	1	0.418	W, T, TVN		DB	DF	DT	59 000	50 500	11 000	15 000	24.1	11.9	75	0.6		
	90	23	1.5	1	49 000	33 000	—	5 600	7 500	30.3	49	81	1.5	0.633		W, T, TVN	DB	DF	DT	79 500	66 000	4 500	6 000	60.5	14.5	84	1	
	90	23	1.5	1	45 000	30 500	—	5 000	6 700	38.8	49	81	1.5	0.648		W, T, TVN	DB	DF	DT	73 000	60 500	4 000	5 300	77.5	31.5	46	84	1
	90	23	1.5	1	53 000	33 000	—	7 100	10 000	38.8	49	81	1.5	0.619		MR, T7	—	—	5 600	8 000	77.5	31.5	46	84	1			
	90	23	1.5	1	45 000	30 500	—	5 000	6 700	38.8	49	81	1.5	0.648		MR, T7	—	—	5 600	8 000	77.5	31.5	46	84	1			
45	68	12	0.6	0.3	15 100	12 700	—	12 000	17 000	19.2	50	63	0.6	0.130	*7308 BEA T85	T, TVN	DB	DF	DT	24 600	25 400	9 500	13 000	38.4	14.4	—	65.5	0.3
	68	12	0.6	0.3	16 000	13 400	—	14 000	20 000	13.6	50	63	0.6	0.129		T, TVN	DB	DF	DT	26 000	26 800	12 000	16 000	27.1	3.1	—	65.5	0.3
	75	16	1	0.6	23 100	18 700	—	7 500	10 000	25.3	51	69	1	0.250		W, T, TVN	DB	DF	DT	37 500	37 500	6 000	8 500	50.6	18.6	50	70	0.6
	75	16	1	0.6	24 400	19 300	—	14 000	19 000	16.0	51	69	1	0.274		W, TVN	DB	DF	DT	39 500	38 500	11 000	15 000	32.1	0.1	—	70	0.6
	85	19	1.1	0.6	39 500	28 700	—	6 700	9 500	28.3	52	78	1	0.411		W, T, TVN	DB	DF	DT	64 500	57 500	5 600	7 500	56.5	18.5	50	80	0.6
	85	19	1.1	0.6	36 000	26 200	—	5 000	6 700	36.8	52	78	1	0.421		W, T, TVN	DB	DF	DT	58 500	52 500	4 000	5 300	73.5	35.5	50	80	0.6
50	85	19	1.1	0.6	40 500	27 100	—	7 100	10 000	36.8	52	78	1	0.400	*7209 BEA T85	MR, T7	—	—	5 600	8 000	73.5	35.5	50	80	0.6			
	85	19	1.1	0.6	41 000	28 800	—	12 000	17 000	18.2	52	78	1	0.448		W, T, TVN	DB	DF	DT	66 500	57 500	10 000	14 000	26.4	1.6	—	80	0.6
	100	25	1.5	1	63 500	43 500	—	5 000	6 700	33.4	54	91	1.5	0.848		W, T, TVN	DB	DF	DT	103 000	87 000	4 000	5 300	65.9	16.9	51	94	1
	100	25	1.5	1	62 500	43 500	—	5 000	6 700	33.4	54	91	1.5	0.848		W, T, TVN	DB	DF	DT	103 000	87 000	4 000	5 300	65.9	16.9	51	94	1
	100	25	1.5	1	58 500	40 000	—	4 500	6 000	42.9	54	91	1.5	0.889		W, T, TVN	DB	DF	DT	95 000	80 500	3 600	4 800	85.8	35.8	51	94	1
	100	25	1.5	1	62 500	39 500	—	6 300	9 000	42.9	54	91	1.5	0.823		MR, T7	—	—	5 000	7 100	85.8	35.8	51	94	1			
55	72	12	0.6	0.3	15 900	14 200	—	11 000	15 000	20.2	55	67	0.6	0.132	*7309 BEA T85	T, TVN	DB	DF	DT	25 900	28 400	9 000	12 000	40.5	16.5	—	69.5	0.3
	72	12	0.6	0.3	16 900	15 000	—	13 000	18 000	14.2	55	67	0.6	0.130		T, TVN	DB	DF	DT	27 400	30 000	11 000	15 000	28.3	4.3	—	69.5	0.3
	80	16	1	0.6	24 500	21 100	—	6 700	9 500	26.8	56	74	1	0.263		W, T, TVN	DB	DF	DT	40 000	42 000	5 600	7 500	53.5	21.5	55	75	0.6
