

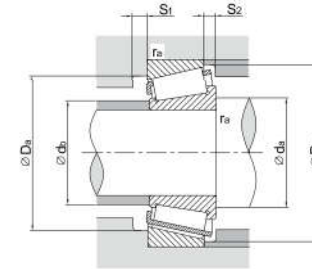
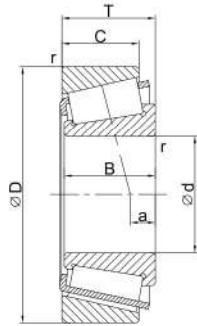
Tapered Roller Bearings

Tapered roller bearings can accommodate combined radial and axial loads but mainly radial load. While taper roller bearings with larger contact angle can bear combined radial and axial loads but mainly axial load.

Tapered roller bearing are of separated bearing, the cone (inner ring and rollers & cage assembly) and the cup can be installed separately. In process of installation and use, radial and axial clearance of bearings can be adjusted, and pre-interference installation is also possible.



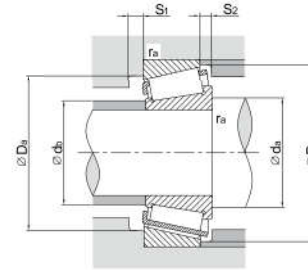
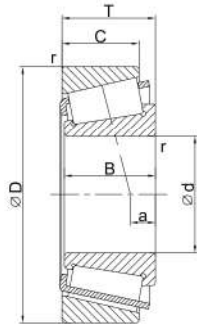
d: 15 ~ 30 mm



d	Principal Dimensions (mm)						Bearing Designations	Basic Load Ratings (N)		Limiting Speed (rpm)		Abutment and Fillet Dimensions (mm)								Eff. Load Centers (mm) a	Calculation Factors			Weight (kg)
	D	T	B	C	Cone	Cup		Dynamic Cr	Static Cor	Grease	Oil	da (min)	db (max)	Da (min)	Db (min)	S1 (min)	S2 (min)	Cone r(min)	Cup r(min)		e	Y1	Y2	
	r(min)	r(min)																						
15	35	11.75	11	10	0.6	0.6	30202	14800	13200	11000	15000	23	19	30	30	2	1.5	0.6	0.6	3.55	0.32	1.9	1	0.053
	42	14.25	13	11	1	1	30302	23600	21100	9500	13000	24	22	36	36	2	3	1	1	4.75	0.29	2.1	1.2	0.098
17	40	13.25	12	11	1	1	30203	20100	19900	9500	13000	26	23	34	37.5	2	2	1	1	3.55	0.35	1.7	0.96	0.079
	40	17.25	16	14	1	1	32203	27100	28000	9500	13000	26	22	34	37	2	3	1	1	6.05	0.31	1.9	1.1	0.103
	47	15.25	14	12	1	1	30303	29200	26700	8500	12000	26	24	40	43	2	3	1	1	4.85	0.29	2.1	1.2	0.134
20	47	20.25	19	16	1	1	32303	37500	36500	8500	11000	28	23	39	43	2	4	1	1	7.75	0.29	2.1	1.2	0.178
	42	15	15	12	0.6	0.6	32004	24600	27400	9000	12000	28	24	35	40	3	3	0.6	0.6	4.4	0.37	1.6	0.88	0.097
	47	15.25	14	12	1	1	30204	27900	28500	8000	11000	29	26	37	44	2	3	1	1	4.25	0.35	1.7	0.96	0.127
	47	19.25	18	15	1	1	32204	35500	37500	8500	11000	29	25	38	44.5	3	4	1	1	6.65	0.33	1.8	1	0.161
	52	16.25	15	13	1.5	1.5	30304	35000	33500	7500	10000	31	27	44	47.5	2	3	1.5	1.5	4.65	0.3	2	1.1	0.172
22	52	22.25	21	18	1.5	1.5	32304	45500	47500	8000	11000	33	26	42	48	3	4	1.5	1.5	8.35	0.3	2	1.1	0.241
	44	15	15	11.5	0.6	0.6	320/22	25600	29400	8500	11000	30	27	37	42	3	3.5	0.6	0.6	3.9	0.4	1.5	0.83	0.103
	50	15.25	14	12	1	1	302/22	29200	30500	7500	10000	31	29	42	47	2	3	1	1	3.65	0.37	1.6	0.9	0.139
	50	19.25	18	15	1	1	322/22	36500	40500	7500	11000	31	28	41	47	2	4	1	1	5.75	0.37	1.6	0.89	0.18
25	56	17.25	16	14	1.5	1.5	303/22	37000	36500	7100	9500	33	30	46	50	2	3	1.5	1.5	4.85	0.32	1.9	1	0.208
	47	15	15	11.5	0.6	0.6	32005	27400	33000	8000	11000	33	30	40	45	3	3.5	0.6	0.6	3.2	0.43	1.4	0.77	0.116
	47	17	17	14	0.6	0.6	33005	31000	38000	8000	11000	33	29	41	44	3	3	0.6	0.6	6	0.29	2.1	1.1	0.131
	52	16.25	15	13	1	1	30205	32000	35000	7100	10000	34	31	44	48.5	2	3	1	1	3.55	0.38	1.6	0.88	0.157
	52	19.25	18	16	1	1	32205	40000	45000	7100	10000	34	30	44	50	2	3	1	1	5.75	0.36	1.7	0.92	0.189
	52	22	22	18	1	1	33205	47500	56500	7500	10000	34	29	43	49.5	4	4	1	1	7.9	0.35	1.7	0.94	0.221
	62	18.25	17	15	1.5	1.5	30305	47500	46000	6300	8500	36	34	54	57	2	3	1.5	1.5	5.05	0.3	2	1.1	0.27
28	62	18.25	17	13	1.5	1.5	31305	38000	40500	5600	8000	39	33	47	59	3	5	1.5	1.5	-1.65	0.83	0.73	0.4	0.265
	62	25.25	24	20	1.5	1.5	32305	62500	66000	6300	8500	38	32	51	57	3	5	1.5	1.5	9.65	0.3	2	1.1	0.376
	52	16	16	12	1	1	320/28	32000	39000	7100	9500	37	33	44	50	3	4	1	1	3.2	0.43	1.4	0.77	0.146
	58	17.25	16	14	1	1	302/28	39500	41500	6300	9000	37	34	50	55	2	3	1	1	4.05	0.35	1.7	0.93	0.203
	58	20.25	19	16	1	1	322/28	47500	54000	6300	9000	34	34	49	55	2	4	1	1	5.65	0.37	1.6	0.89	0.243
30	68	19.75	18	15	1.5	1.5	303/28	55000	55500	6000	8000	39	37	58	61	2	4.5	1.5	1.5	2.35	0.52	1.2	0.64	0.335
	47	12	12	9	0.3	0.3	32906	17600	24400	7500	10000	34	34	42	44	3	3	0.3	0.3	2.8	0.32	1.9	1	0.074
	55	17	17	13	1	1	32006	36000	44500	6700	9000	39	35	47	53	3	4	1	1	3.5	0.43	1.4	0.77	0.172
	55	20	20	16	1	1	33006	42000	54000	6700	9000	39	35	48	52	3	4	1	1	6.9	0.29	2.1	1.1	0.208
	62	17.25	16	14	1	1	30206	43000	47500	6000	8000	39	37	52	58	2	3	1	1	3.35	0.38	1.6	0.88	0.238
	62	21.25	20	17	1	1	32206	52000	60000	6000	8500	39	36	51	58.5	2	4	1	1	5.85	0.38	1.6	0.88	0.297
30	62	25	25	19.5	1	1	33206	66500	79500	6000	8000	39	35	52	59.5	2	5	1	1	7.2	0.55	1.1	0.6	0.293

Note: When load center distance (a) is (-), the load center will be outside of the bearing.

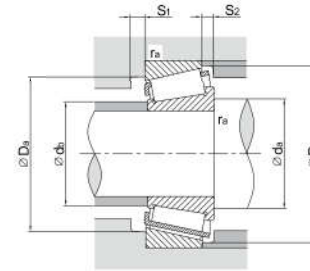
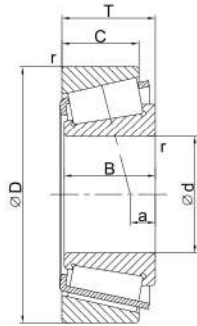
d: 30 ~ 45 mm



d	Principal Dimensions (mm)						Bearing Designations	Basic Load Ratings (N)		Limiting Speed (rpm)		Abutment and Fillet Dimensions (mm)								Eff. Load Centers (mm) a	Calculation Factors			Weight (kg)
	D	T	B	C	Cone	Cup		Dynamic Cr	Static Cor	Grease	Oil	da (min)	db (max)	Da (min)	Db (min)	S1 (min)	S2 (min)	Cone r(min)	Cup r(min)		e	Y1	Y2	
	r(min)	r(min)																						
30	72	20.75	19	16	1.5	1.5	30306	59500	60000	5300	7500	41	40	62	66	3	4.5	1.5	1.5	5.65	0.32	1.9	1.1	0.403
	72	20.75	19	14	1.5	1.5	31306	49000	52500	4800	6800	44	40	55	68	3	6.5	1.5	1.5	-2.35	0.83	0.73	0.4	0.393
	72	28.75	27	23	1.5	1.5	32306	80000	88500	5600	7500	43	38	59	66	3	5.5	1.5	1.5	10.75	0.32	1.9	1.1	0.57
32	58	17	17	13	1	1	320/32	37500	47000	6300	8500	41	37	49	55	3	4	1	1	2.8	0.45	1.3	0.73	0.191
	58	21	20	16	1	1	330/32	41000	50000	6300	8500	41	37	50	55	2	4	1	1	7.2	0.31	1.9	1.1	0.225
	65	18.25	17	15	1	1	302/32	48500	54000	5600	8000	41	39	56	61	3	3	1	1	3.55	0.37	1.6	0.88	0.277
	65	22.25	21	18	1	1	322/32	56000	65000	6000	8000	41	38	54	61	3	4	1	1	6.35	0.37	1.6	0.88	0.336
	65	26	26	20.5	1	1	332/32	70000	86500	5600	8000	41	38	55	62	5	5.5	1	1	9	0.35	1.7	0.95	0.4
	75	21.75	20	17	1.5	1.5	303/32	56000	56000	5300	7100	44	42	64	68	3	4.5	1.5	1.5	5.85	0.33	1.8	1	0.435
35	55	14	14	11.5	0.6	0.6	32907	27400	39000	6300	8500	43	40	50	52.5	3	2.5	0.6	0.6	3.3	0.29	2.1	1.1	0.123
	62	18	18	14	1	1	32007	43500	55500	5600	8000	44	40	54	60	4	4	1	1	3	0.45	1.3	0.73	0.229
	62	21	21	17	1	1	33007	49000	65000	5600	8000	44	40	55	59	4	4	1	1	6.9	0.31	2	1.1	0.267
	72	18.25	17	15	1.5	1.5	30207	54000	59500	5300	7100	46	43	62	67	3	3	1.5	1.5	3.25	0.38	1.6	0.88	0.34
	72	24.25	23	19	1.5	1.5	32207	70500	83500	5300	7100	46	42	61	67.5	3	5	1.5	1.5	6.35	0.38	1.6	0.88	0.456
	72	28	28	22	1.5	1.5	33207	86500	108000	5300	7100	46	41	61	68	5	6	1.5	1.5	9.7	0.35	1.7	0.93	0.54
	80	22.75	21	18	2	1.5	30307	76000	79000	4800	6700	47	45	69	74	3	4.5	2	1.5	6.05	0.32	1.9	1.1	0.538
	80	22.75	21	15	2	1.5	31307	62000	68000	4300	6000	51	44	62	77	3	7.5	2	1.5	-2.45	0.83	0.73	0.4	0.52
80	32.75	31	25	2	1.5	32307	99000	111000	5000	6700	49	43	66	74	3	7.5	2	1.5	12.05	0.32	1.9	1.1	0.765	
40	62	15	15	12	0.6	0.6	32908	34000	47000	5600	7500	48	44	57	59	3	3	0.6	0.6	3.5	0.29	2.1	1.1	0.161
	68	19	19	14.5	1	1	32008	53000	71000	5300	7100	49	45	60	65.5	4	4.5	1	1	4	0.38	1.6	0.87	0.28
	68	22	22	18	1	1	33008	59000	81500	5300	7100	49	45	61	65	4	4	1	1	7.4	0.28	2.1	1.2	0.322
	75	26	26	20.5	1.5	1.5	33108	78500	101000	4800	6700	51	46	65	71	4	5.5	1.5	1.5	8	0.36	1.7	0.93	0.503
	80	19.75	18	16	1.5	1.5	30208	63500	70000	4800	6300	51	48	69	75	3	3.5	1.5	1.5	3.15	0.38	1.6	0.88	0.437
	80	24.75	23	19	1.5	1.5	32208	77000	90500	4800	6300	51	48	68	75	3	5.5	1.5	1.5	5.85	0.38	1.6	0.88	0.548
	80	32	32	25	1.5	1.5	33208	107000	137000	4800	6300	51	46	67	76	5	7	1.5	1.5	11.2	0.36	1.7	0.92	0.744
	90	25.25	23	20	2	1.5	30308	90500	101000	4300	5600	52	52	76	82	3	5	2	1.5	5.75	0.35	1.7	0.96	0.758
	90	25.25	23	17	2	1.5	31308	80000	89500	3800	5300	56	50	70	87	3	8	2	1.5	-3.45	0.83	0.73	0.4	0.728
	90	35.25	33	27	2	1.5	32308	120000	145000	4300	6000	54	50	73	82	3	8	2	1.5	11.85	0.35	1.7	0.96	1.05
45	68	15	15	12	0.6	0.6	32909	34500	50500	5000	6700	53	50	62	64	3	3	0.6	0.6	2.7	0.32	1.9	1	0.187
	75	20	20	15.5	1	1	32009	60000	83000	4500	6300	54	51	67	72	4	4.5	1	1	3.4	0.39	1.5	0.84	0.354
	75	24	24	19	1	1	33009	69000	99000	4800	6300	54	51	67	71	4	5	1	1	7.7	0.29	2	1.1	0.414
	80	26	26	20.5	1.5	1.5	33109	84000	113000	4500	6000	56	51	69	77	4	5.5	1.5	1.5	6.9	0.38	1.6	0.86	0.552
	85	20.75	19	16	1.5	1.5	30209	68500	79500	4300	6000	56	53	74	80	3	4.5	1.5	1.5	2.45	0.41	1.5	0.81	0.488

Note: When load center distance (a) is (-), the load center will be outside of the bearing.

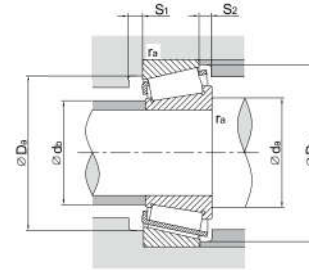
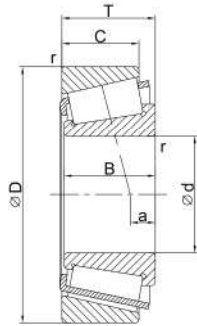
d: 45 ~ 60 mm



Principal Dimensions (mm)							Bearing Designations	Basic Load Ratings (N)		Limiting Speed (rpm)		Abutment and Fillet Dimensions (mm)							Eff. Load Centers (mm) a	Calculation Factors			Weight (kg)	
d	D	T	B	C	Cone r(min)	Cup r(min)		Dynamic Cr	Static Cor	Grease	Oil	da (min)	db (max)	Da (min)	Db (min)	S1 (min)	S2 (min)	Cone r(min)		Cup r(min)	e	Y1		Y2
45	85	24.75	23	19	1.5	1.5	32209	83000	102000	4300	6000	56	53	73	81	3	5.5	1.5	1.5	4.65	0.41	1.5	0.81	0.602
	85	32	32	25	1.5	1.5	33209	111000	147000	4300	6000	56	51	72	81	5	7	1.5	1.5	10	0.39	1.6	0.86	0.817
	100	27.25	25	22	2	1.5	30309	112000	127000	3800	5300	57	58	86	93	3	5	2	1.5	6.15	0.35	1.7	0.96	1.01
	100	27.25	25	18	2	1.5	31309	95500	109000	3400	4800	61	57	79	96	3	9	2	1.5	-4.25	0.83	0.73	0.4	0.947
	100	38.25	36	30	2	1.5	32309	144000	177000	3800	5300	59	56	82	93	3	8	2	1.5	13.25	0.35	1.7	0.96	1.42
50	72	15	15	12	0.6	0.6	32910	36000	54000	4500	6300	58	54	66	69	3	3	0.6	0.6	1.5	0.34	1.8	0.97	0.193
	80	20	20	15.5	1	1	32010	61000	87000	4300	6000	59	56	71	77	4	4.5	1	1	2.1	0.42	1.4	0.78	0.38
	80	24	24	19	1	1	33010	705000	104000	4300	6000	59	55	71	76	4	5	1	1	6.6	0.32	1.9	1	0.452
	85	26	26	20	1.5	1.5	33110	89000	126000	4300	5600	61	56	74	82	4	6	1.5	1.5	5.7	0.41	1.5	0.8	0.597
	90	21.75	20	17	1.5	1.5	30210	76000	91500	4000	5300	61	58	79	85	3	4.5	1.5	1.5	2.15	0.42	1.4	0.79	0.557
	90	24.75	23	19	1.5	1.5	32210	87500	109000	4000	5300	61	57	78	86	3	5.5	1.5	1.5	3.75	0.42	1.4	0.79	0.642
	90	32	32	24.5	1.5	1.5	33210	118000	165000	4000	5300	61	56	76	87	5	7.5	1.5	1.5	8.8	0.41	0.5	0.8	0.867
	110	29.25	27	23	2.5	2	30310	130000	148000	3400	4800	65	65	95	102	3	6	2	2	6.15	0.35	1.7	0.96	1.28
	110	29.25	27	19	2.5	2	31310	114000	132000	3200	4300	70	62	87	105	3	10	2	2	-4.95	0.83	0.73	0.4	1.26
	110	42.25	40	33	2.5	2	32310	176000	220000	3600	4800	68	62	91	102	3	9	2	2	14.35	0.35	1.7	0.96	1.88
55	80	17	17	14	1	1	32911	45500	74500	4300	5600	64	60	73	76	4	3	1	1	2.4	0.31	1.9	1.1	0.282
	90	23	23	17.5	1.5	1.5	32011	81500	117000	3800	5300	66	62	80	86	4	5.5	1.5	1.5	3.3	0.41	1.5	0.81	0.568
	90	27	27	21	1.5	1.5	33011	91500	138000	3800	5300	66	62	80	86	5	6	1.5	1.5	7.8	0.31	1.9	1.1	0.657
	95	30	30	23	1.5	1.5	33111	112000	158000	3800	5000	66	62	82	91	5	7	1.5	1.5	7.6	0.37	1.6	0.88	0.877
	100	22.75	21	18	2	1.5	30211	94500	113000	3600	5000	67	64	89	94	4	4.5	2	1.5	1.85	0.41	1.5	0.81	0.736
	100	26.75	25	21	2	1.5	32211	110000	137000	3600	5000	67	63	87	95	4	5.5	2	1.5	4.05	0.41	1.5	0.81	0.859
	100	35	35	27	2	1.5	33211	141000	193000	3600	5000	67	62	86	96	6	8	2	1.5	9.8	0.4	1.5	0.83	1.18
	120	31.5	29	25	2.5	2	30311	150000	171000	3200	4300	70	71	104	111	4	6.5	2	2	6.9	0.35	1.7	0.96	1.63
	120	31.5	29	21	2.5	2	31311	131000	153000	2800	4000	75	67	94	114	4	10.5	2	2	-5.5	0.83	0.73	0.4	1.58
	120	45.5	43	35	2.5	2	32311	204000	258000	3200	4300	73	67	99	111	4	10.5	2	2	15.6	0.35	1.7	0.96	2.39
60	85	17	17	14	1	1	32912	49000	84500	3800	5300	69	65	78	81	4	3	1	1	1.5	0.33	1.8	1	0.306
	95	23	23	17.5	1.5	1.5	32012	85500	127000	3600	5000	71	66	85	91	4	5.5	1.5	1.5	2.1	0.43	1.4	0.77	0.608
	95	27	27	21	1.5	1.5	33012	96000	150000	3600	5000	71	66	85	90	5	6	1.5	1.5	7	0.33	1.8	1	0.713
	100	30	30	23	1.5	1.5	33112	115000	166000	3400	4800	71	68	88	96	5	7	1.5	1.5	6.4	0.4	1.5	0.83	0.91
	110	23.75	22	19	2	1.5	30212	104000	123000	3400	4500	72	69	96	103	4	4.5	2	1.5	1.75	0.41	1.5	0.81	0.93
	110	29.75	28	24	2	1.5	32212	131000	167000	3400	4500	72	68	95	104	4	5.5	2	1.5	5.65	0.41	1.5	0.81	1.18
	110	38	38	29	2	1.5	33212	166000	231000	3400	4500	72	68	94	105	6	9	2	1.5	10.4	0.4	1.5	0.82	1.56
	130	33.5	31	26	3	2.5	30312	174000	201000	3000	4000	78	77	112	120	4	7.5	2.5	2	7.5	0.35	1.7	0.96	2.03

Note: When load center distance (a) is (-), the load center will be outside of the bearing.

