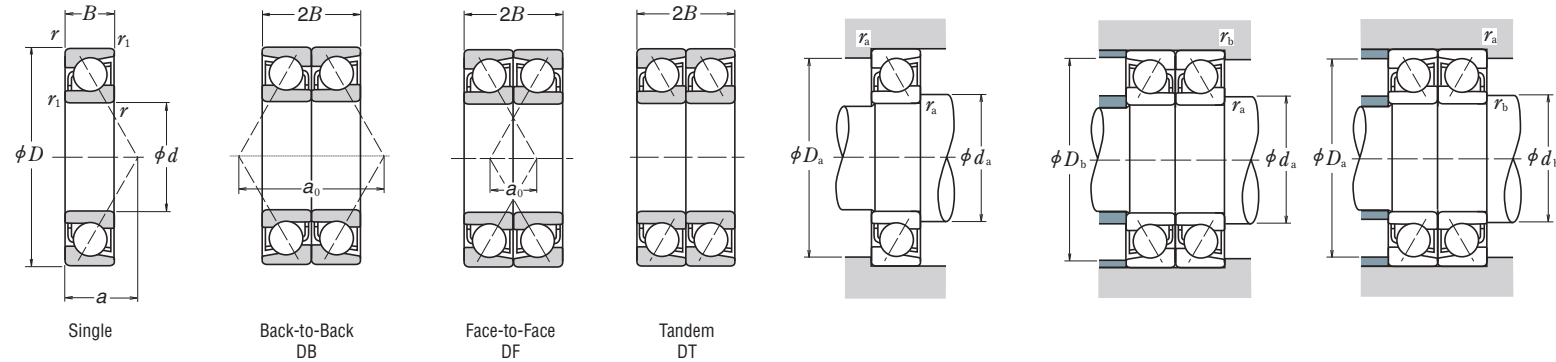


ANGULAR CONTACT BALL BEARINGS
SINGLE/MATCHED MOUNTINGS

Bore Diameter 17 – 25 mm



Contact Angle		Dynamic Equivalent Load $P = XF_r + YF_a$									
		Single, DT					DB or DF				
		$F_a/F_r \leq e$	$F_a/F_r > e$	$F_a/F_r \leq e$	$F_a/F_r > e$	$F_a/F_r \leq e$	$F_a/F_r > e$	$F_a/F_r \leq e$	$F_a/F_r > e$	$F_a/F_r \leq e$	$F_a/F_r > e$
30°	0.80	1	0	0.39	0.76	1	0.78	0.63	1.24	0.57	0.93
40°	1.14	1	0	0.35	0.57	1	0.55	0.57	0.93	0.57	0.93

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

Contact Angle		Static Equivalent Load $P_0 = X_0 F_r + Y_0 F_a$									
		Single, DT					DB or DF				
		X_0	Y_0	X_0	Y_0	X_0	Y_0	X_0	Y_0	X_0	Y_0
30°	0.5	0.33	1	0.66	0.66	0.5	0.33	1	0.66	0.66	0.66
40°	0.5	0.26	1	0.52	0.52	0.5	0.26	1	0.52	0.52	0.52

