

ANGULAR CONTACT BALL BEARINGS
SINGLE/MATCHED MOUNTINGS
Bore Diameter 100 – 120 mm

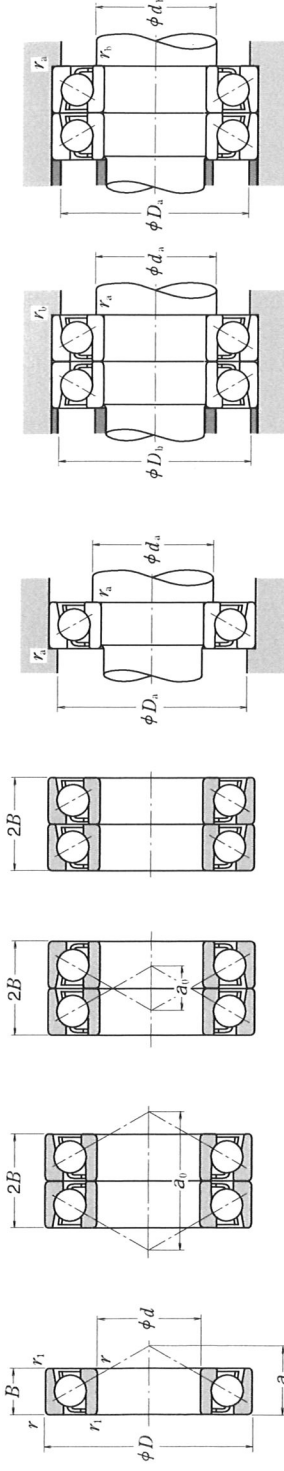
Dynamic Equivalent Load $P = X F_r + Y F_a$

Contact Angle	e	Single DT				DB or DF			
		$F_r/F_a \leq e$	$F_r/F_a > e$	$F_r/F_a \leq e$	$F_r/F_a > e$	$F_r/F_a \leq e$	$F_r/F_a > e$	$F_r/F_a \leq e$	$F_r/F_a > e$
15°	0.178	0.38	1	0	0.44	1	0.44	1	0.44
	0.267	0.40	1	0	0.44	1	0.44	1	0.44
	0.357	0.43	1	0	0.44	1	0.44	1	0.44
	0.447	0.46	1	0	0.44	1	0.44	1	0.44
	0.537	0.49	1	0	0.44	1	0.44	1	0.44
25°	0.178	0.38	1	0	0.44	1	0.44	1	0.44
	0.267	0.40	1	0	0.44	1	0.44	1	0.44
	0.357	0.43	1	0	0.44	1	0.44	1	0.44
	0.447	0.46	1	0	0.44	1	0.44	1	0.44
	0.537	0.49	1	0	0.44	1	0.44	1	0.44
30°	0.178	0.38	1	0	0.44	1	0.44	1	0.44
	0.267	0.40	1	0	0.44	1	0.44	1	0.44
	0.357	0.43	1	0	0.44	1	0.44	1	0.44
	0.447	0.46	1	0	0.44	1	0.44	1	0.44
	0.537	0.49	1	0	0.44	1	0.44	1	0.44
40°	0.178	0.38	1	0	0.44	1	0.44	1	0.44
	0.267	0.40	1	0	0.44	1	0.44	1	0.44
	0.357	0.43	1	0	0.44	1	0.44	1	0.44
	0.447	0.46	1	0	0.44	1	0.44	1	0.44
	0.537	0.49	1	0	0.44	1	0.44	1	0.44

For r_1 , 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	X_0	Y_0	X_0	Y_0	X_0	Y_0
15°	0.5	0.46	1	0.92	0.5	0.46	1	0.92
25°	0.5	0.38	1	0.76	0.5	0.38	1	0.76
30°	0.5	0.33	1	0.66	0.5	0.33	1	0.66
40°	0.5	0.26	1	0.52	0.5	0.26	1	0.52