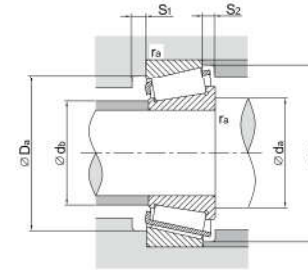
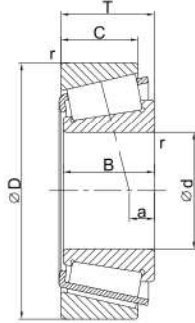
d: 60 ~ 80 mm



d	Principal Dimensions (mm)							Bearing Designations	Basic Load Ratings (N)		Limiting Speed (rpm)		Abutment and Fillet Dimensions (mm)							Eff. Load Centers (mm) a	Calculation Factors			Weight (kg)
	D	T	B	C	Cone r(min)	Cup r(min)	Dynamic Cr		Static Cor	Grease	Oil	da (min)	db (max)	Da (min)	Db (min)	S1 (min)	S2 (min)	Cone r(min)	Cup r(min)		e	Y1	Y2	
60	130	33.5	31	22	3	2.5	31312	151000	177000	2600	3800	84	74	103	125	4	11.5	2.5	2	-6.8	0.83	0.73	0.4	1.98
	130	48.5	46	37	3	2.5	32312	233000	295000	3000	4000	81	74	107	120	4	11.5	2.5	2	17.1	0.35	1.7	0.96	2.96
65	90	17	17	14	1	1	32913	49000	86500	3600	5000	74	70	82	86	4	3	1	1	0.2	0.35	1.7	0.93	0.323
	100	23	23	17.5	1.5	1.5	32013	86500	132000	3400	4500	76	71	90	97	4	5.5	1.5	1.5	0.6	0.46	1.3	0.72	0.646
	100	27	27	21	1.5	1.5	33013	97500	156000	3400	4500	76	71	90	96	5	6	1.5	1.5	5.9	0.35	1.7	0.95	0.76
	110	34	34	26.5	1.5	1.5	33113	148000	218000	3200	4300	76	73	96	106	6	7.5	1.5	1.5	8	0.39	1.5	0.85	1.32
	120	24.75	23	20	2	1.5	30213	122000	151000	3000	4000	77	78	106	113	4	4.5	2	1.5	0.95	0.41	1.5	0.81	1.18
	120	32.75	31	27	2	1.5	32213	157000	202000	3000	4000	77	75	104	115	4	5.5	2	1.5	5.65	0.41	1.5	0.81	1.55
	120	41	41	32	2	1.5	33213	202000	282000	3000	4000	77	74	102	115	6	9	2	1.5	11.8	0.39	1.5	0.85	2.04
	140	36	33	28	3	2.5	30313	200000	233000	2600	3600	83	83	121	130	4	8	2.5	2	8.1	0.35	1.7	0.96	2.51
	140	36	33	23	3	2.5	31313	173000	205000	2400	3400	89	80	111	133	4	13	2.5	2	-7.2	0.83	0.73	0.4	2.43
	140	51	48	39	3	2.5	32313	267000	340000	2800	3800	86	80	116	130	4	12	2.5	2	17	0.35	1.7	0.96	3.6
70	100	20	20	16	1	1	32914	70000	113000	3200	4500	79	76	93	96	4	4	1	1	2.4	0.32	1.9	1.1	0.494
	110	25	25	19	1.5	1.5	32014	104000	158000	3200	4300	81	77	98	105	5	6	1.5	1.5	1.3	0.43	1.4	0.76	0.869
	110	31	31	25.5	1.5	1.5	33014	127000	204000	3000	4300	81	78	100	105	5	6.5	1.5	1.5	8.8	0.28	2.1	1.2	1.11
	120	37	37	29	2	1.5	33114	177000	262000	3000	4000	82	79	104	115	6	8	2	1.5	9.1	0.38	1.6	0.87	1.71
	125	26.25	24	21	2	1.5	30214	132000	163000	2800	4000	82	81	110	118	4	5	2	1.5	0.55	0.42	1.4	0.79	1.3
	125	33.25	31	27	2	1.5	32214	157000	205000	2800	4000	82	80	108	119	4	6	2	1.5	4.65	0.42	1.4	0.79	1.66
	125	41	41	32	2	1.5	33214	209000	299000	2800	4000	82	78	107	120	7	9	2	1.5	10.6	0.41	1.5	0.81	2.15
	150	38	35	30	3	2.5	30314	227000	268000	2400	3400	88	89	132	140	4	8	2.5	2	8.3	0.35	1.7	0.96	3.03
	150	38	35	25	3	2.5	31314	192000	229000	2200	3200	94	85	118	142	4	13	2.5	2	-7.7	0.83	0.73	0.4	2.94
150	54	51	42	3	2.5	32314	300000	390000	2600	3400	91	86	124	140	4	12	2.5	2	18	0.35	1.7	0.96	4.35	
75	105	20	20	16	1	1	32915	72500	120000	3200	4300	84	81	98	101	4	4	1	1	1.3	0.33	1.8	0.99	0.53
	115	25	25	19	1.5	1.5	32015	109000	171000	3000	4000	86	82	103	110	5	6	1.5	1.5	-0.1	0.46	1.3	0.72	0.925
	115	31	31	25.5	1.5	1.5	33015	133000	220000	3000	4000	86	83	104	110	6	5.5	1.5	1.5	8	0.3	2	1.1	1.18
	125	37	37	29	2	2	33115	182000	275000	2800	3800	87	83	109	120	6	8	2	2	7.9	0.4	1.5	0.83	1.8
	130	27.25	25	22	2	1.5	30215	143000	182000	2800	3800	87	85	115	124	4	5	2	1.5	0.25	0.44	1.4	0.76	1.43
	130	33.25	31	27	2	1.5	32215	165000	219000	2800	3800	87	84	113	125	4	6	2	1.5	3.45	0.44	1.4	0.76	1.72
	130	41	41	31	2	1.5	33215	215000	315000	2800	3800	87	83	111	125	7	10	2	1.5	9.4	0.43	1.4	0.77	2.25
	160	40	37	31	3	2.5	300315	253000	300000	2400	3200	93	95	141	149	4	9	2.5	2	8.2	0.35	1.7	0.96	3.63
	160	40	37	26	3	2.5	31315	211000	251000	2200	3000	99	91	129	152	6	14	2.5	2	-8.7	0.83	0.73	0.4	3.47
160	58	55	45	3	2.5	32315	340000	445000	2400	3200	96	91	134	149	4	13	2.5	2	19.1	0.35	1.7	0.96	5.31	
80	110	20	20	16	1	1	32916	75000	128000	3000	4000	89	85	102	106	4	4	1	1	0.2	0.35	1.7	0.94	0.56

Note: When load center distance (a) is (-), the load center will be outside of the bearing.

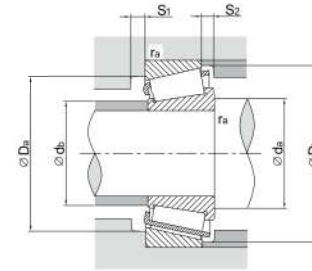
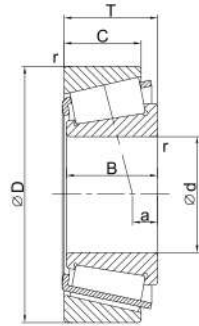
d: 80 ~ 95 mm



d	Principal Dimensions (mm)						Bearing Designations	Basic Load Ratings (N)		Limiting Speed (rpm)		Abutment and Fillet Dimensions (mm)						Eff. Load Centers (mm) a	Calculation Factors			Weight (kg)		
	D	T	B	C	Cone	Cup		Dynamic Cr	Static Cor	Grease	Oil	da (min)	db (max)	Da (min)	Db (min)	S1 (min)	S2 (min)		Cone r(min)	Cup r(min)	e		Y1	Y2
	r(min)	r(min)																						
80	125	29	29	22	1.5	1.5	32016	140000	222000	2800	3600	91	89	112	120	6	7	1.5	1.5	2.1	0.42	1.4	0.78	1.32
	125	36	36	29.5	1.5	1.5	33016	172000	282000	2800	3600	91	88	112	119	6	6.5	1.5	1.5	10.5	0.28	2.2	1.2	1.66
	130	37	37	29	2	1.5	33116	186000	289000	2600	3600	82	88	113	126	6	8	2	1.5	6.6	0.42	1.4	0.79	1.88
	140	28.25	26	22	2.5	2	30216	157000	195000	2600	3400	95	91	124	132	4	6	2	2	0.15	0.42	1.4	0.79	1.68
	140	35.25	33	28	2.5	2	32216	192000	254000	2600	3400	95	90	122	134	4	7	2	2	4.65	0.42	1.4	0.79	2.13
	140	46	46	35	2.5	2	33216	256000	385000	2600	3400	95	89	119	135	7	11	2	2	11.2	0.43	1.4	0.78	2.93
	170	42.5	39	33	3	2.5	30316	276000	330000	2200	3000	98	102	150	159	4	9.5	2.5	2	8.5	0.35	1.7	0.96	4.27
	170	42.5	39	27	3	2.5	31316	235000	283000	2000	2800	104	97	136	159	6	15.5	2.5	2	-9.3	0.83	0.73	0.4	4.07
170	61.5	58	48	3	2.5	32316	385000	505000	2200	3000	101	98	143	159	4	13.5	2.5	2	20.2	0.35	1.7	0.96	6.35	
85	120	23	23	18	1.5	1.5	32917	93500	157000	2800	3800	96	92	111	115	5	5	1.5	1.5	2.1	0.33	1.8	1	0.8
	130	29	29	22	1.5	1.5	32017	143000	231000	2600	3600	96	94	116	125	6	7	1.5	1.5	0.8	0.44	1.4	0.75	1.38
	130	36	36	29.5	1.5	1.5	33017	180000	305000	2600	3600	96	94	117	125	6	6.5	1.5	1.5	9.5	0.29	2.1	1.1	1.75
	140	41	41	32	2.5	2	33117	230000	365000	2400	3400	100	94	122	135	7	9	2	2	8.3	0.41	1.5	0.81	2.51
	150	30.5	28	24	2.5	2	30217	184000	233000	2400	3200	100	97	133	141	5	6.5	2	2	0.2	0.42	1.4	0.79	2.12
	150	38.5	36	30	2.5	2	32217	210000	277000	2200	3200	100	96	131	142	5	8.5	2	2	4.7	0.42	1.4	0.79	2.64
	150	49	49	37	2.5	2	33217	281000	415000	2400	3200	100	95	129	144	7	12	2	2	11.7	0.42	1.4	0.79	3.57
	180	44.5	41	34	4	3	30317	310000	375000	2000	2800	106	108	157	167	5	10.5	3	2.5	8.8	0.35	1.7	0.96	5.08
180	44.5	41	28	4	3	31317	261000	315000	1900	2600	113	103	144	169	6	16.5	3	2.5	-10.8	0.83	0.73	0.4	4.88	
180	63.5	60	49	4	3	32317	410000	535000	2000	2800	110	104	151	167	5	14.5	3	2.5	59	0.35	1.7	0.96	7.31	
90	125	23	23	18	1.5	1.5	32918	97000	167000	2600	3600	101	97	116	120	5	5	1.5	1.5	1	0.34	1.8	0.96	0.838
	140	32	32	24	2	1.5	32018	170000	273000	2400	3200	102	99	124	134	6	8	2	1.5	2.3	0.42	1.4	0.78	1.78
	140	39	39	32.5	2	1.5	33018	220000	360000	2400	3200	102	99	129	135	7	6.5	2	1.5	11.1	0.27	2.2	1.2	2.21
	150	45	45	35	2.5	2	33118	259000	405000	2400	3200	105	100	132	144	7	10	2	2	9.8	0.4	1.5	0.83	3.14
	160	32.5	30	26	2.5	2	30218	201000	256000	2200	3000	105	103	141	150	5	6.5	2	2	0.8	0.42	1.4	0.79	2.6
	160	42.5	40	34	2.5	2	32218	256000	350000	2200	3000	105	102	139	152	5	8.5	2	2	6.4	0.42	1.4	0.79	3.41
	190	46.5	43	36	4	3	30318	345000	425000	1900	2600	111	114	176	176	5	10.5	3	2.5	9.2	0.35	1.7	0.96	5.91
	190	46.5	43	30	4	3	31318	264000	315000	1800	2400	118	110	152	179	6	16.5	3	2.5	-12.1	0.83	0.73	0.4	5.52
190	67.5	64	53	4	3	32318	450000	590000	2000	2600	115	109	158	177	5	14.5	3	2.5	21	0.35	1.7	0.96	8.6	
95	130	23	23	18	1.5	1.5	32919	98000	172000	2400	3400	106	102	121	125	5	5	1.5	1.5	-0.2	0.36	1.7	0.92	0.877
	145	32	32	24	2	1.5	32019	173000	283000	2400	3200	107	104	131	140	6	8	2	1.5	0.8	0.44	1.4	0.75	1.88
	145	39	39	32.5	2	1.5	33019	231000	390000	2400	3200	107	103	133	139	7	6.5	2	1.5	10.4	0.28	2.2	1.2	2.3
	170	34.5	32	27	3	2.5	30219	223000	286000	2200	2800	113	110	150	159	5	7.5	2.5	2	0.8	0.42	1.4	0.79	3.13
	170	45.5	43	37	3	2.5	32219	289000	400000	2200	2800	113	108	147	161	5	8.5	2.5	2	6.2	0.42	1.4	0.79	4.22

Note: When load center distance (a) is (-), the load center will be outside of the bearing.

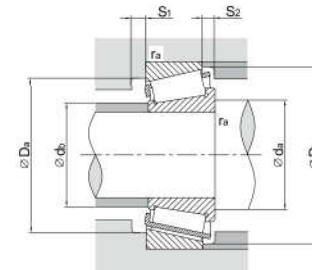
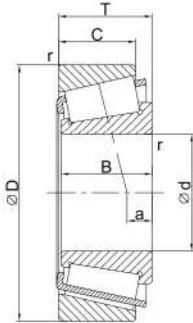
d: 95~120 mm



d	Principal Dimensions (mm)						Bearing Designations	Basic Load Ratings (N)		Limiting Speed (rpm)		Abutment and Fillet Dimensions (mm)						Eff. Load Centers (mm) a	Calculation Factors			Weight (kg)		
	D	T	B	C	Cone r(min)	Cup r(min)		Dynamic Cr	Static Cor	Grease	Oil	da (min)	db (max)	Da (min)	Db (min)	S1 (min)	S2 (min)		Cone r(min)	Cup r(min)	e		Y1	Y2
95	200	49.5	45	38	4	3	30319	370000	455000	1900	2600	116	119	172	184	5	11.5	3	2.5	10.9	0.35	1.7	0.96	6.92
	200	49.5	45	32	4	3	31319	310000	375000	1700	2400	123	115	158	187	6	17.5	3	2.5	-12.4	0.83	0.73	0.4	6.64
	200	71.5	67	55	4	3	32319	525000	710000	1900	2600	120	115	167	186	5	16.5	3	2.5	22.9	0.35	1.7	0.96	10.4
100	140	25	25	20	1.5	1.5	32920	117000	205000	2200	3200	111	109	132	134	5	5	1.5	1.5	0.8	0.33	1.8	1	1.18
	150	32	32	24	2	1.5	32020	176000	294000	2200	3000	112	109	136	144	6	8	2	1.5	-0.5	0.46	1.3	0.72	1.95
	150	39	39	32.5	2	1.5	33020	235000	405000	2200	3000	112	107	137	143	7	6.5	2	1.5	9.7	0.29	2.1	1.2	2.38
	165	52	52	40	2.5	2	33120	315000	515000	2000	2800	115	110	144	159	8	12	2	2	11.5	0.41	1.5	0.81	4.32
	180	37	34	29	3	2.5	30220	255000	330000	2000	2600	118	116	158	168	5	8	2.5	2	0.9	0.42	1.4	0.79	3.78
	180	49	46	39	3	2.5	32220	325000	450000	2000	2600	118	115	155	171	5	10	2.5	2	7.5	0.42	1.4	0.79	5.05
	180	63	63	48	3	2.5	33220	410000	635000	2000	2600	118	113	152	172	10	15	2.5	2	17.1	0.4	1.5	0.82	6.76
	215	51.5	47	39	4	3	30320	425000	525000	1700	2400	121	128	185	197	5	12.5	3	2.5	10.4	0.35	1.7	0.96	8.41
215	56.5	51	35	4	3	31320	385000	505000	1500	2200	136	125	169	202	7	21.5	3	2.5	-11.2	0.83	0.73	0.4	9.02	
215	77.5	73	60	4	3	32320	565000	755000	1700	2400	125	125	178	200	5	17.5	3	2.5	24.3	0.35	1.7	0.96	12.7	
105	145	25	25	20	1.5	1.5	32921	119000	212000	2200	3000	116	114	137	140	5	5	1.5	1.5	-0.3	0.34	1.8	0.96	1.23
	160	35	35	26	2.5	2	32021	204000	340000	2000	2800	120	115	144	154	6	9	2	2	0.7	0.44	1.4	0.74	2.48
	160	43	43	34	2.5	2	33021	256000	435000	2000	2800	120	115	146	153	7	9	2	2	12.1	0.28	2.1	1.2	3.03
	190	39	36	30	3	2.5	30221	280000	365000	1900	2600	123	123	166	177	6	9	2.5	2	0.9	0.42	1.4	0.79	4.51
	190	53	50	43	3	2.5	32221	360000	510000	1900	2600	123	120	162	180	5	10	2.5	2	8.2	0.42	1.4	0.79	6.25
	225	53.5	49	41	4	3	30321	455000	565000	1600	2200	126	133	195	206	6	12.5	3	2.5	10.3	0.35	1.7	0.96	9.52
	225	58	53	36	4	3	31321	415000	540000	1500	2000	141	130	177	211	7	22	3	2.5	-12.2	0.83	0.73	0.4	10
225	81.5	77	63	4	3	32321	670000	925000	1700	2200	130	129	186	209	6	18.5	3	2.5	26.3	0.35	1.7	0.96	14.9	
110	150	25	25	20	1.5	1.5	32922	123000	224000	220	2800	121	119	142	145	5	5	1.5	1.5	-1.5	0.36	1.7	0.93	1.29
	170	38	38	29	2.5	2	32022	236000	390000	2000	2600	125	121	153	163	7	9	2	2	2.1	0.43	1.4	0.77	3.09
	170	47	47	37	2.5	2	33022	294000	515000	2000	2600	125	121	153	161	7	10	2	2	13.3	0.29	2.1	1.2	3.84
	180	56	56	43	2.5	2	33122	365000	610000	1900	2600	125	121	156	174	9	13	2	2	11.9	0.42	1.4	0.79	5.54
	200	41	38	32	3	2.5	30222	315000	420000	1800	2400	128	129	175	187	6	9	2.5	2	0.9	0.42	1.4	0.79	5.28
	200	56	53	46	3	2.5	32222	400000	565000	1800	2400	128	127	171	190	5	10	2.5	2	8.8	0.42	1.4	0.79	7.35
	240	54.5	50	42	4	3	30322	485000	595000	1500	2000	131	143	208	220	6	12.5	3	2.5	9.4	0.35	1.7	0.96	11
	240	63	57	38	4	3	31322	470000	605000	1400	1900	146	136	191	224	7	25	3	2.5	-11.7	0.83	0.73	0.4	12.3
240	84.5	80	65	4	3	32322	675000	910000	1500	2000	135	139	201	222	6	19.5	3	2.5	26	0.35	1.7	0.96	17.1	
120	165	29	29	23	1.5	1.5	32924	161000	291000	1900	2600	131	129	155	160	6	6	1.5	1.5	-0.2	0.35	1.7	0.95	1.8
	180	38	38	29	2.5	2	32024	242000	405000	1800	2400	135	131	162	173	7	9	2	2	-1.7	0.46	1.3	0.72	3.27
	180	48	48	38	2.5	2	33024	300000	540000	1800	2600	135	130	161	171	6	10	2	2	12	0.31	2	1.1	4.2

Note: When load center distance (a) is (-), the load center will be outside of the bearing.

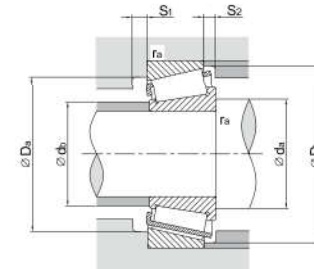
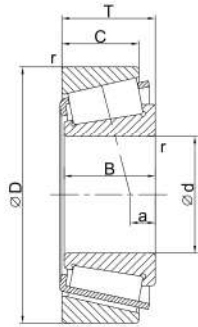
d: 120 ~ 160 mm



d	Principal Dimensions (mm)							Bearing Designations	Basic Load Ratings (N)		Limiting Speed (rpm)		Abutment and Fillet Dimensions (mm)								Eff. Load Centers (mm) a	Calculation Factors			Weight (kg)
	D	T	B	C	Cone	Cup	Dynamic Cr		Static Cor	Grease	Oil	da (min)	db (max)	Da (min)	Db (min)	S1 (min)	S2 (min)	Cone r(min)	Cup	e		Y1	Y2		
	r(min)	r(min)																							
120	200	62	62	48	2.5	2	33124	460000	755000	1700	2400	135	133	173	192	9	14	2	2	14.1	0.4	1.5	0.83	7.67	
	215	43.5	40	34	3	2.5	30224	335000	450000	1600	2200	138	141	190	201	6	9.5	2.5	2	-0.9	0.44	1.4	0.76	6.28	
	215	61.5	58	50	3	2.5	32224	440000	635000	1600	2200	138	137	181	204	6	11.5	2.5	2	9.5	0.44	1.4	0.76	9	
	260	59.5	55	46	4	3	30324	535000	655000	1400	1900	141	154	223	237	6	13.5	3	2.5	9.5	0.35	1.7	0.96	13.9	
	260	68	62	42	4	3	31324	560000	730000	1300	1800	156	148	206	244	9	26	3	2.5	-13.6	0.83	0.73	0.4	15.6	
260	90.5	86	69	4	3	32324	770000	1060000	1400	1900	145	149	216	239	6	21.5	3	2.5	28.1	0.35	1.7	0.96	21.8		
130	180	32	32	25	2	1.5	32926	200000	365000	1800	2400	142	140	168	173	6	7	2	1.5	0.6	0.34	1.8	0.97	2.46	
	200	45	45	34	2.5	2	32026	320000	535000	1600	2200	145	144	179	192	8	11	2	2	1.1	0.43	1.4	0.76	5.06	
	200	55	55	43	2.5	2	33026	395000	715000	1700	2200	145	144	179	192	8	12	2	2	12.6	0.34	1.8	0.97	6.25	
	230	43.75	40	34	4	3	30226	375000	505000	1500	2000	151	151	205	217	7	9.5	3	2.5	-2.05	0.44	1.4	0.76	7.25	
	230	67.75	64	54	4	3	32226	530000	790000	1500	2000	151	147	196	219	7	13.5	3	2.5	10.85	0.44	1.4	0.76	11.3	
	280	63.75	58	49	5	4	30326	650000	820000	1300	1800	157	166	241	255	8	14.5	4	3	11.05	0.35	1.7	0.96	17.2	
	280	72	66	44	5	4	31326	625000	820000	1200	1700	174	159	220	261	9	28	4	3	-15.1	0.83	0.73	0.4	18.8	
280	98.75	93	78	5	4	32326	830000	1150000	1300	1800	162	165	233	263	8	20.5	4	3	29.55	0.36	1.7	0.92	26.6		
140	190	32	32	25	2	1.5	32928	206000	390000	1700	2200	152	150	178	184	6	7	2	1.5	-1.6	0.36	1.7	0.92	2.64	
	210	45	45	34	2.5	2	32028	325000	555000	1600	2200	155	152	189	202	8	11	2	2	-1.6	0.46	1.3	0.72	5.32	
	210	56	56	44	2.5	2	33028	410000	770000	1600	2200	155	153	189	202	7	12	2	2	10.5	0.36	1.7	0.92	6.74	
	250	45.75	42	36	4	3	30228	390000	515000	1400	1900	161	164	221	234	7	9.5	3	2.5	-3.15	0.44	1.4	0.76	8.74	
	250	71.75	68	58	4	3	32228	610000	915000	1400	1900	161	159	213	238	9	13.5	3	2.5	11.25	0.44	1.4	0.76	14.3	
	300	67.75	62	53	5	4	30328	740000	945000	1200	1700	167	177	256	273	9	14.5	4	3	12.05	0.35	1.7	0.96	21.1	
	300	77	70	47	5	4	31328	695000	955000	1100	1500	184	174	236	280	9	30	4	3	-15.8	0.93	0.73	0.4	28.5	
300	107.75	102	85	5	4	32328	985000	1440000	1200	1600	172	177	246	281	9	22.5	4	3	31.35	0.37	1.6	0.88	33.9		
150	210	38	38	30	2.5	2	32930	281000	520000	1500	2000	165	163	196	202	7	8	2	2	1.5	0.33	1.8	1	4.05	
	225	48	48	36	3	2.5	32030	375000	650000	1400	2000	168	164	202	216	8	12	2.5	2	-1.8	0.46	1.3	0.72	6.6	
	225	59	59	46	3	2.5	33030	435000	805000	1400	2000	168	165	203	217	8	13	2.5	2	10.3	0.36	1.7	0.9	8.07	
	270	49	45	38	4	3	30230	485000	665000	1300	1800	171	175	236	250	7	11	3	2.5	-2.3	0.44	1.4	0.76	11.2	
	270	77	73	60	4	3	32230	705000	1080000	1300	1800	171	171	228	254	8	17	3	2.5	12.3	0.44	1.4	0.76	17.8	
	320	72	65	55	5	4	30330	825000	1060000	1100	1600	177	190	276	292	8	17	4	3	12	0.35	1.7	0.96	25	
	320	82	75	50	5	4	31330	790000	1100000	100	1400	194	187	253	300	9	32	4	3	-17.3	0.83	0.73	0.4	28.5	
	320	114	108	90	5	4	32330	1120000	1700000	1100	1500	182	191	262	297	8	24	4	3	32.5	0.37	1.6	0.88	41.4	
160	220	38	38	30	2.5	2	32932	296000	570000	1400	1900	175	173	206	212	7	8	2	2	-0.7	0.35	1.7	0.95	4.32	
	240	51	51	38	3	2.5	32032	425000	750000	1300	1800	178	175	216	231	8	13	2.5	2	-2	0.46	1.3	0.72	7.93	
	290	52	48	40	4	3	30232	530000	730000	1200	1600	181	189	253	269	8	12	3	2.5	-3	0.44	1.4	0.76	13.7	

Note: When load center distance (a) is (-), the load center will be outside of the bearing.