 Single or DT mounting When $F_r > 0.5 F_r + Y_0 F_a$ use $P_0 = F_r$

Boundary Dimensions (mm)					Basic Load Ratings (Single)		Factor f_0	Limiting Speeds ⁽¹⁾ (min ⁻¹)		Eff. Load Center (mm) a	Abutment and Fillet Dimensions (mm)			Mass (kg) approx.	Bearing Designations ⁽²⁾ Cage Designation ⁽⁴⁾				Basic Load Ratings (Matched) ^(N)		Limiting Speeds ⁽¹⁾ (Matched) (min ⁻¹)		Load Center Spacings (mm) a_0		Abutment and Fillet Dimensions (mm)		
d	D	B	r min.	r_1 min.	C_r	C_{0r}		Grease	Oil		d_a min.	D_a max.	r_a max.		Single	Standard	Option	Arrangement	C_r	C_{0r}	Grease	Oil	DB	DF	d_b ⁽³⁾ min.	D_b max.	r_b ⁽³⁾ max.
17	35	10	0.3	0.15	7 050	3 800	—	17 000	24 000	12.5	19.5	32.5	0.3	0.040	7003 A	W	(M), T, TYN	DB DF DT	11 500	7 650	14 000	19 000	25.0	5.0	18.2	33.8	0.15
	40	12	0.6	0.3	11 900	6 000	—	16 000	22 000	14.2	22	35	0.6	0.067	7203 A	W	(M), T, TYN	DB DF DT	19 300	12 000	13 000	17 000	28.5	4.5	19.5	37.5	0.3
	40	12	0.6	0.3	10 900	5 500	—	11 000	15 000	18.0	22	35	0.6	0.068	7203 B	W	(M), T	DB DF DT	17 800	11 000	9 000	12 000	35.9	11.9	19.5	37.5	0.3
	40	12	0.6	0.3	12 100	6 100	—	16 000	22 000	18.2	22	35	0.6	0.065	*7203 BEA	T85	T7	— — —	—	—	13 000	18 000	36.3	12.3	19.5	37.5	0.3
	47	14	1	0.6	17 500	8 650	—	11 000	15 000	16.2	23	41	1	0.116	7303 A	W	(M), T	DB DF DT	28 500	17 300	9 000	12 000	32.5	4.5	22	42	0.6
	47	14	1	0.6	16 300	8 000	—	10 000	14 000	20.4	23	41	1	0.118	7303 B	W	(M), T	DB DF DT	26 400	16 000	8 000	11 000	40.9	12.9	22	42	0.6
	47	14	1	0.6	17 600	8 300	—	14 000	20 000	20.4	23	41	1	0.113	*7303 BEA	T85	—	— — —	—	—	11 000	16 000	40.9	12.9	22	42	0.6
	47	14	1	0.6	15 900	8 300	—	13 000	18 000	16.7	26	41	1	0.106	7004 A	W	(M), T, TYN	DB DF DT	25 900	16 600	11 000	15 000	33.3	5.3	25	42	0.6
	47	14	1	0.6	14 700	7 650	—	9 500	13 000	21.1	26	41	1	0.109	7204 A	W	(M), T, TYN	DB DF DT	23 800	15 300	7 500	11 000	42.1	14.1	25	42	0.6
	47	14	1	0.6	16 300	8 150	—	13 000	19 000	21.1	26	41	1	0.103	*7204 BEA	T85	T7	— — —	—	—	11 000	16 000	42.1	14.1	25	42	0.6
20	42	12	0.6	0.3	11 900	6 600	—	14 000	20 000	14.9	25	37	0.6	0.068	7004 A	W	(M), T, TYN	DB DF DT	19 400	13 200	12 000	16 000	29.9	5.9	22.5	39.5	0.3
	47	14	1	0.6	15 900	8 300	—	13 000	18 000	16.7	26	41	1	0.106	7204 A	W	(M), T, TYN	DB DF DT	25 900	16 600	11 000	15 000	33.3	5.3	25	42	0.6
	47	14	1	0.6	14 700	7 650	—	9 500	13 000	21.1	26	41	1	0.109	7204 B	W	(M), T	DB DF DT	23 800	15 300	7 500	11 000	42.1	14.1	25	42	0.6
	47	14	1	0.6	16 300	8 150	—	13 000	19 000	21.1	26	41	1	0.103	*7204 BEA	T85	T7	— — —	—	—	11 000	16 000	42.1	14.1	25	42	0.6
	52	15	1.1	0.6	20 600	10 400	—	10 000	13 000	17.9	27	45	1	0.146	7304 A	W	(M), T	DB DF DT	33 500	20 800	8 000	11 000	35.8	5.8	25	47	0.6
	52	15	1.1	0.6	19 100	9 650	—	9 000	12 000	22.6	27	45	1	0.150	7304 B	W	(M), T	DB DF DT	31 000	19 300	7 100	10 000	45.2	15.2	25	47	0.6
25	47	12	0.6	0.3	12 400	7 400	—	12 000	17 000	16.4	30	42	0.6	0.079	*7304 BEA	T85	MR, T7	— — —	—	—	10 000	14 000	45.2	15.2	25	47	0.6
	52	15	1	0.6	17 800	10 300	—	12 000	16 000	18.6	31	46	1	0.130	7005 A	W	(M), T, TYN	DB DF DT	20 200	14 800	10 000	14 000	32.8	8.8	27.5	44.5	0.3
	52	15	1	0.6	16 300	9 400	—	8 500	11 000	23.7	31	46	1	0.133	7205 A	W	(M), T, TYN	DB DF DT	29 000	20 500	9 500	13 000	37.2	7.2	30	47	0.6
	52	15	1	0.6	18 400	10 200	—	12 000	17 000	23.7	31	46	1	0.127	7205 B	W	(M), T	DB DF DT	26 400	18 800	6 700	9 000	47.3	17.3	30	47	0.6
	62	17	1.1	0.6	29 100	15 800	—	8 500	11 000	21.1	32	55	1	0.235	*7205 BEA	T85	T7	— — —	—	—	9 500	14 000	47.3	17.3	30	47	0.6
	62	17	1.1	0.6	29 100	15 800	—	8 500	11 000	21.1	32	55	1	0.235	7305 A	W	(M), T	DB DF DT	47 000	31 500	6 700	9 000	42.1	8.1	30	57	0.6

- Notes** ⁽¹⁾ For applications operating near the limiting speed, refer to Page C077.
⁽²⁾ Suffixes A and B represent contact angles of 30° and 40° respectively.
⁽³⁾ Use the values of d_a (min) and r_a (max) for bearings with “—” in the d_b column.

- Note** ⁽⁴⁾ Cage designation (M) is usually omitted from the bearing designation.
Remark Bearings with an asterisk (*) are high-accuracy angular contact ball bearings. In arrangements, they are limited to SU universal matching types. See Page C073 for details.