Boundary Dimensions				Basic Load Ratings				Factor	Limiting Speeds (1)		Eff. Load Centers (mm)	Abutment and Fillet Dimensions (mm)		Mass (kg)	Bearing Numbers (2)				Basic Load Ratings (Matched)		Limiting Speeds (3) (Matched)		Load Center Spacings (mm)		Abutment and Fillet Dimensions (mm)				
d	D	B	r	r ₁	C ₁	C ₀	f ₀	Grease	Oil	a	d _a	D _a	r _a		Single	Standard	Option	Duplex	C ₁	C ₀	Grease	Oil	DB	DF	d _h (4)	D _h	r _s (4)	max.	
100	150	24	1.5	1	75 500	77 000	16.0	6 300	9 000	28.7	109	141	1.5	1.46	7020 C	(M)	T, T.YN	DB	DF	DT	122 000	154 000	5 300	7 100	57.5	9.5	144	1	
	180	34	2.1	1.1	144 000	126 000	—	3 200	4 300	57.4	112	168	2	3.22	7220 A	W	(M), T, T.YN	DB	DF	DT	233 000	251 000	2 600	3 400	114.8	46.8	107	173	1
	180	34	2.1	1.1	130 000	114 000	—	2 200	3 000	75.7	112	168	2	3.28	7220 B	W	(M), T	DB	DF	DT	212 000	229 000	1 800	2 400	151.5	83.5	107	173	1
	180	34	2.1	1.1	136 000	122 000	—	3 200	4 500	75.7	112	168	2	3.27	7220 BEA	T85	MR	DB	DF	DT	242 000	254 000	2 600	3 600	151.5	83.5	107	173	1
	180	34	2.1	1.1	149 000	127 000	14.5	5 600	8 000	35.7	112	168	2	3.65	7220 C	(M)	W, T, T.YN	DB	DF	DT	335 000	355 000	1 800	2 400	137.9	43.9	107	208	1
	215	47	3	1.1	207 000	193 000	—	2 200	3 000	69.0	114	201	2.5	7.29	7320 A	W	(M), T	DB	DF	DT	310 000	355 000	1 600	2 200	179.2	85.2	107	208	1
	215	47	3	1.1	190 000	178 000	—	2 000	2 800	89.6	114	201	2.5	7.43	7320 B	W	(M), T	DB	DF	DT	310 000	355 000	1 800	2 200	179.2	85.2	107	208	1
	215	47	3	1.1	202 000	187 000	—	2 800	4 000	89.6	114	201	2.5	7.14	7320 BEA	T85	MR, T7	DB	DF	DT	310 000	355 000	2 200	3 200	179.2	85.2	107	208	1
	145	20	1.1	0.6	48 000	54 000	—	5 600	7 500	39.2	112	138	1	0.820	7921 A5	(M)	T, T.YN	DB	DF	DT	78 500	108 000	4 300	6 000	78.3	38.3	—	140	0.6
	145	20	1.1	0.6	51 000	57 000	16.6	6 300	9 000	26.7	112	138	1	0.826	7921 C	(M)	T, T.YN	DB	DF	DT	83 000	114 000	5 300	7 100	53.5	13.5	—	140	0.6
105	160	26	2	1	80 000	81 500	—	4 300	5 600	51.2	115	150	2	1.84	7021 A	(M)	T, T.YN	DB	DF	DT	130 000	163 000	3 400	4 500	102.5	50.5	—	154	1
	160	26	2	1	88 000	89 500	15.9	6 000	8 500	30.7	115	150	2	1.82	7021 C	(M)	T, T.YN	DB	DF	DT	143 000	179 000	4 800	6 700	61.5	9.5	—	154	1
	190	36	2.1	1.1	157 000	142 000	—	3 000	4 000	60.6	117	178	2	3.84	7221 A	W	(M), T	DB	DF	DT	254 000	283 000	2 400	3 400	121.2	49.2	112	183	1
	190	36	2.1	1.1	142 000	129 000	—	2 200	3 000	79.9	117	178	2	3.92	7221 B	W	(M), T	DB	DF	DT	231 000	258 000	1 700	2 400	159.8	87.8	112	183	1
	190	36	2.1	1.1	148 000	133 000	—	3 000	4 500	79.9	117	178	2	3.69	7221 BEA	T85	—	DB	DF	DT	264 000	286 000	2 400	3 600	159.8	87.8	112	183	1
	190	36	2.1	1.1	162 000	143 000	14.5	5 300	7 500	37.7	117	178	2	4.33	7221 C	(M)	W, T, T.YN	DB	DF	DT	335 000	355 000	2 200	3 000	144.3	46.3	—	183	1
	225	49	3	1.1	208 000	193 000	—	2 600	3 600	72.1	119	211	2.5	9.34	7321 A	(M)	T	DB	DF	DT	310 000	355 000	1 900	2 600	187.4	89.4	—	218	1