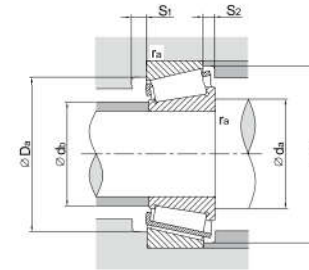
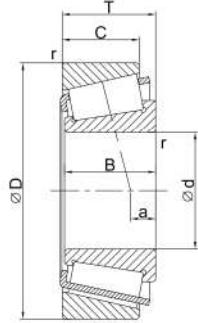
d: 160 ~ 220 mm



d	Principal Dimensions (mm)							Bearing Designations	Basic Load Ratings (N)		Limiting Speed (rpm)		Abutment and Fillet Dimensions (mm)							Eff. Load Centers (mm) a	Calculation Factors			Weight (kg)
	D	T	B	C	Cone	Cup	Dynamic Cr		Static Cor	Grease	Oil	da (min)	db (max)	Da (min)	Db (min)	S1 (min)	S2 (min)	Cone r(min)	Cup		e	Y1	Y2	
	r(min)	r(min)																						
160	290	84	80	67	4	3	32232	795000	1120000	1200	1600	181	184	243	274	10	17	3	2.5	13.5	0.44	1.4	0.76	22.7
	340	75	68	58	5	4	30332	870000	1110000	1100	1400	187	201	293	310	10	17	4	3	12.1	0.35	1.7	0.96	29.2
	340	121	114	95	5	4	32332	1210000	1770000	1000	1400	192	202	281	319	10	26	4	3	33.9	0.37	1.6	0.88	48.3
170	230	38	38	30	2.5	2	32934	294000	560000	1400	1800	185	180	215	222	7	8	2	2	-3.7	0.38	1.6	0.86	4.44
	260	57	57	43	3	2.5	32034	505000	890000	1200	1700	188	187	232	249	10	14	2.5	2	0.4	0.44	1.4	0.74	10.6
	310	57	52	43	5	4	30234	630000	885000	1100	1500	197	202	273	288	8	14	4	3	-2.4	0.44	1.4	0.76	17.1
	310	91	86	71	5	4	32234	930000	1450000	1100	1500	197	197	262	294	10	20	4	3	14.6	0.44	1.4	0.76	28
	360	80	72	62	5	4	30334	960000	1230000	1000	1300	197	214	310	329	10	18	4	3	12.7	0.35	1.7	0.96	34.5
	360	127	120	100	5	4	32334	1370000	2050000	1000	1300	202	213	297	337	10	27	4	3	35.7	0.37	1.6	0.88	57
180	250	45	45	34	2.5	2	32936	350000	685000	1300	1700	195	192	227	241	8	11	2	2	-8.9	0.48	1.3	0.69	6.56
	280	64	64	48	3	2.5	32036	640000	1130000	1200	1600	198	199	248	267	10	16	2.5	2	3.6	0.42	1.4	0.78	14.3
	320	57	52	43	5	4	30236	650000	930000	1100	1400	207	210	281	297	9	14	4	3	-4.8	0.45	1.3	0.73	17.8
	320	91	86	71	5	4	32236	960000	1540000	1100	1400	207	205	270	303	10	20	4	3	12.2	0.45	1.3	0.73	29.8
	380	83	75	64	5	4	30336	935000	1230000	900	1300	207	233	324	345	10	19	4	3	10.6	0.36	1.7	0.92	39.3
	380	134	126	106	5	4	32336	1520000	2290000	950	1300	212	225	310	353	10	28	4	3	37.4	0.27	1.6	0.88	66.8
190	260	45	45	34	2.5	2	32938	365000	715000	1200	1600	205	201	237	251	8	11	2	2	-10.3	0.48	1.3	0.69	6.83
	290	64	64	48	3	2.5	32038	650000	1170000	1100	1500	208	209	258	279	10	16	2.5	2	0.7	0.44	1.4	0.75	14.9
	340	60	55	46	5	4	30238	760000	1080000	1000	1300	217	223	302	318	9	14	4	3	-4.4	0.44	1.4	0.76	21.4
	340	97	92	75	5	4	32238	1110000	1770000	1000	1400	217	216	290	323	10	22	4	3	16.5	0.44	1.4	0.76	35.2
	400	86	78	65	6	5	30338	1010000	1340000	850	1200	223	248	346	366	11	21	5	4	9.9	0.36	1.7	0.92	46
400	140	132	109	6	5	32338	1660000	2580000	850	1200	229	243	332	375	11	31	5	4	37.3	0.37	1.6	0.88	78.9	
200	280	51	51	39	3	2.5	32940	480000	935000	1100	1500	218	216	258	271	9	12	2.5	2	-3.2	0.39	1.5	0.84	9.65
	310	70	70	53	3	2.5	32040	760000	1370000	1000	1400	218	221	277	297	11	17	2.5	2	2.6	0.43	1.4	0.77	18.9
	360	64	58	48	5	4	30240	825000	1180000	950	1300	227	236	318	336	10	16	4	3	-4.7	0.44	1.4	0.76	25.1
	360	104	98	82	5	4	32240	1210000	1920000	950	1300	227	230	305	340	11	22	4	3	18.9	0.41	1.5	0.81	42.6
	420	89	80	67	6	5	30340	1030000	1390000	850	1200	233	253	346	368	11	22	5	4	7.6	0.37	1.6	0.88	52.3
	420	146	138	115	6	5	32340	1820000	2870000	800	1100	239	253	346	392	11	31	5	4	39.3	0.37	1.6	0.88	90.9
220	300	51	51	39	3	2.5	32944	490000	990000	1000	1400	238	235	278	293	9	12	2.5	2	-8.2	0.43	1.4	0.78	10.3
	340	76	76	57	4	3	32044	885000	1610000	950	1300	241	244	303	326	12	19	3	2.5	2.4	0.43	1.4	0.77	24.4
	400	72	65	54	5	4	30244	810000	1150000	850	1100	247	267	350	367	11	18	4	3	-2.6	0.4	1.5	0.82	33.6
	400	114	108	90	5	4	32244	1340000	2210000	850	1100	247	260	340	377	12	24	4	3	21	0.4	1.5	0.82	57.4
	460	97	88	73	6	5	30344	1430000	1990000	750	1000	253	283	390	414	12	24	5	4	11.7	0.36	1.7	0.92	72.4
	460	154	145	122	6	5	32344	2020000	3200000	750	1000	259	274	372	421	12	32	5	4	39.1	0.37	1.6	0.88	114

Note: When load center distance (a) is (-), the load center will be outside of the bearing.

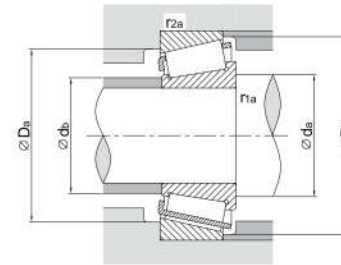
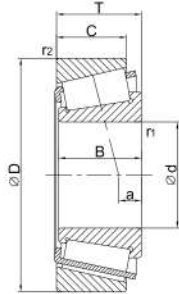
d: 240 ~ 440 mm



d	Principal Dimensions (mm)							Bearing Designations	Basic Load Ratings (N)		Limiting Speed (rpm)		Abutment and Fillet Dimensions (mm)								Eff. Load Centers (mm) a	Calculation Factors			Weight (kg)
	D	T	B	C	Cone	Cup	Dynamic Cr		Static Cor	Grease	Oil	da (min)	db (max)	Da (min)	Db (min)	S1 (min)	S2 (min)	Cone r(min)	Cup	e		Y1	Y2		
	r(min)	r(min)																							
240	320	51	51	39	3	2.5	32948	500000	1040000	950	1300	258	255	297	314	9	12	2.5	2	-14.1	0.46	1.3	0.72	11.1	
	360	76	76	57	4	3	32048	920000	1730000	850	1200	261	262	321	346	12	19	3	2.5	-3.1	0.46	1.3	0.72	26.2	
	440	79	72	60	5	4	30248	990000	1400000	750	1000	267	288	384	408	11	19	4	3	-6.1	0.44	1.4	0.74	45.2	
	440	127	120	100	5	4	32248	1630000	2730000	750	1000	267	285	374	416	12	27	4	3	24.5	0.4	1.5	0.82	78	
	500	105	95	80	6	5	30348	1660000	2340000	670	950	273	308	422	447	12	25	5	4	12.2	0.36	1.7	0.92	92.6	
	500	165	155	132	6	5	32348	2520000	4100000	670	900	279	301	410	464	12	33	5	4	41.8	0.37	1.6	0.88	145	
260	360	63.5	63.5	48	3	2.5	32952	730000	1450000	850	1100	278	278	333	347	11	15.5	2.5	2	-6.3	0.41	1.5	0.81	18.6	
	400	87	87	65	5	4	32052	1160000	2160000	800	1100	287	287	357	383	14	22	4	3	0.7	0.43	1.4	0.76	38.5	
	480	89	80	67	6	5	30252	1190000	1700000	670	900	293	316	421	447	12	22	5	4	-5.5	0.44	1.4	0.74	60.7	
	480	137	130	106	6	5	32252	1900000	3300000	670	950	293	305	394	446	14	31	5	4	21	0.45	1.3	0.73	103	
	540	113	102	85	6	6	30352	1870000	2640000	630	850	293	336	460	487	16	28	5	5	11.4	0.36	1.7	0.92	114	
	540	176	165	136	6	6	32352	2910000	4800000	630	850	293	328	441	495	13	40	5	5	45.5	0.37	1.6	0.88	188	
280	380	63.5	63.5	48	3	2.5	32956	765000	1580000	800	1100	298	297	352	368	12	15.5	2.5	2	-11.8	0.43	1.4	0.76	20	
	420	87	87	65	5	4	32056	1180000	2240000	710	1000	307	305	374	402	14	22	4	3	-4.6	0.46	1.3	0.72	40.6	
	500	89	80	67	6	5	30256	1240000	1900000	630	850	313	339	436	462	12	22	5	4	-9.5	0.44	1.4	0.74	66.3	
	500	137	130	106	6	5	32256	1950000	3450000	630	850	313	325	412	467	14	31	5	4	14	0.47	1.3	0.7	109	
	580	187	175	145	6	6	32356	3300000	5400000	560	800	319	353	475	532	14	42	5	5	47.4	0.37	1.6	0.89	224	
300	420	76	76	57	4	3	32960	1010000	2100000	710	950	321	324	387	405	13	19	3	2.5	-3.9	0.39	1.5	0.84	31.4	
	460	100	100	74	5	4	32060	1440000	2700000	670	900	327	330	408	439	15	26	4	3	1.6	0.43	1.4	0.76	56.6	
	540	96	85	71	6	5	30260	1440000	2100000	600	800	333	355	470	499	14	25	5	4	-9.1	0.44	1.4	0.74	80.6	
	540	149	140	115	6	5	32260	2220000	3700000	600	800	333	352	458	514	15	34	5	4	17.4	0.46	1.3	0.72	132	
320	440	76	76	57	4	3	32964	1040000	2220000	670	900	341	344	406	426	13	19	3	2.5	-9	0.42	1.4	0.79	33.3	
	480	100	100	74	5	4	32064	1510000	2910000	630	850	347	350	430	461	15	26	4	3	-4.5	0.46	1.3	0.72	60	
	580	104	92	75	6	5	30264	1640000	2420000	530	750	353	381	503	533	14	29	5	4	-9.7	0.44	1.4	0.74	99.3	
	580	159	150	125	6	5	32264	2860000	5050000	530	750	353	383	487	550	15	34	5	4	17.4	0.46	1.3	0.72	175	
	670	210	200	170	7.5	7.5	32364	4200000	7100000	480	670	383	412	547	616	14	42	6	6	52.5	0.37	1.6	0.88	343	
340	460	76	76	57	4	3	32968	1050000	2220000	630	850	361	362	427	446	13	19	3	2.5	-15	0.44	1.4	0.75	34.3	
	520	112	106	92	6	5	32068	1650000	3400000	560	750	373	386	464	496	3.5	22	5	4	7.6	0.37	1.6	0.89	83.7	
360	480	76	76	57	4	3	32972	1080000	2340000	560	800	381	381	445	466	13	19	3	2.5	-20.8	0.46	1.3	0.72	36.1	
	540	112	106	92	6	5	32072	1680000	3500000	530	750	393	402	480	514	5.5	22	5	4	3.5	0.38	1.6	0.86	86.5	
380	520	87	82	71	5	4	32976	1210000	2550000	560	750	407	406	478	501	16	16	4	3	-8.2	0.39	1.6	0.86	49.5	
	540	87	82	71	5	4	32980	1250000	2700000	530	710	427	428	499	524	16	16	4	3	-13.8	0.4	1.5	0.82	52.7	
400	600	125	118	100	6	5	32080	1960000	4050000	480	670	433	443	533	565	5	25	5	4	9.7	0.36	1.7	0.92	116	
	560	87	82	72	5	4	32984	1300000	2810000	500	670	447	448	521	544	3.5	15	4	3	-19.1	0.41	1.5	0.81	54.8	
420	620	125	118	100	6	5	32084	2000000	4200000	450	630	453	463	552	586	6.5	25	5	4	5	0.37	1.6	0.88	121	
	440	650	130	122	104	6	6	32088	2230000	4600000	430	600	473	487	582	616	5	26	5	5	3.7	0.36	1.7	0.92	136

Note: When load center distance (a) is (-), the load center will be outside of the bearing.

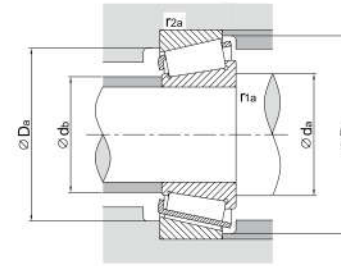
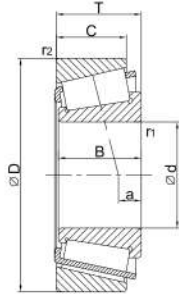
d: 15.875 ~ 25.000 mm



d	Principal Dimensions (mm)						Bearing Designations		Basic Load Ratings (N)		Limiting Speed (rpm)		Abutment and Fillet Dimensions (mm)						Eff. Load Centers (mm) a	Weight (kg)			
	D	T	B	C	r ₁ (min)	r ₂ (min)	Cone	Cup	Dynamic Cr	Static Cor	Grease	Oil	d _a (min)	d _b (max)	D _a (min)	D _b (min)	r _{1a} (max)	r _{2a} (max)		Cone	Cup		
15.875	34.988	10.998	10.998	8.712	1.3	1.3	L21549	L21511	13800	13400	11000	15000			21.5	19.5	29.0	32.5	1.3	1.3	3.3	0.033	0.019
	42.862	14.288	14.288	9.525	1.5	1.5	11590	11520	17800	17800	8500	12000			24.5	22.5	34.5	39.5	1.5	1.5	1.1	0.060	0.040
16.993	39.992	12.014	11.153	9.525	0.8	1.3	A6067	A6157	14900	15700	10000	14000			22.0	21.0	34.0	37.0	0.8	1.3	1.5	0.040	0.032
17.462	39.878	13.843	14.605	10.668	1.3	1.3	LM11749	LM11710	23400	23000	10000	13000			23.0	21.5	34.0	37.0	1.3	1.3	5.2	0.055	0.026
19.050	39.992	12.014	11.153	9.525	1.0	1.3	A6075	A6157	14900	15700	10000	14000			24.0	23.0	34.0	37.0	1.0	1.3	1.5	0.037	0.032
	45.237	15.494	16.637	12.065	1.3	1.3	LM11949	LM11910	28500	28900	9000	12000			25.0	23.5	39.5	41.5	1.3	1.3	5.8	0.080	0.045
	47.000	14.381	14.381	11.112	1.3	1.3	05075	05185	23800	23900	8500	11000			25.0	23.5	40.5	42.5	1.3	1.3	3.9	0.074	0.046
	49.225	18.034	19.050	14.288	1.3	1.3	09067	09195	37500	37500	8500	11000			25.5	24.0	42.0	44.5	1.3	1.3	9.1	0.110	0.065
	49.225	21.209	19.050	17.462	1.3	1.5	09067	09196	37500	37500	8500	11000			25.5	24.0	41.5	44.5	1.3	1.5	7.3	0.110	0.085
	49.225	19.845	21.539	14.288	1.2	1.3	09078	09195	37500	37500	8500	11000			25.5	24.0	42.0	44.5	1.2	1.3	9.1	0.124	0.065
19.987	47.000	14.381	14.381	11.112	1.5	1.3	05079	05185	24900	25400	8500	11000			26	24.0	39	44.5	1.5	3.5	7.3	0.124	0.081
20.638	49.225	19.845	19.845	15.875	1.5	1.5	12580	12520	36000	37000	8000	11000			26.5	24.0	40.5	42.5	1.5	1.3	3.9	0.070	0.046
21.430	50.005	17.526	18.288	13.970	1.3	1.3	M12649	M12610	37000	37500	8000	11000			28.5	26.0	42.5	45.5	1.5	1.5	7.1	0.115	0.066
21.987	45.237	15.494	16.637	12.065	1.3	1.3	LM12749	LM12710	29200	33500	8500	11000			27.5	26.0	40.0	42.5	1.3	1.3	5.5	0.073	0.038
	45.975	15.494	16.637	12.065	1.3	1.3	LM12749	LM12711	29200	33500	8500	11000			27.5	26.0	40.0	42.5	1.3	1.3	5.5	0.078	0.043
22.225	50.005	13.495	14.260	9.525	1.3	1.0	07087	07196	26000	27700	7500	10000			28.5	27.0	44.5	47.0	1.3	1.0	2.9	0.095	0.035
	50.005	17.526	18.288	13.970	1.3	1.3	M12618	M12610	37000	37500	8000	11000			28.5	26.5	44.0	46.0	1.3	1.3	6.4	0.107	0.059
	52.388	19.368	20.168	14.288	1.5	1.5	1380	1328	40500	43000	7500	10000			29.5	27.0	45.0	48.5	1.5	1.5	7.6	0.130	0.067
	53.975	19.368	20.168	14.288	1.5	1.5	1380	1329	40500	43000	7500	10000			29.5	27	46	49	1.5	1.5	7.6	0.131	0.082
23.812	57.150	22.225	22.225	17.462	0.8	1.5	1280	1220	48000	50000	7100	9500			29.5	29.0	49.0	52.0	0.8	1.5	7.9	0.188	0.107
	56.896	19.368	19.837	15.875	0.8	1.3	1779	1729	38000	40500	7100	9500			29.5	28.5	49.0	51.0	0.8	1.3	8.8	0.143	0.100
24.981	50.005	13.495	14.260	9.525	1.5	1.0	07098	07196	26000	27700	7500	10000			31.0	29.0	44.5	47.0	1.5	1.0	2.9	0.085	0.035
	51.994	15.011	14.260	12.700	1.5	1.3	07098	07204	26000	27700	7500	10000			31.0	29.0	45.0	48.0	1.5	1.3	2.9	0.085	0.060
25.000	50.005	13.495	14.260	9.525	1.5	1.0	07097	07196	26000	27700	7500	10000			31.0	29.0	44.5	47.0	1.5	1.0	2.9	0.85	0.035
	51.994	15.011	14.260	12.700	1.5	1.3	07097	07204	26000	27700	7500	10000			31.0	29.0	45.0	48.0	1.5	1.3	2.9	0.85	0.060

Note: When load center distance (a) is (-), the load center will be outside of the bearing.