	80	16	1	0.6	26 000	21 900	—	12 000	17 000	16.7	56	74	1	0.293		W, T, TVN	DB	DF	DT	42 000	44 000	10 000	14 000	33.4	1.4	—	75	0.6
	90	20	1.1	0.6	37 500	28 600	—	4 500	6 300	39.4	57	83	1	0.466		W, T, TVN	DB	DF	DT	60 500	63 000	5 000	7 100	60.4	20.4	55	85	0.6
	90	20	1.1	0.6	42 000	29 700	—	4 500	6 300	39.4	57	83	1	0.477		W, T, TVN	DB	DF	DT	60 500	57 000	3 600	5 000	78.7	38.7	55	85	0.6
60	90	20	1.1	0.6	42 000	29 700	—	6 300	9 500	39.4	57	83	1	0.453	*7210 BEA T85	MR, T7	—	—	5 000	7 500	78.7	38.7	55	85	0.6			
	90	20	1.1	0.6	43 000	31 500	—	12 000	16 000	19.4	57	83	1	0.528		W, T, TVN	DB	DF	DT	69 500	63 500	9 500	13 000	38.7	13.3	—	85	0.6
	110	27	2	1	74 000	52 000	—	4 500	6 000	36.6	60	100	2	1.10		W, T, TVN	DB	DF	DT	121 000	104 000	3 600	4 800	73.2	19.2	56	104	1
	110	27	2	1	68 000	48 000	—	4 000	5 600	47.1	60	100	2	1.12		MR, T7	—	—	4 500	6 300	94.1	40.1	56	104	1			
	110	27	2	1	78 000	50 500	—	5 600	8 000	47.1	60	100	2	1.07		W, T, TVN	DB	DF	DT	111 000	96 000	4 500	6 700	94.1	40.1	56	104	1
	110	27	2	1	68 000	48 000	—	4 000	5 600	47.1	60	100	2	1.07		MR, T7	—	—	4 500	6 300	94.1	40.1	56	104	1			
65	80	13	1	0.6	18 100	16 800	—	10 000	14 000	22.2	61	74	1	0.184	*7310 BEA T85	T, TVN	DB	DF	DT	29 300	33 500	8 000	11 000	44.5	18.5	—	75	0.6
	80	13	1	0.6	19 100	17 700	—	12 000	16 000	15.5	61	74	1	0.182		W, T, TVN	DB	DF	DT	31 000	35 500	9 500	13 000	31.1	5.1	—	75	0.6
	90	18	1.1	0.6	32 500	27 700	—	6 300	8 500	29.9	62	83	1	0.391		W, T, TVN	DB	DF	DT	52 500	55 500	5 000	6 700	59.9	23.9	60	85	0.6
	90	18	1.1	0.6	32 500	27 700	—	6 300	8 500	29.9	62	83	1	0.391		W, T, TVN	DB	DF	DT	52 500	55 500	5 000	6 700	59.9	23.9	60	85	0.6
	90	18	1.1	0.6	32 500	27 700	—	6 300	8 500	29.9	62	83	1	0.391		W, T, TVN	DB	DF	DT	52 500	55 500	5 000	6 700	59.9	23.9	60	85	0.6
	90	18	1.1	0.6	32 500	27 700	—	6 300	8 500	29.9	62	83	1	0.391		W, T, TVN	DB	DF	DT	52 500	55 500	5 000	6 700	59.9	23.9	60	85	0.6

Notes (1) For applications operating near the limiting speed, refer to Page C077.
(2) The surfaces A, A5, B, and C represent contact angles of 30°, 25°, 40°, and 15° respectively.
(3) For bearings marked — in the column for d_a , d_a , and r_a for shafts are d_a , (mm) and r_a , (mm) respectively.

Note (1) (N) in the column of cage symbols are usually omitted from the bearing number.
Remark The bearings denoted by an asterisk (*) are NSK-HPS™ Angular contact ball bearings and the column of Duplex in Bearing Numbers indicates the universal matching.