	225	49	3	1.1	191 000	177 000	—	2 400	3 200	93.7	119	211	2.5	9.43	7321 B	(M)	T	DB	DF	DT	310 000	355 000	2 200	3 200	187.4	89.4	—	218	1
	225	49	3	1.1	213 000	203 000	—	2 600	4 000	93.7	119	211	2.5	8.12	7321 BEA	T85	T7	DB	DF	DT	310 000	355 000	2 200	3 200	187.4	89.4	—	218	1
	150	20	1.1	0.6	49 000	56 000	—	5 300	7 100	40.3	117	143	1	0.877	7922 A5	(M)	T, T.YN	DB	DF	DT	79 500	112 000	4 300	5 600	80.6	40.6	—	145	0.6
110	150	20	1.1	0.6	52 000	59 500	16.7	6 300	8 500	27.4	117	143	1	0.867	7922 C	(M)	T, T.YN	DB	DF	DT	84 500	119 000	5 000	6 700	54.8	14.8	—	145	0.6
	170	28	2	1	96 500	95 500	—	4 000	5 300	54.4	120	160	2	2.28	7022 A	(M)	T, T.YN	DB	DF	DT	157 000	191 000	3 200	4 300	108.8	52.8	—	164	1
	170	28	2	1	106 000	104 000	15.6	5 600	8 000	32.7	120	160	2	2.26	7022 C	W	T, T.YN	DB	DF	DT	172 000	208 000	4 500	6 300	65.5	9.5	—	164	1
	200	38	2.1	1.1	170 000	158 000	—	2 800	3 800	63.7	122	188	2	4.49	7222 A	W	(M), T, T.YN	DB	DF	DT	276 000	315 000	2 200	3 200	127.5	51.5	117	193	1
	200	38	2.1	1.1	154 000	144 000	—	2 000	2 800	84.0	122	188	2	4.58	7222 B	W	(M), T	DB	DF	DT	250 000	289 000	1 600	2 200	163.1	92.1	117	193	1
	200	38	2.1	1.1	154 000	144 000	—	2 800	4 300	84.0	122	188	2	4.48	7222 BEA	T85	MR	DB	DF	DT	286 000	320 000	2 400	3 400	163.1	92.1	117	193	1
	200	38	2.1	1.1	176 000	160 000	14.5	5 000	7 100	39.8	122	188	2	5.10	7222 C	(M)	W, T, T.YN	DB	DF	DT	360 000	430 000	2 000	2 600	151.0	51.0	—	233	1
	240	50	3	1.1	220 000	215 000	—	2 600	3 400	75.5	124	226	2.5	11.1	7322 A	(M)	W, T	DB	DF	DT	325 000	395 000	1 800	2 400	196.8	96.8	—	233	1
	240	50	3	1.1	201 000	197 000	—	2 200	3 000	98.4	124	226	2.5	11.2	7322 B	(M)	W, T	DB	DF	DT	325 000	395 000	2 000	2 600	196.8	96.8	—	233	1
	240	50	3	1.1	226 000	226 000	—	2 600	3 800	98.4	124	226	2.5	9.91	7322 BEA	T85	MR	DB	DF	DT	325 000	395 000	2 000	3 000	196.8	96.8	—	233	1
120	165	22	1.1	0.6	67 500	77 000	—	4 800	6 300	44.2	127	158	1	1.15	7924 A5	(M)	T, T.YN	DB	DF	DT	110 000	154 000	3 800	5 300	88.5	44.5	—	160	0.6
	165	22	1.1	0.6	72 000	81 000	16.5	5 600	7 500	30.1	127	158	1	1.15	7924 C	(M)	T, T.YN	DB	DF	DT	117 000	162 000	4 500	6 300	60.2	16.2	—	160	0.6
	180	28	2	1	102 000	107 000	—	3 600	5 000	57.3	130	170	2	2.45	7024 A	(M)	T, T.YN	DB	DF	DT	166 000	213 000	3 000	4 000	114.6	58.6	—	174	1
	215	40	2.1	1.1	183 000	177 000	—	3 200	4 500	68.3	132	203	2	6.22	7224 A	(M)	T	DB	DF	DT	297 000	355 000	2 600	3 600	136.7	56.7	—	208	1
	215	40	2.1	1.1	165 000	162 000	—	2 400	3 200	90.3	132	203	2	6.26	7224 B	(M)	T	DB	DF	DT	269 000	325 000	1 900	2 600	180.5	100.5	—	208	1
260	55	3	1.1	246 000	252 000	—	2 200	3 000	82.3	134	246	2.5	14.5	7324 A	(M)	MR, T7	DB	DF	DT	365 000	460 000	1 800	2 400	164.7	54.7	—	253	1	
260	55	3	1.1	225 000	231 000	—	2 000	2 800	107.2	134	246	2.5	14.4	7324 B	(M)	T	DB	DF	DT	365 000	460 000	1 900	2 200	141.4	104.4	—	253	1	
260	55	3	1.1	235 000	230 000	—	2 200	3 400	107.2	134	246	2.5	12.8	7324 BEA	T85	MR	DB	DF	DT	365 000	460 000	1 900	2 600	141.4	104.4	—	253	1	