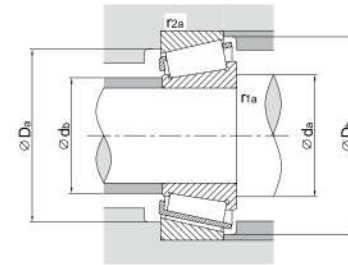
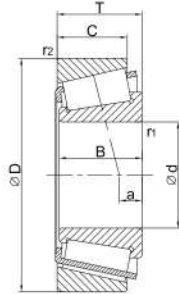
d: 25.400 ~ 30.213 mm



d	Principal Dimensions (mm)						Bearing Designations		Basic Load Ratings (N)		Limiting Speed (rpm)			Abutment and Fillet Dimensions (mm)						Eff. Load Centers (mm) a	Weight (kg)	
	D	T	B	C	r ₁ (min)	r ₂ (min)	Cone	Cup	Dynamic Cr	Static Cor	Grease	Oil		d _a (min)	d _b (max)	D _a (min)	D _b (min)	r _{1a} (max)	r _{2a} (max)		Cone	Cup
25.400	50.005	13.495	14.260	9.525	1.0	1.0	07100	07196	26000	27700	7500	10000		30.5	29.5	44.5	47.0	1.0	1.0	2.9	0.080	0.035
	50.292	14.224	14.732	10.668	1.3	1.3	L44643	L44610	28500	34000	7300	10000		31.5	29.5	44.5	47.0	1.3	1.3	3.3	0.085	0.038
	62.000	19.050	20.638	14.288	0.8	1.3	15101	15245	45000	54500	6000	8000		32.5	31.5	55.0	58.0	0.8	1.3	5.8	0.215	0.080
	62.000	19.050	20.638	14.288	3.5	1.3	15100	15245	45000	54500	6000	8000		38.0	31.5	55.0	58.0	3.5	1.3	4.3	0.215	0.080
	63.500	20.638	20.638	15.875	0.8	1.3	15101	15250	45000	54500	6000	8000		32.5	31.5	56.0	58.0	0.8	1.3	7.4	0.215	0.114
	63.500	20.638	20.638	15.875	3.5	1.3	15100	15250	45000	54500	6000	8000		38.0	31.5	56.0	58.0	3.5	1.3	4.3	0.215	0.114
	65.088	22.225	21.463	15.875	1.5	1.5	23100	23256	43000	45000	5600	8000		39.0	34.5	53.0	61.0	1.5	1.5	2.2	0.210	0.143
26.987	50.292	14.224	14.732	10.668	3.5	1.3	L44649	L44610	28500	34000	7300	10000		37.5	31.0	44.5	47.0	3.5	1.3	3.3	0.080	0.038
	62.000	19.050	20.638	14.288	0.8	1.3	15106	15245	45000	54500	6000	8000		33.5	33.0	55.0	58.0	0.8	1.3	5.8	0.205	0.080
	57.150	19.845	19.355	15.875	3.5	1.5	1988	1922	40000	44500	6700	9000		39.5	33.5	51.0	53.5	3.5	1.5	5.9	0.141	0.077
28.575	68.262	22.225	22.225	17.462	0.8	1.5	02474	02420	55000	64000	5600	7500		36.5	36.0	59.0	63.0	0.8	1.5	5.1	0.251	0.153
	73.025	22.225	22.225	17.462	0.8	3.3	02872	02820	55000	65500	5200	7000		37.5	37.0	62.0	68.0	0.8	3.3	3.8	0.313	0.158
29.987	62.000	16.002	16.566	14.288	1.5	1.5	17118	17244	37000	39500	6300	8500		37.0	34.5	54.0	57.0	1.5	1.5	3.5	0.137	0.090
29.987	62.000	19.050	20.638	14.288	1.3	1.3	15117	15245	45000	54500	6000	8000		36.5	35.0	55.0	58.0	1.3	1.3	5.8	0.190	0.080
	63.500	20.638	20.638	15.875	1.3	1.3	15117	15250	45000	54500	6000	8000		36.5	35.0	56.0	59.0	1.3	1.3	5.8	0.190	0.114
30.162	64.292	21.433	21.433	16.670	1.5	1.5	M86649	M86610	51000	64500	5600	8000		41.0	38	54.0	61.0	1.5	1.5	3.3	0.210	0.125
	62.000	19.050	20.638	14.288	0.8	1.3	15120	15245	45000	54500	6000	8000		36.0	35.5	55.0	58.0	0.8	1.3	5.8	0.183	0.080
30.213	62.000	19.050	20.638	14.288	3.5	1.3	15118	15245	45000	54500	6000	8000		41.5	35.5	55.0	58.0	3.5	1.3	5.8	0.178	0.080
	63.500	20.638	20.638	15.875	0.8	1.3	15120	15250	45000	54500	6000	8000		36.0	35.0	56.0	58.0	0.8	1.3	7.4	0.183	0.114
	63.500	20.638	20.638	15.875	3.5	1.3	15118	15250	45000	54500	6000	8000		41.5	35.5	56.0	58.0	3.5	1.3	7.4	0.178	0.114

Note: When load center distance (a) is (-), the load center will be outside of the bearing.

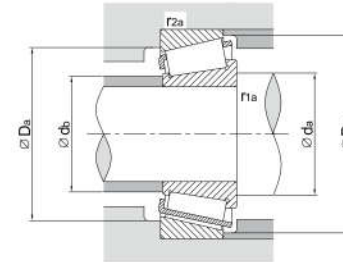
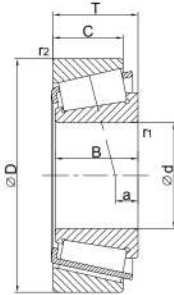
d: 31.750 ~ 36.512 mm



d	Principal Dimensions (mm)						Bearing Designations		Basic Load Ratings (N)		Limiting Speed (rpm)		Abutment and Fillet Dimensions (mm)						Eff. Load Centers (mm) a	Weight (kg)	
	D	T	B	C	r ₁ (min)	r ₂ (min)	Cone	Cup	Dynamic Cr	Static Cor	Grease	Oil	d _a (min)	d _b (max)	D _a (min)	D _b (min)	r _{1a} (max)	r _{2a} (max)		Cone	Cup
31.750	59.131	15.875	16.764	11.811	3.5	1.3	LM67048	LM67010	36500	435000	6000	8500	42.5	36.0	52.0	56.0	3.5	1.3	2.9	0.120	0.062
	62.000	18.161	19.050	14.288	3.5	1.3	15123	15245	43500	51500	6000	8000	42.5	36.5	55.0	58.0	3.5	1.3	5.0	0.155	0.080
	62.000	19.050	20.638	14.288	0.8	1.3	15126	15245	45000	54500	6000	8000	37.0	36.5	55.0	58.0	0.8	1.3	5.8	0.176	0.080
	62.000	19.050	20.638	14.288	3.5	1.3	15126	15245	45000	54500	6000	8000	42.5	36.5	55.0	58.0	3.5	1.3	5.8	0.174	0.080
	63.500	19.748	19.050	15.875	3.5	1.3	15123	15250	45000	54500	6000	8000	42.5	36.5	56.0	59.0	3.5	1.3	7.4	0.155	0.114
	63.500	20.638	20.638	15.875	0.8	1.3	15126	15250	45000	54500	6000	8000	37.0	36.5	56.0	59.0	0.8	1.3	7.3	0.167	0.114
	63.500	20.638	20.638	15.875	3.5	1.3	15125	15250	45000	54500	6000	8000	42.5	36.5	56.0	59.0	3.5	1.3	7.3	0.165	0.114
	66.421	25.400	25.357	20.638	0.8	3.3	2580	2520	71400	85100	5000	7000	38.5	37.5	57.0	62.8	0.8	3.2	9.4	0.279	0.128
	68.262	22.225	22.225	17.462	3.5	1.5	02475	02420	55000	64000	5600	7500	44.5	38.5	59.0	63.0	3.5	1.5	5.1	0.223	0.153
	69.012	19.845	19.583	15.875	3.5	1.3	14125A	14276	47000	56000	5500	7500	44.0	37.5	60.0	63.0	3.5	1.3	4.3	0.220	0.135
	69.012	19.845	19.583	15.875	3.5	3.3	14125A	14274	47000	56000	5500	7500	44.0	37.5	59.0	63.0	3.5	3.3	4.3	0.220	0.130
	69.850	23.812	25.357	19.050	0.8	1.3	2580	2523	70000	84000	5600	7500	38.5	37.5	61.0	64.0	0.8	1.3	8.6	0.290	0.165
33.338	68.262	22.225	22.225	17.462	0.8	1.5	M88048	M88010	56500	71500	5600	7500	42.5	41.2	58.0	65.0	0.8	1.5	2.8	0.230	0.146
	69.012	19.845	19.583	15.875	0.8	1.3	14131	14276	46100	55000	5600	7500	39.5	38.5	60.0	63.0	0.8	1.3	4.4	0.201	0.136
	69.012	19.845	19.583	15.875	3.5	1.3	14130	14276	44500	55000	5500	7500	39.5	38.5	60.0	63.0	3.5	1.3	4.3	0.210	0.135
34.925	65.088	18.034	18.288	13.970	3.5	1.3	LM48548	LM48510	48500	59000	5600	7500	46.0	40.0	58.0	61.0	3.5	1.3	3.7	0.160	0.085
	69.012	19.845	19.583	15.875	1.5	1.3	14137A	14276	47000	55000	5500	7500	42.0	40.0	60.0	63.0	1.5	1.3	4.3	0.196	0.135
	69.012	19.845	19.583	15.875	1.5	3.3	14137A	14274	47000	55000	5500	7500	42.0	40.0	59.0	63.0	1.5	3.3	4.3	0.196	0.130
	69.012	19.845	19.583	15.875	3.5	1.3	14138A	14276	47000	55000	5500	7500	46.0	40.0	60.0	63.0	3.5	1.3	4.3	0.189	0.135
	69.012	19.845	19.583	15.875	3.5	3.3	14138A	14274	47000	55000	5500	7500	46.0	40.0	59.0	63.0	3.5	3.3	4.3	0.189	0.130
	72.233	25.400	25.400	19.842	2.3	2.3	HM88649	HM88610	63500	83500	5000	7100	48.5	42.5	60.0	69.0	2.3	2.3	4.7	0.305	0.189
	73.025	23.812	24.608	19.050	1.5	0.8	25877	25821	73000	88500	5200	7100	43.0	40.5	65.0	68.0	1.5	0.8	8.1	0.310	0.165
34.987	76.200	29.370	28.575	23.813	3.5	3.3	31593	31520	80900	97400	5000	6700	50.0	43.5	64.0	72.0	3.3	3.5	7.8	0.383	0.238
	59.131	15.875	16.764	11.938	3.5	1.3	L68149	L68110	35700	48500	6000	8000	45.5	39.0	53.0	56.0	3.5	1.3	2.7	0.112	0.057
	59.975	15.875	16.764	11.938	3.5	1.3	L68149	L68111	35700	48500	6000	8000	45.5	39.0	53.0	56.0	3.5	1.3	2.7	0.112	0.064
36.487	73.025	23.812	24.608	19.050	1.5	0.8	25880	25821	73000	88500	5200	7100	44.0	42.0	65.0	68.0	1.5	0.8	8.1	0.300	0.165
36.512	76.200	29.370	28.575	23.020	3.5	3.3	HM89449	HM89410	79500	108000	5000	6800	54.0	44.5	62.0	73.0	3.5	3.3	5.6	0.370	0.250
	85.725	30.162	30.162	23.812	0.8	3.3	3878	3820	91000	115000	4300	6000	48.0	47.0	73.0	81.0	0.8	3.3	8.2	0.525	0.280

Note: When load center distance (a) is (-), the load center will be outside of the bearing.

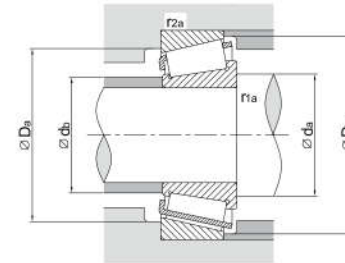
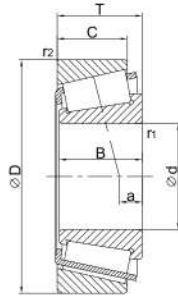
d: 36.512 ~ 42.875 mm



Principal Dimensions (mm)							Bearing Designations		Basic Load Ratings (N)		Limiting Speed (rpm)		Abutment and Fillet Dimensions (mm)						Eff. Load Centers (mm) a	Weight (kg)	
d	D	T	B	C	r ₁ (min)	r ₂ (min)	Cone	Cup	Dynamic Cr	Static Cor	Grease	Oil	d _a (min)	d _b (max)	D _a (min)	D _b (min)	r _{1a} (max)	r _{2a} (max)		Cone	Cup
36.512	93.662	31.750	31.750	26.195	1.5	3.3	46143	46368	110000	142000	4000	5600	48.5	46.5	79.0	87.0	1.5	3.3	7.7	0.765	0.405
38.000	63.000	17.000	17.000	13.500	3.5	1.3	JL69349	JL69310	38500	52000	5600	7500	49.0	42.5	56.0	60.0	3.5	1.3	2.4	0.128	0.072
	63.500	12.700	11.908	9.525	1.5	0.8	13889	13830	27200	34000	5400	7300	45.0	42.5	59.0	60.0	1.5	0.8	0.8	0.108	0.045
	65.088	18.034	18.288	13.97	2.3	1.3	LM29749	LM29710	45000	60000	5400	7500	46.0	42.5	59.0	62.0	2.3	1.3	4.2	0.155	0.080
	65.088	18.034	18.288	13.970	3.5	1.3	LM29748	LM29710	42900	56500	5300	7500	49.0	42.5	59.0	62.0	3.5	1.3	4.3	0.154	0.080
	69.012	19.050	19.050	15.083	3.5	0.8	13685	13620	49000	61000	5300	7100	62.0	43.0	61.0	65.0	3.5	0.8	3.0	0.185	0.103
	76.200	23.812	25.654	19.050	3.5	0.8	2788	2729	73500	91000	5000	6700	50.0	43.5	68.0	70.0	3.5	0.8	8.0	0.310	0.187
	76.200	23.812	25.654	19.050	3.5	3.3	2788	2720	73500	91000	5000	6700	50.0	43.5	66.0	70.0	3.5	3.3	8.0	0.310	0.185
	79.375	29.370	29.771	23.812	3.5	3.3	3490	3420	87400	105000	4800	6700	52.0	45.9	67.0	74.0	3.5	3.3	8.6	0.404	0.262
	88.501	26.988	29.083	22.225	3.5	3.5	418	414	98100	112000	4500	6000	51.0	44.5	77.0	80.0	3.5	1.5	10.1	0.500	0.329
39.687	73.025	25.654	22.098	21.336	0.8	2.3	M201047	M201011	63000	81000	5000	6700	45.5	47.8	64.0	69.0	0.8	2.3	5.9	0.255	0.183
	76.200	26.812	25.654	19.050	3.5	3.3	2789	2720	74100	92200	5000	6700	52.0	45.0	66.0	70.0	3.5	3.3	8.1	0.285	0.190
40.987	67.975	17.500	18.000	13.500	3.5	1.5	LM300849	LM300811	44000	59500	5300	7100	52.0	45.0	61.0	65.0	3.5	1.5	3.6	0.157	0.082
	73.025	16.667	17.462	12.700	3.5	1.5	18590	18520	46500	57000	4800	6700	53.0	46.0	66.0	69.0	3.5	1.5	2.8	0.208	0.084
	73.431	19.558	19.812	14.732	3.5	0.8	LM501349	LM501310	55500	69000	4900	6700	46.5	46.8	67.0	70.0	3.5	0.8	3.4	0.220	0.108
	73.431	21.430	19.812	16.604	3.5	0.8	LM501349	LM501314	54500	67000	4800	6700	53.0	46.5	66.0	70.0	3.5	0.8	3.5	0.226	0.129
	76.200	18.009	17.384	14.288	1.5	1.5	11162	11300	42500	51000	4500	6300	49.0	46.5	67.0	71.0	1.5	1.5	0.5	0.219	0.130
41.275	76.200	22.225	23.020	17.462	3.5	0.8	24780	24720	66000	82000	4800	6700	53.0	47.5	68.0	72.0	3.5	0.8	1.6	0.275	0.150
	76.200	25.400	23.020	20.638	3.5	2.3	24780	24721	66000	82000	4800	6700	54.0	47.0	66.0	72.0	3.5	2.3	4.8	0.271	0.191
	79.375	23.812	25.400	19.050	3.5	0.8	26882	26822	77000	98500	4800	6300	54.0	47.0	71.0	74.0	3.5	0.8	7.5	0.340	0.185
	80.167	25.400	25.400	20.638	3.5	3.3	26882	26820	77000	98500	4800	6300	54.0	47.0	69.0	74.0	3.5	3.3	7.5	0.350	0.223
	87.312	30.162	30.886	23.812	1.5	3.3	3585	3525	95800	120000	4300	6000	50.0	48.0	75.0	81.0	1.5	3.3	9.7	0.527	0.308
	90.488	39.688	40.386	33.338	3.5	3.3	4388	4335	139000	180000	4300	5600	57.0	51.0	77.0	85.0	3.5	3.3	14.1	0.767	0.463
	80.000	21.000	22.403	17.826	3.5	1.3	342S	332	69000	76000	4500	6300	54.0	47.5	73.0	75.0	3.5	1.3	6.2	0.295	0.145
42.875	82.931	23.812	25.400	19.050	3.5	0.8	25577	25520	78500	98000	4500	6000	55.0	49.0	74.0	77.0	3.5	0.8	6.2	0.380	0.200
	82.931	26.988	25.400	22.225	3.5	2.3	25577	25523	78500	98000	4500	6000	55.0	49.0	72.0	77.0	3.5	2.3	9.4	0.380	0.245
	83.058	23.812	25.400	19.050	3.5	3.3	25577	25521	78500	98000	4500	6000	55.0	49.0	72.0	77.0	3.5	3.3	6.2	0.380	0.199

Note: When load center distance (a) is (-), the load center will be outside of the bearing.

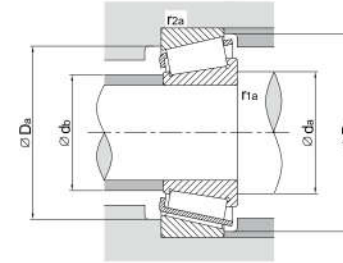
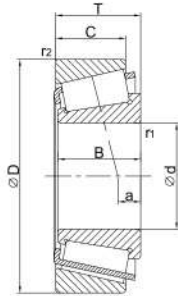
d: 44.450 ~ 50.00 mm



Principal Dimensions (mm)							Bearing Designations		Basic Load Ratings (N)		Limiting Speed (rpm)		Abutment and Fillet Dimensions (mm)						Eff. Load Centers (mm) a	Weight (kg)	
d	D	T	B	C	r ₁ (min)	r ₂ (min)	Cone	Cup	Dynamic Cr	Static Cor	Grease	Oil	d _a (min)	d _b (max)	D _a (min)	D _b (min)	r _{1a} (max)	r _{2a} (max)		Cone	Cup
44.450	82.931	23.812	25.400	19.050	3.5	0.8	25580	25520	78500	98000	4500	6000	57.0	50.0	74.0	77.0	3.5	0.8	6.2	0.355	0.200
	82.931	26.988	25.400	22.225	3.5	2.3	25580	25523	78500	98000	4500	6000	57.0	50.0	72.0	77.0	3.5	2.3	9.4	0.355	0.245
	83.058	23.812	25.400	19.050	3.5	3.3	25580	25521	78500	98000	4500	6000	57.0	50.0	72.0	77.0	3.5	3.3	6.2	0.355	0.100
	87.312	30.162	30.886	23.812	3.5	3.3	3578	3525	96000	120000	4300	6000	57.0	51.0	75.0	81.0	3.5	3.3	10.2	0.476	0.305
	88.900	30.162	29.370	23.020	3.5	3.3	HM803149	HM803110	96500	129000	4000	5600	62.0	53.4	75.0	85.0	3.5	3.3	4.1	0.547	0.326
	90.119	23.000	21.692	21.808	3.5	2.3	355X	352	71800	81700	3800	5400	56.0	50.0	78.0	82.0	3.5	2.3	5.1	0.336	0.325
	93.264	30.163	30.302	23.812	3.5	3.2	3782	3720	103000	137000	3800	5300	58.0	52.0	82.0	88.0	3.5	3.2	8.0	0.678	0.296
	95.250	30.958	28.575	22.225	3.5	0.8	HM903249	HM903210	99700	120000	3700	5100	65.0	54.0	82.0	91.0	3.5	0.8	0.1	0.635	0.389
	95.250	30.958	28.301	20.638	1.3	0.8	53176	53375	88700	98400	3700	5200	59.0	52.5	81.0	89.0	1.3	0.8	1.0	0.574	0.367
	112.712	30.162	26.909	20.638	3.5	3.3	55175	55443	92000	108000	3100	4300	67.0	60.0	92.0	106.0	3.5	3.3	-7.1	0.820	0.500
114.300	44.450	44.450	34.925	3.5	3.3	65385	65320	172000	205000	3600	4800	65.0	59.0	97.0	107.0	3.5	3.3	12.5	1.466	0.884	
44.963	93.264	30.162	30.302	23.813	3.5	3.3	3776	3720	103000	137000	3500	4900	59.0	53.0	82.0	88.0	3.5	3.3	8.0	0.642	0.296
45.242	73.431	19.558	19.812	15.748	3.5	0.8	LM102949	LM102910	55500	78000	4700	6400	56.0	50.0	68.0	70.0	3.5	0.8	4.7	0.208	0.100
	77.788	19.842	19.842	15.080	3.5	0.8	LM603049	LM603011	57100	73500	4500	6300	57.0	50.0	71.0	74.0	3.5	0.8	2.3	0.242	0.122
	77.788	21.430	19.842	16.667	3.5	0.8	LM606049	LM603012	57100	73500	4500	6300	57.0	50.0	70.0	74.0	3.5	0.8	2.3	0.241	0.141
45.618	82.931	23.812	25.400	19.050	3.5	0.8	25590	25520	78500	98000	4500	6000	58.0	51.0	74.0	77.0	3.5	0.8	6.2	0.340	0.200
	82.931	26.988	25.400	22.225	3.5	2.3	25590	25523	78500	98000	4500	6000	58.0	51.0	72.0	77.0	3.5	2.3	6.2	0.340	0.245
46.038	79.375	17.462	17.462	13.495	2.8	1.5	18690	18620	47100	59100	4500	6000	56.0	51.0	71.0	74.0	2.8	1.5	1.5	0.206	0.126
	85.000	20.638	21.692	17.462	2.3	1.3	359S	354A	71500	81500	4300	6000	55.0	51.0	77.0	80.0	2.3	1.3	4.9	0.330	0.160
47.625	93.264	30.162	30.302	23.812	3.5	3.3	3779	3720	103000	137000	3500	4900	61.0	55.0	82.0	88.0	3.5	3.3	8.0	0.596	0.296
	101.600	34.925	36.068	26.988	3.5	3.3	528	522	139000	171000	3700	5000	62.0	55.0	89.0	95.0	3.5	3.3	12.7	0.890	0.410
	107.950	36.512	36.957	28.575	3.5	3.3	536	532X	138000	172000	3200	4400	62.0	56.0	94.0	100.0	3.5	3.3	12.3	1.03	0.583
	111.125	30.162	26.909	20.638	3.5	3.3	55187	55437	92000	108000	3100	4300	69.0	62.0	92.0	105.0	3.5	3.3	-7.1	0.825	0.510
49.212	93.264	30.162	30.302	23.812	3.5	3.3	3781	3720	102000	134000	3800	5300	62.0	56.0	84.0	88.0	3.5	3.3	8.4	0.650	0.295
	103.188	43.658	44.475	36.512	3.5	3.3	5395	5335	177000	245000	3700	5000	66.0	60.0	89.0	97.0	3.5	3.3	27.3	1.13	0.640
	114.300	44.450	44.450	36.068	3.5	3.3	HH506348	HH506310	199000	243000	3500	4700	71.0	61.0	97.0	107.0	3.5	3.3	31.5	1.70	0.850
50.000	82.000	21.500	21.500	17.000	3.0	0.5	JLM104948	JLM104910	71700	97900	4300	5600	60.0	55.0	76.0	78.0	3.0	0.5	5.3	0.305	0.129

Note: When load center distance (a) is (-), the load center will be outside of the bearing.

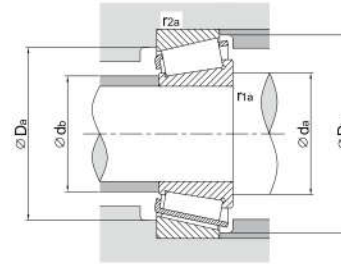
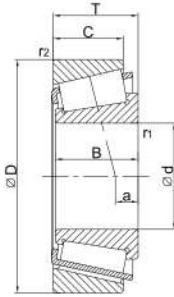
d: 50.800 ~ 57.150 mm



Principal Dimensions (mm)							Bearing Designations		Basic Load Ratings (N)		Limiting Speed (rpm)		Abutment and Fillet Dimensions (mm)						Eff. Load Centers (mm) a	Weight (kg)		
d	D	T	B	C	r ₁ (min)	r ₂ (min)	Cone	Cup	Dynamic Cr	Static Cor	Grease	Oil	d _a (min)	d _b (max)	D _a (min)	D _b (min)	r _{1a} (max)	r _{2a} (max)	a	Cone	Cup	
50.800	82.000	21.976	22.225	17.000	3.5	0.5	LM104949	JLM104910	61200	84300	3700	5200	63.0	56.0	76.0	78.0	3.5	0.5	5.2	0.301	0.129	
	82.550	21.590	22.225	16.510	3.5	1.3	LM104949	LM104911	71000	96000	4300	5700	63.0	56.0	75.0	78.0	3.5	1.3	3.9	0.301	0.150	
	82.931	21.590	22.225	16.510	3.5	1.3	LM104949	LM104912	71000	96000	4300	5600	62.0	55.0	75.0	78.0	3.5	1.3	5.2	0.301	0.140	
	85.000	17.462	17.462	13.495	3.5	1.5	18790	18720	48500	63000	4300	5600	62.0	56.0	77.0	80.0	3.5	1.5	0.7	0.235	0.134	
	88.900	17.462	17.462	13.495	3.5	1.3	18790	18724	48500	63000	4300	5600	62.0	56.0	78.0	82.0	3.5	1.3	0.7	0.235	0.134	
	88.900	20.638	22.225	16.513	1.5	1.3	368	362A	74500	89000	4000	5600	58.0	56.0	81.0	84.0	1.5	1.3	4.2	0.345	0.165	
	88.900	20.638	22.225	16.513	3.5	1.3	368A	362A	74300	87300	3700	5200	62.0	56.0	84.0	84.0	3.5	1.3	4.6	0.329	0.166	
	92.075	24.608	25.400	19.845	3.5	0.8	28580	28521	84800	119000	3500	4900	63.0	57.0	83.0	87.0	3.5	0.8	4.7	0.455	0.247	
	93.264	30.162	30.302	23.812	3.5	0.8	3780	3730	102000	134000	3800	5300	64.0	58.0	84.0	88.0	3.5	0.8	8.2	0.564	0.295	
	93.264	30.162	30.302	23.812	3.5	3.3	3780	3720	102000	134000	3800	5300	64.0	58.0	82.0	88.0	3.5	3.3	8.0	0.564	0.296	
	101.600	31.750	31.750	25.400	3.5	3.3	49585	49520	118000	150000	3600	5000	66.0	59.0	88.0	96.0	3.5	3.3	7.1	0.750	0.385	
	101.600	34.925	36.068	26.988	0.8	3.3	529	522	139000	169000	3700	5000	59.0	58.0	89.0	95.0	0.8	3.3	12.7	0.830	0.410	
	104.775	30.162	30.958	23.812	6.4	3.3	45284	45220	131000	171000	3500	4700	71.0	59.0	93.0	99.0	6.4	3.3	7.9	0.825	0.410	
	104.775	36.512	36.512	28.575	3.5	3.3	HM807046	HM807010	139000	192000	3500	4800	70.0	63.1	89.0	100.0	3.5	3.3	7.4	0.970	0.500	
	111.125	30.162	26.909	50.638	3.5	3.3	55200	55437	92000	108000	3100	4300	71.0	63.9	92.0	105.0	3.5	3.3	-7.1	0.770	0.510	
	123.825	36.512	32.791	25.400	3.5	3.3	72200	72487	143000	160000	3000	4000	74.0	65.9	102.0	116.0	3.5	3.3	-1.3	1.24	0.785	
	127.000	44.450	44.450	34.925	3.5	3.3	65200	65500	198000	258000	3000	4000	75.0	69.0	107.0	119.0	3.5	3.3	9.4	1.87	1.03	
	52.388	92.075	24.608	25.400	19.845	3.5	0.8	28584	28521	84800	119000	4000	5300	65.0	58.0	83.0	87.0	3.5	0.8	4.7	0.430	0.247
	53.975	96.838	21.000	21.946	15.875	0.8	0.8	389A	382A	80400	101000	3300	4600	61.0	60.0	89.0	92.0	0.8	0.8	3.6	0.475	0.179
		98.425	21.000	21.946	17.826	0.8	0.8	389A	382	74500	91500	3600	5000	61.0	60.0	90.0	92.0	0.8	0.8	3.0	0.380	0.225
104.775		30.162	29.317	24.605	3.5	3.3	456	453X	116000	150000	3400	4800	68.0	61.0	92.0	98.0	3.5	3.3	7.0	0.740	0.375	
104.775		36.512	36.512	28.575	3.5	3.3	HM807049	HM807010	147000	201000	3500	4800	73.0	63.1	89.0	100.0	3.5	3.3	7.4	0.890	0.500	
112.712		30.162	30.162	23.812	3.5	3.3	39578	39520	126000	168000	3100	4300	70.0	64.0	101.0	107.0	3.5	3.3	6.6	0.900	0.360	
120.650		41.275	41.275	31.750	3.5	3.3	621	612	163000	198000	3300	4400	70.0	63.0	105.0	110.0	3.5	3.3	26.9	1.49	0.735	
123.825		38.100	36.678	30.162	3.5	3.3	557S	552A	161000	221000	3000	4100	71.0	65.0	109.0	116.0	3.5	3.3	9.2	1.50	0.750	
127.000		44.450	44.450	34.925	3.5	3.3	65212	65500	198000	258000	3100	4300	77.0	71.0	107.0	119.0	3.5	3.3	9.4	1.80	1.03	
127.000		50.800	52.388	41.275	3.5	3.3	6280	6220	241000	300000	3100	4300	74.0	67.0	108.0	117.0	3.5	3.3	19.5	2.06	1.25	
55.000		90.000	23.000	23.000	18.500	1.5	0.5	JLM506849	JLM506810	81400	115000	3800	5300	63.0	61.0	82.0	86.0	1.5	0.5	2.9	0.377	0.184
55.562	122.238	43.658	43.764	36.512	1.3	3.3	5566	5535	198000	292000	3000	4000	70.0	68.0	106.0	116.0	1.3	3.3	12.1	1.76	0.811	
55.563	97.630	24.608	24.608	19.446	3.5	0.8	28680	28622	89600	131000	3600	5000	68.0	62.0	88.0	92.0	3.5	0.8	3.4	0.490	0.270	
57.150	96.838	21.000	21.946	15.875	3.5	0.8	387A	382A	80400	101000	3600	5000	69.0	62.0	89.0	92.0	3.5	0.8	3.6	0.425	0.179	
	97.630	24.608	24.608	19.446	3.5	0.8	28682	28622	89600	131000	3300	4600	70.0	63.0	88.0	92.0	3.5	0.8	3.4	0.463	0.270	
	104.775	30.162	29.317	24.605	2.3	3.3	462	453X	116000	149000	3400	4800	67.0	63.0	92.0	98.0	2.3	3.3	6.6	0.678	0.382	
	104.775	30.162	30.958	23.812	2.3	0.8	45290	45221	131000	171000	3500	4700	68.0	65.0	95.0	99.0	2.3	0.8	8.0	0.765	0.350	
	104.775	30.162	29.317	24.605	3.5	3.3	469	453X	109000	144000	3100	4300	72.0	68.0	92.0	98.0	3.5	3.3	6.6	0.678	0.382	
	110.000	22.000	21.996	18.824	2.3	2.3	390	394A	86400	116000	2800	4000	70.0	66.0	101.0	105.0	2.3	1.3	0.7	0.677	0.262	
	112.712	30.162	30.048	23.812	3.5	3.3	3979	3920	118000	172000	3200	4300	72.0	66.0	99.0	106.0	3.5	3.3	4.6	0.940	0.460	
	112.712	30.162	30.162	23.812	8.0	3.3	39581	39520	147000	207000	2800	3900	81.0	66.0	101.0	107.0	8.0	3.3	6.9	1.03	0.363	
	117.475	33.338	31.750	23.812	3.5	3.3	66225	66462	118000	132000	3100	4100	76.0	68.9	100.0	111.0	3.5	3.3	-0.1	0.970	0.540	
	127.000	44.450	44.450	34.925	3.5	3.3	65225	65500	198000	258000	3100	4200	80.0	71.0	107.0	119.0	3.5	3.3	9.3	1.75	1.03	
136.525	41.275	41.275	31.750	3.5	3.3	635	632	183000	246000	2800	3800	75.0	69.0	118.0	125.0	3.5	3.3	11.2	2.02	1.01		
149.225	53.975	54.229	44.450	3.5	3.3	6455	6420	284000	410000	2500	3400	81.0	75.0	129.0	140.0	3.5	3.3	15.1	3.45	1.65		

Note: When load center distance (a) is (-), the load center will be outside of the bearing.

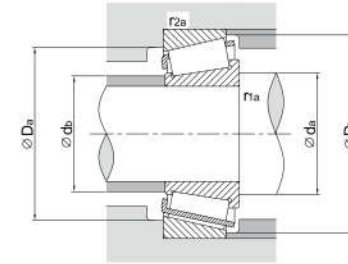
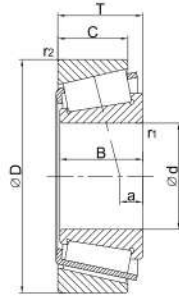
d: 58.737 ~ 65.088 mm



d	Principal Dimensions (mm)						Bearing Designations		Basic Load Ratings (N)		Limiting Speed (rpm)		Abutment and Fillet Dimensions (mm)						Eff. Load Centers (mm) a	Weight (kg)	
	D	T	B	C	r ₁ (min)	r ₂ (min)	Cone	Cup	Dynamic Cr	Static Cor	Grease	Oil	d _a (min)	d _b (max)	D _a (min)	D _b (min)	r _{1a} (max)	r _{2a} (max)		Cone	Cup
58.737	112.712	30.162	30.048	23.812	3.5	3.3	3981	3920	118000	172000	3200	4300	73.0	67.0	99.0	106.0	3.5	3.3	4.5	0.890	0.460
	127.000	44.450	44.450	34.925	3.5	3.3	65231	65500	198000	258000	3100	4200	81.0	71.0	107.0	119.0	3.5	3.3	9.3	1.71	1.03
59.987	134.983	33.450	30.924	21.948	3.5	3.5	HM911244	HM911216	153000	181000	2600	3700	84.0	74.4	112.0	123.0	3.5	3.5	-7.1	1.35	0.823
60.325	100.000	25.400	25.400	19.845	3.5	3.3	28985	28921	91400	137000	3400	4800	73.0	67.0	89.0	96.0	3.5	3.3	2.6	0.538	0.237
	101.600	25.400	25.400	19.845	3.5	3.3	28985	28920	91400	137000	3400	4800	73.0	67.0	90.0	97.0	3.5	3.3	2.6	0.538	0.276
	122.238	38.100	38.354	29.718	8.0	1.5	HM212044	HM212010	187000	243000	3000	4100	83.0	77.0	113.0	121.0	3.5	1.5	10.9	1.45	0.600
	127.000	36.512	36.512	26.988	3.5	1.5	HM813841	HM813811	113000	149000	2900	3800	80.0	73.0	113.0	121.0	3.5	1.5	3.7	1.58	0.625
	130.175	36.512	33.338	23.812	5.0	3.3	HM911245	HM911210	146000	171000	2700	3600	93.0	74.0	109.0	123.6	5.0	3.3	-5.2	1.48	0.685
	130.175	41.275	41.275	31.750	3.5	3.3	637	633	195000	263000	2800	3800	78.0	72.0	116.0	124.0	3.5	3.3	11.2	1.89	0.705
	135.755	53.975	56.007	44.450	3.5	3.3	6376	6320	263000	355000	2800	3800	81.0	74.0	117.0	126.0	3.5	3.3	19.2	2.45	1.40
	136.525	46.038	46.038	36.512	3.5	3.3	H715332	H715311	184000	280000	2600	3600	86.0	80.0	118.0	132.0	3.5	3.3	8.5	2.53	1.02
61.812	110.000	22.000	21.996	18.824	0.8	1.3	392	394A	87500	117000	3200	4300	70.0	69.0	101.0	104.5	0.8	1.3	0.8	0.615	0.065
	139.700	46.038	46.038	36.512	3.5	3.3	H715334	H715310	233000	370000	2600	3600	87.0	81.0	120.0	133.0	3.5	3.3	8.5	2.48	1.15
	146.050	41.275	39.688	25.400	3.5	3.3	H913842	H913810	191000	221000	2400	3300	90.0	82.0	124.0	138.0	3.5	3.3	-4.3	2.25	0.900
63.500	94.458	19.050	19.050	15.083	1.5	1.5	L610549	L610510	59000	100000	3600	4800	71.0	69.0	86.0	91.0	1.5	1.5	-0.7	0.295	0.156
	107.950	25.400	25.400	19.050	1.5	0.8	59586	29522	82800	143000	2800	4000	73.0	71.0	98.0	103.0	1.5	0.8	0.7	0.646	0.286
	107.950	25.400	25.400	19.050	3.5	3.3	29585	29520	94500	144000	3200	4300	77.0	71.0	96.0	103.0	3.5	3.3	0.8	0.640	0.280
	110.000	22.000	21.996	18.824	3.5	1.3	395	394A	87500	117000	3200	4300	77.0	70.0	101.0	104.5	3.5	1.3	0.8	0.565	0.265
	110.000	25.400	25.400	19.050	3.5	1.3	29585	29521	94500	144000	3200	4300	77.0	71.0	99.0	104.0	3.5	1.3	0.8	0.640	0.335
	112.712	30.162	30.048	23.812	3.5	0.8	3982	3925	118000	172000	3200	4300	77.0	71.0	101.0	106.0	3.5	0.8	4.5	0.775	0.450
	112.712	30.162	30.162	23.812	3.5	3.3	39585	39520	147000	207000	3200	4300	77.0	71.0	101.0	107.0	3.5	3.3	6.9	0.907	0.363
	112.712	30.162	30.048	23.812	3.5	3.3	3982	3920	12000	173000	3200	4300	77.0	71.0	99.0	106.0	3.5	3.3	4.3	0.772	0.458
	120.000	29.002	29.007	23.444	3.5	3.3	483	472A	119000	161000	3000	4000	78.0	72.0	106.0	114.0	3.5	3.3	4.0	0.985	0.445
	122.238	38.100	38.354	29.718	7.0	3.3	HM212047	HM212011	187000	243000	3000	4100	87.0	73.0	108.0	116.0	7.0	3.3	10.9	1.34	0.600
	122.238	38.100	38.354	29.718	1.0	1.5	HM212047	HM212010	187000	243000	3000	4100	87.0	73.0	110.0	116.0	7.0	1.5	10.9	1.34	0.605
	127.000	36.512	36.512	26.988	3.5	1.5	HM813842	HM813811	113000	149000	2900	3800	84.0	78.0	113.0	121.0	3.5	1.5	3.7	1.40	0.715
	130.175	41.275	41.275	31.750	3.5	3.3	639	633	183000	246000	2800	3800	81.0	74.0	116.0	124.0	3.5	3.3	11.2	1.79	0.705
	136.525	41.275	41.275	31.750	3.5	3.3	H414235	H414210	231000	300000	2700	3700	82.0	78.0	121.0	129.0	3.5	3.3	10.9	1.95	0.795
	136.525	46.038	46.038	36.512	3.5	3.3	H715336	H715311	184000	280000	2600	3600	87.0	80.0	118.0	132.0	3.5	3.3	8.5	2.45	1.02
140.030	36.512	33.236	23.520	2.3	2.3	78250	78551	152000	183000	2500	3500	85.0	78.9	117.0	132.0	2.3	2.3	-8.0	1.50	0.925	
150.089	44.450	46.672	36.512	3.5	3.3	745S	742	252000	345000	2400	3200	84.0	77.0	134.0	142.0	3.5	3.3	11.9	2.90	1.06	
64.963	127.000	36.512	36.170	28.575	3.5	3.3	569	563	165000	232000	2800	3800	81.0	74.0	112.0	120.0	3.5	3.3	8.1	1.45	0.650
65.000	120.000	39.000	38.500	32.000	3.0	2.5	JH211749	JH211710	189000	255000	3000	4000	80.0	74.0	107.0	114.0	3.0	2.5	11.1	1.28	0.628
65.088	135.755	53.975	56.007	44.450	3.5	3.3	6379	6320	263000	360000	2800	3800	84.0	77.4	117.0	126.0	3.5	3.3	19.2	2.25	1.40
	136.525	46.038	46.038	36.512	3.5	3.3	H715340	H715311	233000	370000	2600	3600	88.0	82.0	118.0	132.0	3.5	3.3	8.5	2.35	1.02

Note: When load center distance (a) is (-), the load center will be outside of the bearing.

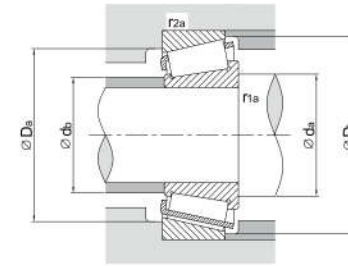
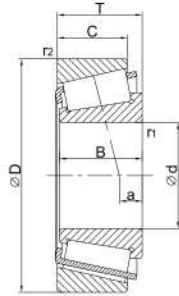
d: 66.675 ~ 71.437 mm



Principal Dimensions (mm)							Bearing Designations		Basic Load Ratings (N)		Limiting Speed (rpm)		Abutment and Fillet Dimensions (mm)						Eff. Load Centers (mm) a	Weight (kg)	
d	D	T	B	C	r ₁ (min)	r ₂ (min)	Cone	Cup	Dynamic Cr	Static Cor	Grease	Oil	d _a (min)	d _b (max)	D _a (min)	D _b (min)	r _{1a} (max)	r _{2a} (max)	a	Cone	Cup
66.675	110.000	22.000	21.996	18.824	3.5	1.3	395S	394A	86400	116000	3200	4300	79.0	73.0	101.0	104.5	3.5	1.3	0.7	0.516	0.262
	110.000	22.000	21.996	18.824	0.8	1.3	395A	394A	86400	116000	3200	4300	73.0	73.0	101.0	104.5	0.8	1.3	0.7	0.521	0.262
	112.712	30.162	30.048	23.812	3.5	3.2	3984	3920	120000	173000	3200	4300	80.0	74.0	99.0	106.0	3.5	3.2	4.3	0.692	0.458
	112.712	30.162	30.162	23.812	3.5	3.3	39590	39520	147000	207000	3200	4300	80.0	74.0	101.0	107.0	3.5	3.3	6.9	0.827	0.363
	112.712	30.162	30.048	23.812	5.5	3.2	3994	3920	120000	173000	3200	4300	84.0	74.0	99.0	106.0	5.5	3.2	4.3	0.692	0.458
	117.475	30.162	30.162	23.812	3.5	3.3	33262	33462	119000	179000	3000	4000	81.0	75.0	104.0	112.0	3.5	3.3	2.8	0.910	0.440
	122.238	38.100	36.678	30.162	3.5	3.3	560	553X	161000	221000	3000	4000	81.0	75.0	108.0	115.0	3.5	3.3	9.4	1.15	0.690
	122.238	38.100	38.354	29.718	3.5	1.5	HM212049	HM212049	187000	243000	3000	4100	82.0	75.0	110.0	116.0	3.5	1.5	10.9	1.25	0.600
	122.238	38.100	38.354	29.718	3.5	3.3	HM212049	HM212011	187000	243000	3000	4100	81.0	74.0	108.0	116.0	3.5	3.3	10.8	1.25	0.598
	136.525	41.275	41.275	31.750	3.5	3.3	H414242	H414210	231000	300000	2700	3700	85.0	81.0	121.0	129.0	3.5	3.3	10.9	1.95	0.795
136.525	46.038	46.038	36.512	3.5	3.3	H715341	H715311	233000	370000	2600	3400	89.0	83.0	118.0	132.0	3.5	3.3	8.5	2.30	1.02	
68.262	110.000	22.000	21.996	18.824	2.3	1.3	399A	394A	87500	117000	3200	4300	78.0	74.0	101.0	104.5	2.3	1.3	0.8	0.495	0.265
	120.000	29.002	29.007	23.444	3.5	3.3	480	472A	119000	161000	3200	4300	82.0	75.0	106.0	114.0	3.5	3.3	4.0	0.890	0.445
	122.238	38.100	36.678	30.162	3.5	3.3	560S	553X	161000	221000	3000	4000	83.0	76.0	108.0	115.0	3.5	3.3	9.4	1.10	0.690
	136.525	41.275	41.275	31.750	3.5	3.3	H414245	H414210	231000	300000	2700	3700	86.0	82.0	121.0	129.0	3.5	3.3	10.9	1.90	0.795
	136.525	46.038	46.038	36.512	3.5	3.3	H715343	H715311	233000	370000	2600	3600	90.0	84.0	118.0	132.0	3.5	3.3	8.5	2.24	1.02
	152.400	47.625	46.038	31.750	3.5	3.3	9185	9121	245000	279000	2600	3500	94.0	81.3	130.0	145.0	3.5	3.3	3.7	2.57	1.21
68.262	120.000	29.795	29.007	24.237	3.5	2.0	480	472	118000	161000	2700	3700	82.0	75.0	107.0	114.0	3.5	2.0	4.1	0.826	0.494
	123.825	38.100	36.678	30.162	3.5	3.3	560S	552A	162000	223000	2700	3700	83.0	76.0	109.0	116.0	3.5	3.3	9.4	1.07	0.770
68.850	112.712	25.400	25.400	19.050	1.5	3.3	29675	29620	96000	152000	2800	4000	80.0	77.0	101.0	109.0		3.3	-0.9	0.670	0.290
	117.475	30.162	30.162	23.812	3.5	3.3	33275	33462	118000	179000	3000	4000	84.0	77.0	104.0	112.0	3.5	3.3	2.4	0.824	0.446
	120.000	32.545	32.545	26.195	3.5	3.3	47487	47420	152000	225000	3000	4000	84.0	78.0	107.0	114.0	3.5	3.3	6.2	0.960	0.479
	120.000	32.545	32.545	26.195	3.5	0.5	47487	47420	152000	225000	3000	4000	84.0	78.0	109.0	114.0	3.5	0.5	6.0	0.960	0.487
	127.000	36.512	36.512	26.988	3.5	1.5	HM813846	HM813811	113000	149000	2800	3800	89.0	82.0	113.0	121.0	3.5	1.5	3.8	1.27	0.630
	146.050	41.275	39.688	25.400	3.5	3.3	H913849	H913810	193000	225000	2400	3400	95.0	82.0	124.0	138.0	3.5	3.3	-4.0	2.05	0.907
	146.050	41.275	41.275	31.750	3.5	3.3	655	653	207000	296000	2500	3300	88.0	82.0	131.0	139.0	3.5	3.3	7.9	2.35	0.890
	149.225	53.975	54.229	44.450	5.0	3.3	6454	6420	284000	410000	2600	3400	94.0	85.0	129.0	140.0	5.0	3.3	15.1	2.90	1.65
	150.089	44.450	46.672	36.512	3.5	3.3	745A	742	265000	370000	2400	3200	88.0	82.0	134.0	142.0	3.5	3.3	12.0	2.80	1.06
	68.952	121.442	24.608	23.012	17.462	2.0	2.0	34274	34478	85600	110000	2900	3800	81.0	78.0	110.0	116.0	2.0	2.0	-1.2	0.750
71.437	117.475	30.162	30.162	23.812	3.5	3.3	33281	33462	118000	179000	2700	3700	85.0	79.0	104.0	112.0	3.5	3.3	2.4	0.784	0.446
	120.000	29.794	30.162	23.444	3.5	0.8	33281	33472	118000	179000	2700	3700	87.0	80.0	107.0	113.0	3.5	0.8	2.4	0.787	0.523
	120.000	32.545	32.545	26.195	3.5	3.3	47490	47420	152000	225000	3000	4000	86.0	79.0	107.0	114.0	3.5	3.3	6.2	0.983	0.479
	127.000	36.512	36.512	26.988	3.5	1.5	HM813849	HM813811	113000	149000	2800	3800	91.0	82.0	113.0	121.0	3.5	1.5	3.8	1.35	0.630
	130.175	41.275	41.275	31.750	3.5	3.3	644	633	195000	263000	2800	3800	87.0	81.0	116.0	124.0	3.5	3.3	11.2	1.50	1.05
	133.350	33.338	33.338	26.195	3.5	3.3	47675	47620	151000	229000	2600	3500	88.0	82.0	119.0	128.0	3.5	3.3	3.8	1.38	0.590
	136.525	41.275	41.275	31.750	3.5	3.3	H414249	H414210	231000	300000	2700	3600	89.0	83.3	121.0	129.0	3.5	3.3	10.9	1.82	0.795
	136.525	41.275	41.275	31.750	6.4	3.3	645	632	197000	267000	2500	3500	93.0	81.0	118.0	125.0	6.4	3.3	11.0	1.45	1.05
	136.525	46.038	46.038	36.512	3.5	3.3	H715345	H715311	233000	370000	2600	3500	92.0	84.0	119.0	132.0	3.5	3.3	8.5	2.07	1.02

Note: When load center distance (a) is (-), the load center will be outside of the bearing.

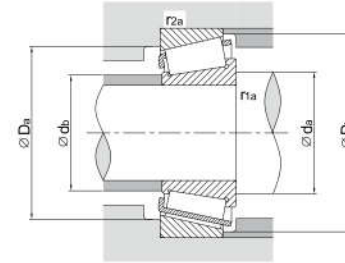
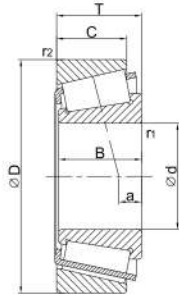
d: 73.025 ~ 84.138 mm



Principal Dimensions (mm)							Bearing Designations		Basic Load Ratings (N)		Limiting Speed (rpm)		Abutment and Fillet Dimensions (mm)						Eff. Load Centers (mm)	Weight (kg)	
d	D	T	B	C	r ₁ (min)	r ₂ (min)	Cone	Cup	Dynamic Cr	Static Cor	Grease	Oil	d _a (min)	d _b (max)	D _a (min)	D _b (min)	r _{1a} (max)	r _{2a} (max)	a	Cone	Cup
73.025	112.712	25.400	25.400	19.050	3.5	3.3	29685	29620	97000	155000	2700	3800	86.0	80.0	101.0	109.0	3.5	3.3	-0.8	0.593	0.278
	117.475	30.162	30.162	23.812	3.5	3.3	33287	33462	118000	179000	3000	4000	87.0	80.0	104.0	112.0	3.5	3.3	2.4	0.744	0.446
	125.412	25.400	25.400	19.845	3.5	1.5	27680	27620	102000	164000	2700	3600	88.0	82.0	115.0	120.0	3.5	1.5	-0.6	0.90	0.410
	127.000	30.162	31.000	22.225	3.5	3.3	42683	42620	131000	181000	2800	3700	88.0	81.0	114.0	121.0	3.5	3.3	2.8	1.05	0.510
	127.000	36.512	36.170	28.575	3.5	3.3	567	563	166000	234000	2800	3800	88.0	81.0	112.0	120.0	3.5	3.3	7.9	1.13	0.661
	149.225	53.975	54.229	44.450	3.5	3.3	6460	6420	284000	410000	2500	3400	93.0	87.0	129.0	140.0	3.5	3.3	15.1	2.79	1.65
	149.225	53.975	54.229	44.450	3.5	0.8	6460	6420A	285000	410000	2500	3400	93.0	87.0	131.0	140.0	3.5	0.8	14.7	2.73	1.64
150.089	44.450	46.672	36.512	3.5	3.3	744	742	252000	345000	2400	3200	91.0	85.0	134.0	142.0	3.5	3.3	12.0	2.50	1.06	
73.817	112.712	25.400	25.400	19.050	1.5	3.3	29688	29620	86000	133000	3100	4100	83.0	80.0	101.0	109.0	1.5	3.3	-0.9	0.575	0.290
74.612	139.992	36.512	36.098	28.575	3.5	3.3	577	572	171000	252000	2500	3400	91.0	85.0	125.0	133.0	3.5	3.3	5.3	1.65	0.820
76.200	125.412	25.400	25.400	19.845	3.5	1.5	27684	27620	102000	164000	2700	3600	91.0	84.0	115.0	120.0	3.5	1.5	0.6	0.83	0.410
	133.350	30.162	29.769	22.225	3.5	3.3	495A	492A	118000	175000	2600	3500	92.0	86.0	120.0	128.0	3.5	3.3	0.8	1.20	0.430
	135.733	44.450	46.101	34.925	3.5	3.3	5760	5735	216000	340000	2600	3600	94.0	88.0	119.0	130.0	3.5	3.3	11.7	1.83	0.882
	136.525	30.162	29.769	22.225	3.5	3.3	495A	493	118000	175000	2600	3500	92.0	86.0	122.0	130.0	3.5	3.3	0.8	1.26	0.490
	139.992	36.512	36.098	28.575	3.5	3.3	575	572	171000	252000	2500	3400	92.0	86.0	125.0	133.0	3.5	3.3	5.3	1.50	0.810
	161.925	47.625	48.260	38.100	3.5	3.3	755	752	273000	390000	2300	3100	98.0	92.0	144.0	150.0	3.5	3.3	11.9	3.50	1.60
	161.925	49.212	46.038	31.750	3.5	3.3	9285	9220	248000	290000	2100	3000	103.0	90.4	138.0	153.0	3.5	3.3	0	2.90	1.40
	168.275	53.975	56.363	41.275	6.4	3.3	843	832	340000	460000	2200	3000	101.0	89.0	149.0	155.0	6.4	3.3	18.4	4.10	1.73
	171.450	49.212	46.038	31.750	3.5	3.3	9380	9321	310000	2000	2700	105.0	98.2	147.0	164.0	3.5	3.3	-4.4	3.50	1.50	
	190.500	57.150	57.531	46.038	3.5	3.3	HH221430	HH221410	425000	585000	1900	2600	101.0	95.0	171.0	179.0	3.5	3.3	14.4	5.80	2.90
77.786	133.350	30.162	29.769	22.225	3.5	3.3	495AS	492A	118000	175000	2600	3500	93.0	87.0	120.0	128.0	3.5	3.3	0.8	1.10	0.430
	135.733	44.450	46.100	34.925	3.5	3.3	5795	5735	215000	340000	2600	3600	96.0	89.0	119.0	130.0	3.5	3.3	11.7	1.75	0.880
79.375	146.050	41.275	41.275	31.750	3.5	3.3	661	653	207000	296000	2500	3300	96.0	90.0	131.0	139.0	3.5	3.3	7.9	2.00	0.890
	150.089	44.450	46.672	36.512	3.5	3.3	750	742	265000	370000	2400	3200	96.0	90.0	134.0	142.0	3.5	3.3	11.9	2.42	1.06
	161.925	47.625	48.260	38.100	8.0	3.3	756A	752	273000	390000	2300	3100	109.0	94.0	144.0	150.0	8.0	3.3	14.9	3.02	1.60
80.000	130.000	35.000	34.000	28.500	3.0	2.5	JM515649	JM515610	168000	256000	2400	3300	94.0	88.0	117.0	125.0	3.0	2.5	5.4	1.19	0.585
80.962	133.350	30.162	29.769	22.225	3.5	3.3	496	492A	118000	175000	2600	3500	95.0	89.0	120.0	128.0	3.5	3.3	0.7	1.05	0.430
	133.350	33.338	33.338	26.195	3.5	3.3	47681	47620	151000	228000	2600	3500	95.0	89.0	119.0	128.0	3.5	3.3	4.3	1.18	0.59
	150.089	44.450	46.672	36.512	5.0	3.3	740	742	253000	345000	2400	3200	101.0	91.0	134.0	142.0	5.0	3.3	11.9	2.33	1.06
	168.275	53.975	56.363	41.275	0.8	3.3	838	832	340000	470000	2200	3000	94.0	93.0	149.0	155.0	0.8	3.3	18.4	4.05	1.73
	125.413	25.400	25.400	19.845	3.5	1.5	27687	27620	101000	162000	2400	3400	96.0	89.0	115.0	120.0	3.5	1.5	0.7	0.711	0.349
82.550	133.350	30.162	29.769	22.225	3.5	3.3	495	492A	118000	175000	2600	3500	97.0	90.0	120.0	128.0	3.5	3.3	0.7	1.02	0.51
	133.350	33.338	33.338	26.195	3.5	3.3	47686	47620	154000	237000	2600	3600	97.0	90.0	119.0	128.0	3.5	3.3	4.2	1.11	0.582
	133.350	33.338	33.338	26.195	6.8	3.3	47687	47620	154000	237000	2600	3600	103.0	90.0	119.0	128.0	6.8	3.3	4.2	1.10	0.582
	133.350	39.688	39.688	32.545	6.8	3.3	HM516448	HM546410	184000	320000	2600	3500	105.0	92.0	118.0	128.0	6.8	3.3	7.5	1.50	0.750
	139.992	36.512	36.098	28.575	3.5	3.3	580	572	171000	255000	2500	3400	98.0	91.0	125.0	133.0	3.5	3.3	5.3	1.35	0.810
	146.050	41.275	41.275	31.750	3.5	3.3	663	653	207000	296000	2500	3300	99.0	92.0	131.0	139.0	3.5	3.3	8.0	1.85	0.890
	161.925	47.625	48.260	38.100	3.5	3.3	757	752	273000	390000	2300	3100	100.0	94.0	144.0	150.0	3.5	3.3	12.1	2.95	1.60
	161.925	53.975	55.100	42.862	3.5	3.3	6559	6535	325000	480000	2300	3000	104.0	98.0	141.0	154.0	3.5	3.3	12.8	3.40	1.65
	168.275	53.975	56.363	41.275	3.5	3.3	842	832	340000	470000	2200	3000	101.0	94.0	149.0	155.0	3.5	3.3	18.4	3.65	1.78
	84.138	133.350	30.162	29.769	22.225	3.5	3.3	498	492A	118000	175000	2600	3500	98.0	91.0	120.0	128.0	3.5	3.3	0.7	1.00
171.450		49.212	46.038	31.750	3.5	3.3	9385	9321	257000	310000	2000	2700	111.0	98.2	147.0	164.0	3.5	3.3	-4.4	3.20	1.50

Note: When load center distance (a) is (-), the load center will be outside of the bearing.

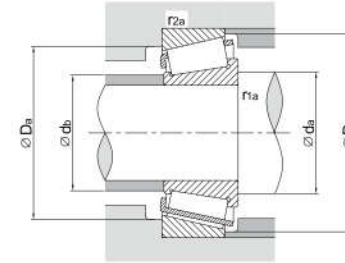
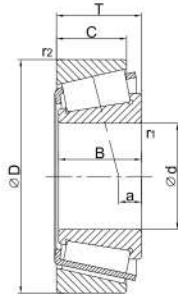
d: 85.027 ~ 95.250 mm



d	Principal Dimensions (mm)						Bearing Designations		Basic Load Ratings (N)		Limiting Speed (rpm)		Abutment and Fillet Dimensions (mm)						Eff. Load Centers (mm) a	Weight (kg)		
	D	T	B	C	r ₁ (min)	r ₂ (min)	Cone	Cup	Dynamic Cr	Static Cor	Grease	Oil	d _a (min)	d _b (max)	D _a (min)	D _b (min)	r _{1a} (max)	r _{2a} (max)		Cone	Cup	
	D	T	B	C	r ₁ (min)	r ₂ (min)																
85.025	150.089	44.450	46.672	36.512	3.5	3.3	749	742	253000	345000	2400	3200	101.0	95.0	134.0	142.0	3.5	3.3	11.9	2.15	1.05	
85.725	133.350	30.162	29.769	22.225	3.5	3.3	497	492A	133000	198000	2600	3400	99.0	93.0	120.0	128.0	3.5	3.3	0.3	0.987	0.441	
	136.525	30.162	29.769	22.225	3.5	3.3	497	493	133000	198000	2600	3400	99.0	93.0	122.0	130.0	3.5	3.3	0.3	0.987	0.558	
	142.138	42.862	42.862	34.133	4.8	3.3	HM617049	HM617010	221000	360000	2500	3300	106.0	95.0	125.0	137.0	4.8	3.3	7.4	1.80	0.910	
	152.400	39.688	36.322	30.162	3.5	3.2	596	592A	183000	287000	2100	3200	102.0	96.0	135.0	144.0	3.5	3.2	2.6	1.81	1.06	
	161.925	47.625	48.260	38.100	3.5	3.3	758	752	273000	390000	2300	3100	103.0	97.0	144.0	150.0	3.5	3.3	11.9	2.65	1.60	
	168.275	41.275	41.275	30.162	3.5	3.3	677	672	223000	345000	2000	2800	105.0	99.0	149.0	160.0	3.5	3.3	2.8	2.87	1.27	
168.275	53.975	56.363	41.275	3.5	3.3	841	832	340000	470000	2200	3000	104.0	97.0	149.0	155.0	3.5	3.3	18.4	3.53	1.78		
87.312	190.500	57.150	57.531	46.038	8.0	3.3	HH221432	HH221410	390000	525000	1900	2600	118.0	103.0	171.0	179.0	8.0	3.3	15.0	5.67	2.69	
88.900	121.442	15.083	15.083	11.112	1.5	1.5	LL217849	LL217810	77500	132000	2700	3500	97.0	94.0	115.0	117.0	1.5	1.5	-0.1	0.490	0.245	
	149.225	31.750	28.971	24.608	3.0	3.3	42350	42587	139000	214000	2300	3100	104.0	98.0	134.0	143.0	3.0	3.3	3.1	1.32	0.711	
	152.400	39.688	36.322	30.162	3.5	3.2	593	592A	183000	287000	2100	3200	104.0	98.0	135.0	144.0	3.5	3.2	2.6	1.69	1.06	
	152.400	39.688	39.688	30.162	6.4	3.3	HM518445	HM518410	253000	365000	2100	2900	107.0	96.0	137.0	148.0	6.4	3.3	6.6	2.09	0.786	
	161.925	53.975	55.100	42.862	3.5	3.3	6580	6535	325000	480000	2200	3000	109.0	101.9	141.0	154.0	3.5	3.3	13.1	3.10	1.65	
	168.275	41.275	41.275	30.162	3.5	3.3	679	672	208000	310000	2000	2800	107.0	101.0	149.0	160.0	3.5	3.3	2.8	2.89	1.27	
	168.275	53.975	56.363	41.275	3.5	3.3	850	832	340000	470000	2200	3000	106.0	100.0	149.0	155.0	3.5	3.3	18.4	3.31	1.78	
	171.450	47.625	48.260	38.100	5.0	3.3	77350	77675	239000	340000	2100	2800	110.0	101.0	153.0	161.0	5.0	3.3	9.6	3.30	1.57	
	190.500	57.150	57.531	44.450	8.0	3.3	855	854	340000	525000	1900	2600	118.0	103.0	170.0	174.0	8.0	3.3	15.4	5.05	2.69	
	200.000	52.761	49.212	34.925	3.5	3.3	98350	98788	289000	365000	2000	2700	118.0	112.0	174.0	188.0	3.5	3.3	1.8	4.80	2.55	
89.975	146.975	40.000	40.000	32.500	7.0	3.5	HM218248	HM218210	306000	310000	2100	3000	112.0	99.0	133.0	141.0	7.0	3.5	9.2	1.64	0.799	
90.488	161.925	47.625	48.260	38.100	3.5	3.3	760	752	273000	391000	2200	3000	107.0	101.0	144.0	150.0	3.5	3.3	12.1	2.10	1.62	
92.075	146.050	33.338	34.925	26.195	3.5	3.3	47890	47820	169000	280000	2300	3100	107.0	101.0	131.0	140.0	3.5	3.3	1.0	1.63	0.660	
	147.638	35.717	36.322	26.192	3.5	0.8	598	592XE	185000	288000	2300	3100	107.0	101.0	135.0	142.0	3.5	0.8	-1.5	1.65	1.05	
	148.430	28.575	28.971	21.433	3.5	3.0	42362	42584	139000	214000	2300	3100	107.0	101.0	134.0	142.0	3.5	3.0	-3.1	1.30	0.550	
	152.400	39.688	36.322	30.162	6.4	3.2	598A	592A	185000	288000	2300	3200	113.0	101.0	135.0	144.0	3.2	3.3	2.5	1.67	1.15	
	168.275	41.275	41.275	30.162	6.4	3.3	681A	672	223000	345000	2000	2800	116.0	104.0	149.0	160.0	6.4	3.3	2.8	2.64	1.27	
	180.975	47.625	48.006	38.100	3.5	3.3	778	772	278000	415000	2000	2700	111.0	105.0	161.0	168.0	3.5	3.3	8.1	3.49	1.94	
	190.500	57.150	57.531	44.450	8.0	3.3	857	854	340000	525000	1900	2600	121.0	106.0	170.0	174.0	8.0	3.3	15.4	4.83	2.69	
	93.662	148.430	28.575	28.971	21.433	3.0	3.0	42368	42584	139000	214000	2300	3100	107.0	102.0	134.0	142.0	3.0	3.0	-3.1	1.28	0.550
	146.050	33.338	34.925	26.195	3.5	3.3	47896	47820	169000	280000	2300	3100	110.0	103.0	131.0	140.0	3.5	3.3	1.0	1.53	0.660	
	147.638	35.717	36.322	26.192	3.5	3.3	594	592XS	185000	288000	2200	3200	110.0	104.0	133.0	142.0	3.5	3.3	-1.5	1.43	0.680	
95.250	150.000	35.992	36.322	27.000	3.5	3.0	594	593X	183000	287000	2200	3200	110.0	104.0	134.0	142.0	3.5	3.0	2.6	1.43	0.780	
	152.400	39.688	36.322	30.162	3.5	3.2	594	592A	183000	287000	2200	3200	110.0	104.0	135.0	144.0	3.5	3.2	2.6	1.43	1.06	
	157.162	36.512	36.116	26.195	3.5	3.3	52375	52618	176000	277000	2100	2900	112.0	105.0	142.0	152.0	3.5	3.3	-2.0	1.90	0.700	
	168.275	41.275	41.275	30.162	3.5	3.3	683	672	223000	345000	2000	2800	113.0	106.0	149.0	160.0	3.5	3.3	2.8	2.42	1.27	
	171.450	47.625	48.260	38.100	3.5	3.3	77375	77675	282000	415000	2000	2600	117.0	105.0	152.0	159.0	3.5	3.3	9.6	3.23	1.57	
	190.500	57.150	57.531	44.450	8.0	3.3	864	854	365000	525000	1900	2600	123.0	108.0	170.0	174.0	8.0	3.3	9.4	4.60	2.69	

Note: When load center distance (a) is (-), the load center will be outside of the bearing.

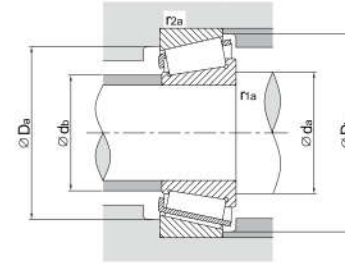
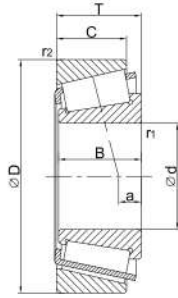
d: 98.425 ~ 127.000 mm



Principal Dimensions (mm)					Bearing Designations		Basic Load Ratings (N)		Limiting Speed (rpm)		Abutment and Fillet Dimensions (mm)						Eff. Load Centers (mm) a		Weight (kg)		
d	D	T	B	C	r ₁ (min)	r ₂ (min)	Cone	Cup	Dynamic Cr	Static Cor	Grease	Oil	d _a (min)	d _b (max)	D _a (min)	D _b (min)	r _{1a} (max)	r _{2a} (max)	a	Cone	Cup
98.425	161.925	36.512	36.116	29.195	3.5	3.3	52387	52637	191000	310000	2100	2900	114.0	108.0	144.0	154.0	3.5	3.3	3.6	1.95	0.900
	168.275	41.275	41.275	30.162	3.5	3.3	685	672	223000	345000	2000	2800	116.0	109.0	149.0	160.0	3.5	3.3	2.8	2.35	1.27
	180.975	47.625	48.006	38.100	3.5	3.3	779	772	258000	375000	2000	2700	116.0	110.0	161.0	168.0	3.5	3.3	8.1	3.30	1.94
	190.500	57.150	57.531	44.450	3.5	3.3	866	854	365000	525000	1900	2600	118.0	111.0	170.0	174.0	3.5	3.3	15.4	4.45	2.69
100.000	180.975	47.625	48.006	38.100	3.5	3.3	783	772	278000	415000	2000	2700	118.0	111.0	161.0	168.0	3.5	3.3	8.1	3.22	1.94
100.012	157.162	36.512	36.116	26.195	3.5	3.3	52393	52618	191000	310000	2100	2900	116.0	109.0	142.0	152.0	3.5	3.3	0.4	1.79	0.700
101.600	157.162	36.512	36.116	26.195	3.5	3.3	52400	52618	191000	310000	2100	2900	117.0	111.0	142.0	152.0	3.5	3.3	0.4	1.70	0.700
	168.275	41.275	41.275	30.162	3.5	3.3	687	672	223000	345000	2000	2800	118.0	112.0	149.0	160.0	3.5	3.3	2.8	2.13	1.27
	180.975	47.625	48.006	38.100	3.5	3.3	780	772	258000	375000	2000	2700	119.0	113.0	161.0	168.0	3.5	3.3	8.1	2.88	1.94
	190.500	57.150	57.531	44.450	8.0	3.3	861	854	355000	500000	1900	2600	129.0	114.0	170.0	174.0	8.0	3.3	15.4	4.15	2.69
	190.500	57.150	57.531	46.038	8.0	3.3	HH221449	HH221410	390000	520000	1900	2600	131.0	116.0	171.0	179.0	8.0	3.3	15.0	4.70	2.28
	200.000	52.761	49.212	34.925	3.5	3.3	98400	98788	289000	365000	2000	2700	128.0	120.6	174.0	188.0	3.5	3.3	1.8	4.20	2.55
	212.725	66.675	66.675	53.975	7.0	3.3	941	932	455000	665000	1700	2400	130.0	117.0	187.0	130.1	7.0	3.3	19.7	6.05	4.06
212.725	66.675	66.675	53.975	7.0	3.3	HH224335	HH224310	480000	670000	1700	2300	132.0	121.0	192.0	201.7	7.0	3.3	18.9	8.30	3.02	
104.775	180.975	47.625	48.006	38.100	3.5	3.3	782	772	258000	375000	2000	2700	122.0	116.0	161.0	168.0	3.5	3.3	8.1	2.90	1.94
190.500	47.625	49.212	34.925	3.5	3.3	71412	71750	296000	465000	1800	2500	124.0	118.0	171.0	181.0	3.5	3.3	6.5	4.09	1.74	
107.950	146.050	21.433	21.433	16.670	1.5	1.5	L521949	L521910	935000	155000	2200	3000	116.0	114.0	136.0	141.0	1.5	1.5	-4.5	0.640	0.325
	158.750	23.020	21.438	15.875	3.5	3.3	37425	37625	104000	169000	1900	2700	122.0	115.0	143.0	152.0	3.5	3.3	-13.5	0.882	0.498
	159.987	34.925	34.925	26.988	3.5	3.3	LM522546	LM522510	164000	315000	2000	2800	122.0	116.0	146.0	154.0	3.5	3.3	1.4	1.55	0.775
	161.925	34.925	34.925	26.988	3.5	3.3	48190	48120	164000	280000	2100	2800	122.0	116.0	146.0	156.0	3.5	3.3	-3.9	1.60	0.830
	165.100	36.512	36.512	26.988	3.5	3.3	56425	56650	190000	320000	2000	2600	123.0	117.0	149.0	159.0	3.5	3.3	-2.0	1.75	0.850
	190.500	47.625	49.212	34.925	3.5	3.3	71425	71750	296000	465000	1800	2500	126.0	120.0	171.0	181.0	3.5	3.3	6.5	3.88	1.74
212.725	66.675	66.675	53.975	8.0	3.3	936	932	455000	665000	1700	2400	137.0	122.0	187.0	193.0	8.0	3.3	19.7	5.86	4.06	
212.725	66.675	66.675	53.975	8.0	3.3	HH224340	HH224310	570000	810000	1700	2300	139.0	126.0	192.0	202.0	8.0	3.3	18.9	7.74	3.02	
114.300	177.800	41.275	41.275	30.162	3.5	3.3	64450	64700	231000	370000	1900	2600	131.0	125.0	160.0	172.0	3.5	3.3	-1.2	2.46	1.15
190.500	47.625	49.212	34.925	3.5	3.3	71450	71750	296000	465000	1800	2500	132.0	125.0	171.0	181.0	3.5	3.3	6.5	3.48	1.74	
212.725	66.675	66.675	53.975	7.0	3.3	938	932	475000	700000	1700	2400	141.0	128.0	187.0	193.1	7.0	3.3	19.7	5.73	4.06	
212.725	66.674	66.675	53.975	7.0	3.3	HH224346	HH224310	480000	670000	1700	2300	143.0	131.0	192.0	201.7	7.0	3.3	18.7	7.31	3.02	
115.087	190.500	47.625	49.212	34.925	3.5	3.3	71453	71750	273000	425000	1800	2500	133.0	126.0	171.0	181.0	3.5	3.3	6.5	3.43	1.74
169.862	25.400	26.195	20.638	1.5	1.5	L225842	L225810	128000	264000	1500	2000	131.0	129.0	160.0	164.0	1.5	1.5	0.4	1.48	0.505	
174.625	35.720	36.512	27.783	3.5	1.5	M224749	M224710	212000	385000	1900	2600	135.0	129.0	162.0	168.0	3.5	1.5	3.6	1.82	0.835	
206.375	47.625	47.625	34.925	3.3	3.3	793	792	320000	530000	1600	2200	139.0	134.0	186.0	198.0	3.3	3.3	2.1	4.52	1.92	
234.950	63.500	63.500	49.212	6.4	3.3	95475	95925	500000	770000	1500	2000	149.0	137.0	209.0	217.0	6.4	3.3	14.0	8.17	3.96	
165.895	18.258	17.462	13.495	1.5	1.5	LL225749	LL225710	845000	149000	1900	2600	135.0	132.0	158.0	160.0	1.5	1.5	-6.1	0.678	0.270	
180.975	25.400	26.195	20.638	1.5	1.5	L225849	L225818	128000	264000	1500	2000	136.0	134.0	164.0	166.0	1.5	1.5	0.4	1.42	1.01	
182.562	39.688	38.100	33.338	3.5	3.3	48290	48220	235000	445000	1800	2400	141.0	135.0	168.0	176.0	3.5	3.3	5.6	2.14	1.15	
196.850	46.038	46.038	38.100	3.5	3.3	67388	67322	315000	560000	1700	2300	144.0	138.0	180.0	189.0	3.5	3.3	6.4	3.62	1.44	
215.900	47.625	47.625	34.925	3.5	3.3	74500	74850	287000	495000	1500	2100	148.0	141.0	196.0	208.0	3.5	3.3	-2.2	5.01	1.93	
228.600	53.975	49.428	38.100	3.5	3.3	HM926747	HM926710	350000	500000	1500	2000	156.0		200.0	219.3	3.5	3.3	-14.4	5.85	2.94	
234.950	63.500	63.500	49.212	6.4	3.3	95500	95925	500000	770000	1500	2000	154.0	142.0	209.0	217.0	6.4	3.3	12.0	8.02	3.96	

Note: When load center distance (a) is (-), the load center will be outside of the bearing.

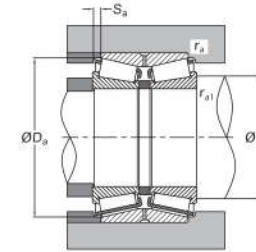
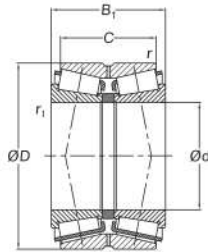
d: 128.588 ~ 187.325 mm



d	Principal Dimensions (mm)						Bearing Designations		Basic Load Ratings (N)		Limiting Speed (rpm)		Abutment and Fillet Dimensions (mm)						Eff. Load Centers (mm) a	Weight (kg)	
	D	T	B	C	r ₁ (min)	r ₂ (min)	Cone	Cup	Dynamic Cr	Static Cor	Grease	Oil	d _a (min)	d _b (max)	D _a (min)	D _b (min)	r _{1a} (max)	r _{2a} (max)		Cone	Cup
128.588	190.500	34.925	31.750	25.400	3.5	3.3	48506	48750	222000	410000	1600	2100	144.0	138.0	170.0	183.0	3.5	3.3	-15.4	2.12	1.16
	206.375	47.625	47.625	34.925	3.3	3.3	799	792	299000	500000	1700	2200	146.0	140.0	186.0	198.0	3.3	3.3	2.1	3.84	1.92
133.350	190.500	39.688	39.688	33.338	3.5	3.3	48385	48320	240000	485000	1700	2300	148.0	142.0	177.0	184.0	3.5	3.3	4.0	2.41	1.15
	203.200	46.038	46.038	38.100	3.5	3.3	67390	67320	295000	520000	1700	2200	150.0	144.0	183.0	191.0	3.5	3.3	6.4	3.40	1.61
	234.950	63.500	63.500	49.212	9.7	3.3	95525	95925	500000	770000	1500	2000	166.0	148.0	209.0	217.0	9.7	3.3	14.0	8.00	3.96
136.350	190.500	39.688	39.688	33.338	3.5	3.3	48393	48320	219000	430000	1700	2300	151.0	144.0	177.0	184.0	3.5	3.3	4.0	2.21	1.15
	136.525	47.625	47.625	34.925	3.5	3.3	74537	74850	287000	495000	1500	2100	155.0	148.0	196.0	208.0	3.5	3.3	-2.2	5.12	1.93
	228.600	57.150	57.150	44.450	3.5	3.3	896	892	410000	655000	1600	2100	156.0	150.0	205.0	216.0	3.5	3.3	7.6	6.18	2.76
138.700	215.900	47.625	47.625	34.925	3.5	3.3	74550	74850	287000	495000	1500	2100	158.0	151.0	196.0	208.0	3.5	3.3	-2.2	4.12	1.93
	228.600	57.150	57.150	44.450	3.5	3.3	898	892	410000	655000	1600	2100	160.0	153.0	205.0	216.0	3.5	3.3	7.6	6.24	2.76
	241.300	57.150	56.642	44.450	3.5	3.3	HH231132	HH231115	410000	665000	1500	2100	160.0	156.0	219.0	224.0	3.5	3.3	3.6	6.34	3.70
	254.000	66.675	66.675	47.625	7.0	3.3	99550	99100	525000	855000	1300	1800	170.0	156.0	227.0	238.0	7.0	3.3	12.2	9.87	4.28
142.875	200.025	41.275	39.688	34.130	8.0	3.3	48684	48620	227000	460000	1600	2100	166.0	151.0	185.0	193.0	8.0	3.3	5.6	2.43	1.35
	193.675	28.575	28.575	23.020	4.8	1.5	36691	36620	181000	375000	1600	2200	162.0	153.0	182.0	188.0	4.8	1.5	-4.9	1.62	0.77
	203.200	28.575	28.575	23.020	1.5	1.5	36690	36626	181000	375000	1600	2200	155.0	153.0	186.0	190.0	1.5	1.5	-4.9	1.85	0.95
	241.300	57.150	56.642	44.450	3.5	3.3	82576	82950	410000	665000	1500	2100	166.0	160.0	215.0	226.0	3.5	3.3	3.6	6.34	3.70
	254.000	66.675	66.675	47.625	7.0	3.3	99575	99100	525000	855000	1300	1800	175.0	162.0	227.0	238.0	7.0	3.3	12.2	9.10	4.28
	268.288	74.612	74.612	57.150	6.4	6.4	EE107057	107105	600000	925000	1300	1800	176.0	166.0	237.0	249.0	6.4	6.4	14.0	12.2	5.92
146.050	304.800	88.900	82.550	57.150	6.4	6.4	HH932145	HH932110	730000	990000	1300	1800	195.0	174.0	260.0	288.0	6.4	6.4	-4.5	1.85	8.80
	236.538	57.150	56.642	44.450	3.5	3.3	HM231149	HM231110	475000	760000	1200	1700	167.0	163.0	217.0	224.0	3.5	3.3	15.7	6.42	2.72
	254.000	66.675	66.675	47.625	7.0	3.3	99587	99100	525000	855000	1300	1800	178.0	165.0	227.0	238.0	7.0	3.3	12.2	8.73	4.28
152.400	268.288	74.612	74.612	57.150	6.4	6.4	EE107060	107105	600000	925000	1300	1800	181.0	171.0	237.0	249.4	6.4	6.4	14.0	11.6	5.92
184.150	266.700	47.625	46.833	38.100	3.5	3.3	67883	67820	339000	703000	1100	1500	204.0	198.0	246.0	259.0	3.5	3.3	-10.2	6.05	2.58
187.325	266.700	47.625	46.833	38.100	3.5	3.3	67884	67820	339000	703000	1100	1500	206.0	201.0	246.0	259.0	3.5	3.3	-10.2	5.71	2.58

Note: When load center distance (a) is (-), the load center will be outside of the bearing.

TDO Design • Metric Size
d: 25 ~ 95 mm



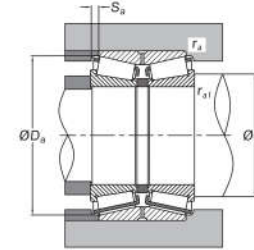
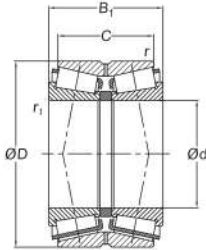
Equivalent bearing load dynamic
 $P_r = X F_r + Y F_a$

$\frac{F_a}{F_r} \leq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	Y ₁	0.67	Y ₂

static
 $P_{sc} = F_r + Y_0 F_a$
 For values of e, Y₂ and Y₀ see the table below.

d	Principal Dimensions (mm)					Bearing Designations	Basic Load Ratings (N)		Abutment and Fillet Dimensions (mm)				Calculation Factors			Weight (kg)	
	D	B ₁	C	r (min)	r ₁ (min)		Dynamic Cr	Static Cor	d _a (min)	D _a (max)	r _a (max)	r _{a1} (max)	e	Y ₁	Y ₂		Y ₀
25	62	40	29.5	1.5	0.6	25KDE13	71000	90000	32	59	1.5	0.6	0.83	0.82	1.22	0.80	0.505
30	72	45	31.5	1.5	0.6	30KDE13	89000	113000	37	68	1.5	0.6	0.83	0.82	1.22	0.80	0.755
35	80	51	35.5	2	0.6	35KDE13	114000	149000	44	76	2	0.6	0.83	0.82	1.22	0.80	1.04
40	80	45	37.5	1.5	0.6	40KBE02	109000	141000	47	75	1.5	0.6	0.37	1.80	2.68	1.76	0.900
	80	55	43.5	1.5	0.6	40KBE22	134000	183000	47	75	1.5	0.6	0.37	1.80	2.68	1.76	1.12
	90	56	45.5	2	0.6	40KBE03	156000	202000	49	82	2	0.6	0.35	1.96	2.91	1.91	1.52
	90	56	39.5	2	0.6	40KDE13	138000	181000	49	86	2	0.6	0.83	0.82	1.22	0.80	1.43
45	85	47	37.5	1.5	0.6	45KBE02	120000	163000	52	80	1.5	0.6	0.40	1.67	2.48	1.63	1.02
	85	55	43.5	1.5	0.6	45KBE22	143000	205000	52	80	1.5	0.6	0.40	1.67	1.48	1.63	1.21
	100	60	49.5	2	0.6	45KBE03	190000	250000	54	93	2	0.6	0.35	1.96	2.91	1.91	1.99
	100	60	41.5	2	0.6	45KDE13	168000	224000	54	95	2	0.6	0.83	0.82	1.22	0.80	1.88
50	90	49	39.5	1.5	0.6	50KBE02	136000	193000	57	85	1.5	0.6	0.42	1.61	2.39	1.57	1.14
	90	55	43.5	1.5	0.6	50KBE22	152000	223000	57	85	1.5	0.6	0.42	1.61	2.39	1.57	1.31
	110	64	51.5	2.5	0.6	50KBE03	222000	294000	60	102	2	0.6	0.35	1.96	2.91	1.91	2.56
	110	64	43.5	2.5	0.6	50KDE13	194000	259000	60	104	2	0.6	0.83	0.82	1.22	0.80	2.41
55	100	51	41.5	2	0.6	55KBE02	163000	226000	64	94	2	0.6	0.40	1.67	2.48	1.63	1.48
	100	60	48.5	2	0.6	55KBE22	185000	275000	64	94	2	0.6	0.40	1.67	2.48	1.63	1.77
	120	70	57	2.5	0.6	55KBE03	254000	340000	65	111	2	0.6	0.35	1.96	2.91	1.91	3.31
	120	70	49	2.5	0.6	55KDE13	217000	297000	65	113	2	0.6	0.83	0.82	1.22	0.80	3.13
60	110	53	43.5	2	0.6	60KBE02	178000	246000	69	102	2	0.6	0.40	1.67	2.48	1.63	1.88
	110	66	54.5	2	0.6	60KBE22	226000	335000	69	102	2	0.6	0.40	1.67	2.48	1.63	2.38
	130	74	59	3	1	60KBE03	297000	400000	72	120	2.5	1	0.35	1.96	2.91	1.91	4.10
	130	74	51	3	1	60KDE13	259000	350000	72	123	2.5	1	0.83	0.82	1.22	0.80	3.87
65	120	56	46.5	2	0.6	65KBE02	211000	296000	74	113	2	0.6	0.40	1.67	2.48	1.63	2.37
	120	73	61.5	2	0.6	65KBE22	267000	400000	74	112	2	0.6	0.40	1.67	2.48	1.63	3.15
	140	79	63	3	1	65KBE03	340000	465000	77	130	2.5	1	0.35	1.96	2.91	1.91	5.06
	140	79	53	3	1	65KDE13	297000	410000	77	133	2.5	1	0.83	0.82	1.22	0.80	4.77
70	125	59	48.5	2	0.6	70KBE02	229000	330000	79	118	2	0.6	0.42	1.61	2.39	1.57	2.63
	125	74	61.5	2	0.6	70KBE22	270000	410000	79	117	2	0.6	0.42	1.61	2.39	1.57	3.37
	150	83	67	3	1	70KBE03	390000	540000	82	140	2.5	1	0.35	1.96	2.91	1.91	6.08
	150	83	57	3	1	70KDE13	345000	485000	82	142	2.5	1	0.83	0.82	1.22	0.80	5.74
75	130	62	51.5	2	0.6	75KBE02	246000	365000	84	124	2	0.6	0.44	1.55	2.31	1.52	2.90
	130	74	61.5	2	0.6	75KBE22	274000	440000	84	123	2	0.6	0.44	1.55	2.31	1.52	3.54
	160	87	69	3	1	75KBE03	365000	600000	87	149	2.5	1	0.35	1.96	2.91	1.91	7.23
80	140	64	51.5	2.5	0.6	80KBE02	270000	390000	90	132	2	0.6	0.42	1.61	2.39	1.57	3.52
	140	78	63.5	2.5	0.6	80KBE22	310000	505000	90	132	2	0.6	0.42	1.61	2.39	1.57	4.37
	170	92	73	3	1	80KBE03	500000	650000	92	159	2.5	1	0.35	1.96	2.91	1.91	8.62
85	150	70	57	2.5	0.6	85KBE02	300000	465000	95	141	2	0.6	0.42	1.61	2.39	1.57	4.45
	150	86	69	2.5	0.6	85KBE22	365000	560000	95	140	2	0.6	0.42	1.61	2.39	1.57	5.57
	180	98	77	4	1	85KBE03	445000	740000	99	167	3	1	0.35	1.96	2.91	1.91	10.3
90	160	74	61	2.5	0.6	90KBE02	335000	510000	100	150	2	0.6	0.42	1.61	2.39	1.57	5.39
	160	94	77	2.5	0.6	90KBE22	420000	695000	100	150	2	0.6	0.42	1.61	2.39	1.57	6.98
	190	102	81	4	1	90KBE03	550000	815000	104	177	3	1	0.35	1.96	2.91	1.91	11.9
95	170	78	63	3	1	95KBE02	365000	570000	107	159	2.5	1	0.42	1.61	2.39	1.57	6.45
	170	100	83	3	1	95KBE22	485000	780000	107	158	2.5	1	0.42	1.61	2.39	1.57	7.92
	200	108	85	4	1	95KBE03	565000	890000	109	186	3	1	0.35	1.96	2.91	1.91	13.9

TDO Design • Metric Size
d: 100 ~ 160 mm



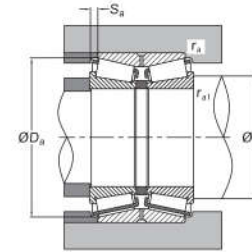
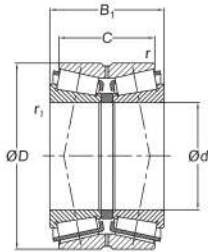
Equivalent bearing load dynamic
 $P_r = X F_r + Y F_a$

$\frac{F_a}{F_r} \leq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	Y ₁	0.67	Y ₂

static
 $P_{0r} = F_r + Y_0 F_a$
 For values of e, Y₂ and Y₀ see the table below.

d	Principal Dimensions (mm)					Bearing Designations	Basic Load Ratings (N)		Abutment and Fillet Dimensions (mm)				Calculation Factors			Weight (kg)	
	D	B ₁	C	r (min)	r ₁ (min)		Dynamic Cr	Static Cor	d _a (min)	D _a (max)	r _a (max)	r _{a1} (max)	e	Y ₁	Y ₂		Y ₀
100	180	83	67	3	1	100KBE02	410000	660000	112	168	2.5	1	0.42	1.61	2.39	1.57	7.74
	180	107	87	3	1	100KBE22	545000	935000	112	168	2.5	1	0.42	1.61	2.39	1.57	10.2
	215	112	87	4	1	100KBE03	625000	990000	114	200	3	1	0.35	1.96	2.91	1.91	16.9
105	190	88	70	3	1	105KBE02	460000	730000	117	178	2.5	1	0.42	1.61	2.39	1.57	9.19
	190	115	95	3	1	105KBE22	605000	1020000	117	178	2.5	1	0.42	1.61	2.39	1.57	12.2
	225	116	91	4	1	105KBE03	655000	1070000	119	209	3	1	0.35	1.96	2.91	1.91	19.1
110	180	70	56	2.5	0.6	110KBE031	286000	500000	120	168	2	0.6	0.35	1.92	2.86	1.88	6.47
	180	56	50	2.5	0.6	110KBE131	246000	380000	120	169	2	0.6	0.35	1.95	2.90	1.91	3.36
	200	92	74	3	1	110KBE02	500000	830000	122	188	2.5	1	0.42	1.61	2.39	1.57	10.7
	200	121	101	3	1	110KBE22	595000	940000	122	188	2.5	1	0.42	1.61	2.39	1.57	14.3
120	240	118	93	4	1	110KBE03	680000	1180000	124	222	3	1	0.35	1.96	2.91	1.91	22.3
	180	58	46	2.5	0.6	120KBE030	221000	375000	130	170	2	0.6	0.35	1.95	2.90	1.91	4.43
	180	46	41	2.5	0.6	120KBE130	186000	295000	130	171	2	0.6	0.35	1.95	2.90	1.91	3.90
	200	78	62	2.5	0.6	120KBE031	405000	710000	130	186	2	0.6	0.35	1.95	2.90	1.91	9.10
130	200	62	55	2.5	0.6	120KBE131	295000	455000	130	185	2	0.6	0.35	1.95	2.90	1.91	7.48
	215	97	78	3	1	120KBE02	515000	880000	130	203	2.5	1	0.44	1.55	2.31	1.52	12.9
	215	132	109	3	1	120KBE22	720000	1270000	132	203	2.5	1	0.44	1.55	2.31	1.52	17.8
	260	128	101	4	1	120KBE03	795000	1340000	134	239	3	1	0.35	1.96	2.91	1.91	28.3
	200	65	52	2.5	0.6	130KBE030	300000	525000	140	189	2	0.6	0.35	1.95	2.90	1.91	6.37
	200	52	46	2.5	0.6	130KBE130	285000	490000	140	187	2	0.6	0.35	1.95	2.90	1.91	5.66
140	210	80	64	2.5	0.6	130KBE031	380000	670000	140	195	2	0.6	0.36	1.87	2.79	1.83	9.91
	210	64	57	2.5	0.6	130KBE131	310000	500000	140	196	2	0.6	0.36	1.87	2.79	1.83	8.20
	230	98	78.5	4	1	130KBE02	560000	960000	144	218	3	1	0.44	1.55	2.31	1.52	14.7
	230	145	117.5	4	1	130KBE22	825000	1560000	144	218	3	1	0.44	1.55	2.31	1.52	22.1
	280	137	107.5	5	1.5	130KBE03	915000	1620000	148	258	4	1.5	0.35	1.96	2.91	1.91	35.1
150	210	66	53	2.5	0.6	140KBE030	310000	560000	150	198	2	0.6	0.47	1.43	2.12	1.40	6.86
	210	53	47	2.5	0.6	140KBE130	252000	425000	150	199	2	0.6	0.33	2.03	3.02	1.98	6.12
	225	84	68	3	1	140KBE031	420000	720000	152	213	2.5	1	0.35	1.95	2.90	1.91	11.09
	225	68	61	3	1	140KBE131	400000	705000	152	212	2.5	1	0.35	1.95	2.90	1.91	9.94
	250	102	82.5	4	1	140KBE02	640000	1070000	154	237	3	1	0.44	1.55	2.31	1.52	18.2
	250	153	125.5	4	1	140KBE22	960000	1820000	154	237	3	1	0.44	1.55	2.31	1.52	27.8
160	300	145	115.5	5	1.5	140KBE03	1020000	1660000	158	277	4	1.5	0.35	1.96	2.91	1.91	42.5
	225	70	56	3	1	150KBE030	345000	565000	162	213	2.5	1	0.33	2.03	3.02	1.98	8.35
	225	56	50	3	1	150KBE130	262000	430000	162	215	2.5	1	0.33	2.03	3.02	1.98	7.42
	250	100	80	3	1	150KBE031	570000	1050000	162	235	2.5	1	0.35	1.95	2.90	1.91	18.2
	250	80	71	3	1	150KBE131	520000	905000	162	233	2.5	1	0.35	1.95	2.90	1.91	15.1
	270	109	87	4	1	150KBE02	735000	1220000	164	255	3	1	0.44	1.55	2.31	1.52	22.9
	270	164	130	4	1	150KBE22	1050000	1980000	164	255	3	1	0.44	1.55	2.31	1.52	35.1
160	320	154	120	5	1.5	150KBE03	1170000	1840000	168	295	4	1.5	0.35	1.96	2.91	1.91	51.2
	240	75	60	3	1	160KBE030	385000	675000	172	227	2.5	1	0.33	2.03	3.02	1.98	10.2
	240	60	53	3	1	160KBE130	315000	495000	172	229	2.5	1	0.33	2.03	3.02	1.98	9.05
	270	108	86	3	1	160KBE031	675000	1160000	172	254	2.5	1	0.35	1.95	2.90	1.91	23.3
	270	86	76	3	1	160KBE131	530000	890000	172	253	2.5	1	0.35	1.95	2.90	1.91	19.2
	290	115	91	4	1	160KBE02	785000	1180000	174	275	3	1	0.44	1.55	2.31	1.52	28.0
	290	178	144	4	1	160KBE22	1220000	2210000	174	275	3	1	0.44	1.55	2.31	1.50	44.2
340	160	126	5	1.5	160KBE03	1350000	2040000	178	311	4	1.5	0.36	1.90	2.80	1.80	59.9	

TDO Design • Metric Size
d: 170 ~ 300 mm



Equivalent bearing load dynamic
 $P_r = X F_r + Y F_a$

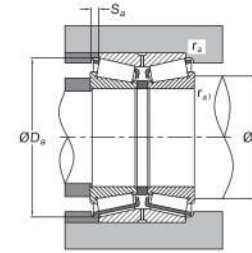
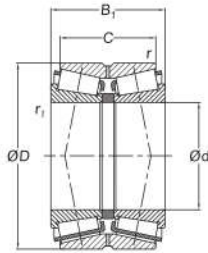
$\frac{F_a}{F_r} \leq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	Y ₁	0.67	Y ₂

static
 $P_{0r} = F_r + Y_0 F_a$
For values of e, Y₁ and Y₂ see the table below.

d	Principal Dimensions (mm)					Bearing Designations	Basic Load Ratings (N)		Abutment and Fillet Dimensions (mm)				Calculation Factors			Weight (kg)	
	D	B ₁	C	r (min)	r ₁ (min)		Dynamic Cr	Static Cor	d _a (min)	D _a (max)	r _a (max)	r _{a1} (max)	e	Y ₁	Y ₂		Y ₀
170	260	84	67	3	1	170KBE030	530000	1000000	182	244	2.5	1	0.33	2.03	3.02	1.98	13.8
	260	67	60	3	1	170KBE130	350000	585000	182	246	2.5	1	0.33	2.03	3.02	1.98	12.2
	280	110	88	3	1	170KBE031	705000	1240000	182	262	2.5	1	0.33	2.06	3.06	2.01	24.8
	280	88	78	3	1	170KBE131	545000	935000	182	264	2.5	1	0.33	2.06	3.06	2.01	20.5
	310	125	97	5	1.5	170KBE02	885000	1430000	188	290	4	1.5	0.44	1.55	2.31	1.52	35.0
	310	192	152	5	1.5	170KBE22	1420000	2610000	188	295	4	1.5	0.44	1.55	2.31	1.52	54.7
180	280	93	74	3	1	180KBE030	555000	975000	192	262	2.5	1	0.33	2.03	3.02	1.98	18.1
	280	74	66	3	1	180KBE130	450000	650000	192	265	2.5	1	0.33	2.03	3.02	1.98	16.0
	300	120	96	4	1.5	180KBE031	805000	1460000	194	281	3	1.5	0.33	2.06	3.06	2.01	31.5
	300	96	85	4	1.5	180KBE131	680000	1130000	194	281	3	1.5	0.33	2.06	3.06	2.01	26.1
	320	127	99	5	1.5	180KBE02	875000	1350000	198	301	4	1.5	0.45	1.5	2.23	1.47	37.0
	320	192	152	5	1.5	180KBE22	1480000	2720000	198	305	4	1.5	0.45	1.5	2.23	1.47	57.0
190	290	94	75	3	1	190KBE030	585000	1120000	202	273	2.5	1	0.33	2.03	3.02	1.98	19.1
	290	75	67	3	1	190KBE130	485000	850000	202	276	2.5	1	0.32	2.12	3.15	2.07	17.0
	320	130	104	4	1.5	190KBE031	1030000	1960000	204	296	3	1.5	0.35	1.95	2.90	1.91	39.3
	320	104	92	4	1.5	190KBE131	750000	1280000	204	298	3	1.5	0.35	1.95	2.90	1.91	32.5
	340	133	105	5	1.5	190KBE02	975000	1600000	208	319	4	1.5	0.44	1.55	2.31	1.52	44.0
	340	204	160	5	1.5	190KBE22	1580000	2880000	208	330	4	1.5	0.44	1.55	2.31	1.52	68.8
200	310	103	82	3	1	200KBE030	705000	1270000	212	295	2.5	1	0.33	2.03	3.02	1.98	54.5
	310	82	73	3	1	200KBE130	530000	880000	212	295	2.5	1	0.32	2.12	3.15	2.07	21.7
	340	140	112	4	1.5	200KBE031	1030000	1770000	214	318	3	1.5	0.35	1.95	2.90	1.91	48.2
	340	112	100	4	1.5	200KBE131	1000000	1770000	214	316	3	1.5	0.35	1.95	2.90	1.91	39.9
	360	142	110	5	1.5	200KBE02	1090000	1760000	218	336	4	1.5	0.44	1.55	2.31	1.52	53.0
	360	218	174	5	1.5	200KBE22	1830000	3450000	218	340	4	1.5	0.41	1.66	2.47	1.62	82.8
220	340	113	90	4	1.5	220KBE031	815000	1620000	234	320	3	1.5	0.32	2.12	3.15	2.07	32.2
	340	90	80	4	1.5	220KBE130	650000	1170000	234	325	3	1.5	0.32	2.12	3.15	2.07	28.5
	370	150	120	5	1.5	220KBE031	1240000	2400000	238	348	4	1.5	0.35	1.95	2.90	1.91	60.5
	370	120	107	5	1.5	220KBE131	955000	1640000	238	347	4	1.5	0.35	1.95	2.90	1.91	50.0
	400	158	122	5	1.5	220KBE02	1410000	2480000	238	374	4	1.5	0.40	1.70	2.50	1.60	73.4
	240	360	115	92	4	1.5	240KBE030	850000	1780000	254	340	3	1.5	0.32	2.12	3.15	2.07
360		92	82	4	1.5	240KBE130	680000	1230000	254	345	3	1.5	0.32	2.12	3.15	2.07	31.2
400		160	128	5	1.5	240KBE031	1480000	2850000	258	372	4	1.5	0.35	1.95	2.90	1.91	74.6
400		128	114	5	1.5	240KBE131	1160000	2130000	258	377	4	1.5	0.35	1.95	2.90	1.91	61.8
400		130	104	5	1.5	260KBE030	1100000	2160000	278	383	4	1.5	0.32	2.12	3.15	2.07	50.9
400		104	92	5	1.5	260KBE130	835000	1520000	278	382	4	1.5	0.33	2.03	3.02	1.98	45.3
260	440	180	144	5	1.5	260KBE031	1910000	3750000	278	409	4	1.5	0.35	1.95	2.90	1.91	103
	440	144	128	5	1.5	260KBE131	1350000	2540000	278	415	4	1.5	0.35	1.95	2.90	1.91	85.5
	420	133	106	5	1.5	280KBE030	1240000	2580000	298	396	4	1.5	0.33	2.03	3.02	1.98	55.3
	420	106	94	5	1.5	280KBE130	905000	1670000	298	403	4	1.5	0.33	2.03	3.02	1.98	48.9
	460	183	146	6	1.5	280KBE031	1960000	3950000	302	429	5	2	0.35	1.95	2.90	1.91	111
	460	146	130	6	2	280KBE131	1530000	3000000	302	434	5	2	0.35	1.95	2.90	1.91	91.6
300	460	148	118	5	1.5	300KBE030	1520000	3150000	318	437	4	1.5	0.32	2.12	3.15	2.07	76.3
	460	118	105	5	1.5	300KBE130	1060000	2030000	318	436	4	1.5	0.32	2.12	3.15	2.07	67.6
	500	200	160	6	2	300KBE031	2100000	4100000	322	474	5	2	0.35	1.95	2.90	1.91	146
	500	160	142	6	2	300KBE131	1780000	3050000	322	471	5	2	0.35	1.95	2.90	1.91	121

TDO Design • Metric Size

d: 320 ~ 500 mm



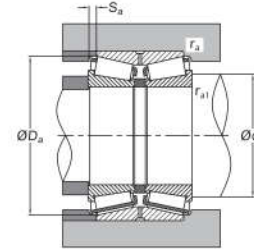
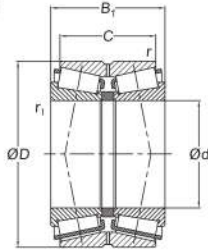
Equivalent bearing load
dynamic
 $P_d = X F_r + Y F_a$

$\frac{F_a}{F_r} \leq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	Y ₁	0.67	Y ₂

static
 $P_{st} = F_r + Y_0 F_a$
For values of e, Y₂ and Y₀
see the table below.

d	Principal Dimensions (mm)					Bearing Designations	Basic Load Ratings (N)		Abutment and Fillet Dimensions (mm)				Calculation Factors			Weight (kg)	
	D	B ₁	C	r (min)	r ₁ (min)		Dynamic Cr	Static Cor	d _a (min)	D _a (max)	r _a (max)	r _{a1} (max)	e	Y ₁	Y ₂		Y ₀
320	480	151	121	6	1.5	320KBE030	1560000	3200000	338	455	5	1.5	0.32	2.12	3.15	2.07	81.9
	480	121	108	5	1.5	320KBE130	1330000	2680000	338	453	4	1.5	0.32	2.12	3.15	2.07	73.0
	540	220	176	6	2	320KBE031	2530000	5050000	342	499	5	2	0.35	1.95	2.90	1.91	190
	540	176	157	6	2	320KBE131	2150000	3850000	342	502	5	2	0.35	1.95	2.90	1.91	157
340	520	165	133	6	2	340KBE030	1890000	3950000	362	488	5	2	0.32	2.12	3.15	2.07	108
	520	133	118	6	2	340KBE130	1600000	3150000	362	489	5	2	0.32	2.12	3.15	2.07	97.2
	580	238	190	6	2	340KBE031	2100000	6250000	362	537	5	2	0.35	1.95	2.90	1.91	239
	580	190	169	6	2	340KBE131	2460000	4600000	362	540	5	2	0.35	1.95	2.90	1.91	198
360	540	169	134	6	2	360KBE030	1980000	4400000	382	514	5	2	0.32	2.12	3.15	2.07	116
	540	134	120	6	2	360KBE130	1460000	2800000	382	511	5	2	0.32	2.12	3.15	2.07	102
	600	240	192	6	2	360KBE031	3200000	6650000	382	558	5	2	0.39	1.74	2.90	1.70	252
	600	192	171	6	2	360KBE131	2830000	5600000	382	559	5	2	0.35	1.94	2.59	1.91	208
380	560	171	135	6	2	380KBE030	2000000	4550000	402	532	5	2	0.39	1.74	2.59	1.70	123
	560	135	122	6	2	380KBE130	1700000	3550000	402	531	5	2	0.32	2.12	3.15	2.07	108
	620	243	194	6	2	380KBE031	3350000	7100000	402	578	5	2	0.35	1.95	2.90	1.91	266
	620	194	173	6	2	380KBE131	2900000	5900000	402	579	5	2	0.39	1.74	2.59	1.71	219
400	600	185	148	6	2	400KBE030	2430000	5350000	422	566	5	2	0.32	2.12	3.15	2.07	157
	600	148	132	6	2	400KBE130	2020000	4200000	422	566	5	2	0.32	2.12	3.15	2.07	139
	650	250	200	6	3	400KBE031	3550000	7650000	428	607	5	2.5	0.35	1.95	2.90	1.91	299
	650	200	178	6	3	400KBE131	3100000	6400000	428	608	5	2.5	0.35	1.95	2.90	1.91	247
420	620	188	150	6	2	420KBE030	3400000	5450000	442	585	5	2	0.39	1.74	2.59	1.70	166
	620	150	134	6	2	420KBE130	1870000	3950000	442	582	5	2	0.33	2.03	3.02	1.98	147
	700	280	224	6	3	420KBE031	4350000	9250000	448	652	5	2.5	0.39	1.74	2.59	1.70	400
	700	224	200	6	3	420KBE131	3900000	7950000	448	651	5	2.5	0.39	1.74	2.59	1.70	331
440	650	196	157	6	3	440KBE030	2730000	6150000	468	614	5	2.5	0.39	1.74	2.59	1.70	190
	650	157	140	6	3	440KBE130	2200000	4650000	468	615	5	2.5	0.33	2.03	3.02	1.98	169
	720	283	226	6	3	440KBE031	4450000	9750000	468	672	5	2.5	0.40	1.68	2.51	1.65	419
	720	226	201	6	3	440KBE131	4000000	8350000	468	654	5	2.5	0.40	1.70	2.60	1.70	346
460	680	204	163	6	3	460KBE030	3300000	8150000	488	648	5	2.5	0.39	1.74	2.59	1.70	217
	680	163	145	6	3	460KBE130	2420000	5150000	488	642	5	2.5	0.37	1.83	2.72	1.78	193
	760	300	240	7.5	4	460KBE031	5050000	11100000	490	707	6	3	0.39	1.74	2.59	1.70	500
	760	240	214	7.5	4	460KBE131	4550000	9600000	496	709	6	3	0.39	1.70	2.60	1.70	414
480	700	206	165	6	3	480KBE030	3050000	7050000	508	662	5	2.5	0.33	2.03	3.02	1.98	227
	700	165	147	6	3	480KBE130	2200000	4750000	508	665	5	2.5	0.33	2.03	3.02	1.98	202
	790	310	248	7.5	4	480KBE031	5100000	11000000	516	736	6	3	0.39	1.74	2.59	1.70	556
	790	248	221	7.5	4	480KBE131	4800000	10100000	516	737	6	3	0.39	1.74	2.59	1.70	460
500	720	209	167	6	3	500KBE030	3150000	7400000	528	683	5	2.5	0.42	1.62	2.41	1.58	238
	720	167	149	6	3	500KBE130	2520000	5550000	528	684	5	2.5	0.40	1.71	2.54	1.67	211
	830	330	264	7.5	4	500KBE031	5750000	12500000	536	752	6	3	0.39	1.70	2.60	1.70	660
	830	264	235	7.5	4	500KBE131	5200000	11000000	536	774	6	3	0.39	1.70	2.60	1.70	546

TDO Design • Inch Size
d: 139.700~228.600mm



Equivalent bearing load dynamic
 $P_i = X F_r + Y F_a$

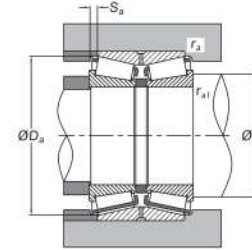
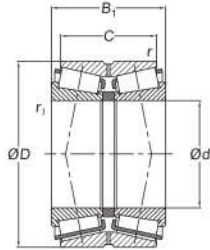
$\frac{F_a}{F_r} \leq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	Y ₁	0.67	Y ₂

 static
 $P_{0i} = F_r + Y_0 F_a$
 For values of e, Y₁ and Y₂ see the table below.

Principal Dimensions (mm)				Bearing Designations	Basic Load Ratings (kN)		Abutment and Fillet Dimensions (mm)				Calculation Factors				Weight (kg)
d	D	B ₁	C		Dynamic Cr	Static Cor	d _a (min)	D _a (max)	r _a (max)	r _{a1} (max)	e	Y ₁	Y ₂	Y ₃	
139.700	307.975	200.025	155.575	HH234031/HH234011D	1740	2780	180	285	9.7	2.3	0.33	2.07	3.08	2.02	65.9
152.400	307.975	200.025	146.050	EE450601/451215D	1510	2620	189	275	9.7	2.3	0.33	2.07	3.08	2.02	62.6
	307.975	200.025	155.575	HH234048/HM234011D	1740	2780	191	285	9.7	2.3	0.33	2.07	3.08	2.02	62.6
160.325	288.925	142.875	111.125	HM237532/HM237510D	1160	2140	192	271	7.0	1.5	0.32	2.12	3.15	2.07	36.1
165.100	288.925	142.875	111.125	94649/94114D	940	1900	197	272	7.0	1.5	0.47	1.44	2.15	1.41	35.1
	288.925	142.875	111.125	HM237535/HM237510D	1160	2140	195	271	7.0	1.5	0.32	2.12	3.15	2.07	35.1
174.625	288.925	142.875	111.125	94687/94114D	940	1900	204	272	7.0	1.5	0.47	1.44	2.15	1.41	33.1
	288.925	142.875	111.125	HM237542/HM237510D	1160	2140	202	271	7.0	1.5	0.32	2.12	3.15	2.07	33.1
177.800	288.925	142.875	111.125	94700/94114D	940	1900	207	272	7.0	1.5	0.47	1.44	2.15	1.41	32.4
	288.925	142.875	111.125	HM237545/HM237510D	1160	2140	205	271	7.0	1.5	0.32	2.12	3.15	2.07	32.4
	320.675	185.738	138.112	EE222070/222127D	1300	2480	204	298	3.5	1.5	0.40	1.68	2.50	1.64	57.8
	320.675	185.738	138.112	H239640/H239612D	1590	2790	202	301	3.5	1.5	0.32	2.12	3.15	2.07	57.8
187.325	282.575	107.950	79.375	87737/87112D	625	1230	207	267	3.5	1.5	0.42	1.62	2.42	1.59	21.2
	320.675	185.738	138.112	H239649/H239612D	1590	2790	214	301	5.5	1.5	0.32	2.12	3.15	2.07	55
190.500	282.575	107.950	79.375	87750/87112D	625	1230	209	267	3.5	1.5	0.42	1.62	2.42	1.59	20.6
	317.500	146.050	111.125	93750/93127D	1060	2310	218	300	4.3	1.5	0.52	1.29	1.92	1.26	41.2
193.675	368.300	193.675	136.525	EE420751/421451D	1670	3200	227	334.4	6.4	1.5	0.40	1.68	2.50	1.64	84.1
	282.575	107.950	79.375	87762/87112D	625	1230	211	267	3.5	1.5	0.42	1.62	2.42	1.59	20
200.025	292.100	125.415	101.600	M241543/M241510D	915	2070	219	279	3.5	1.5	0.33	2.03	3.02	1.98	24.8
	317.500	146.050	111.125	93787/93727D	1060	2310	225	300	4.3	1.5	0.52	1.29	1.92	1.26	38.8
	384.175	238.125	193.675	H247535/H247510D	2500	5450	241	362	6.4	1.5	0.33	2.03	3.02	1.98	112
203.200	276.225	90.485	73.025	LM241149/LM241110D	585	1380	220	267	3.5	0.8	0.32	2.12	3.15	2.07	13.8
	282.575	101.600	82.550	67983/67920D	620	1570	222	275	3.5	0.8	0.51	1.33	1.97	1.30	17.1
	292.100	125.415	101.600	M241547/M241510D	915	2070	221	279	3.5	1.5	0.33	2.03	3.02	1.98	24.1
	317.500	146.050	111.125	93800/93127D	1060	2310	227	300	4.3	1.5	0.52	1.29	1.92	1.26	37.1
	368.300	193.675	136.525	EE420801/421451D	1670	3200	230	334.4	3.3	1.5	0.40	1.68	2.50	1.64	79.9
204.788	406.400	196.850	127.000	EE114080/114161D	1650	2950	246	374	6.4	3.3	0.80	0.85	1.26	0.83	107
	292.100	125.415	101.600	M241549/M241510D	915	2070	223	279	3.5	1.5	0.33	2.03	3.02	1.98	23.8
206.375	282.575	101.600	82.550	67985/67920D	620	1570	224	275	3.5	0.8	0.51	1.33	1.97	1.30	16.5
	336.550	211.138	169.862	H242649/H242610D	1900	4050	231	318	3.3	1.5	0.33	2.03	3.02	1.98	65.2
209.550	282.575	101.600	82.550	67989/67920D	620	1570	227	275	3.5	0.8	0.51	1.33	1.97	1.30	16
	317.500	146.050	111.125	93825/93127D	1060	2310	233	300	4.3	1.5	0.52	1.29	1.92	1.26	36.3
212.725	285.750	98.425	76.200	LM742745/LM742710D	650	1640	230	279	3.5	0.8	0.48	1.40	2.09	1.37	15.7
215.900	285.750	98.425	76.200	LM742749/LM742710D	650	1640	233	279	3.5	0.8	0.48	1.40	2.09	1.37	15.1
	287.338	69.850	50.800	543085/543115D	355	810	232	276	3.5	0.8	0.38	1.77	2.64	1.73	11
220.662	314.325	131.762	106.362	M244249/M244210D	1070	2450	245	300	6.4	1.5	0.33	2.03	3.02	1.98	28.9
228.460	431.800	196.850	111.125	EE113091/113171D	1470	2480	274	397	6.4	3.3	0.88	0.77	1.14	0.75	116
228.600	327.025	114.300	82.550	8573/8520D	815	1900	255	313	6.4	1.5	0.41	1.66	2.47	1.62	27.3
	355.600	152.400	111.125	96900/96140D	1100	2540	260	334	7.0	1.5	0.59	1.14	1.70	1.12	49.4
	355.600	152.400	111.125	EE130902/131401D	1230	2510	257	330	6.8	1.5	0.33	2.04	3.04	2.00	49.4
	355.600	152.400	114.300	HM746646/HM746610D	1230	2490	258	339	6.4	1.5	0.47	1.43	2.12	1.40	49.4

Note: Bearing chamfers r and r₁ should be larger than the max value of r_a and r_{a1}.

TDO Design • Inch Size
d: 228.600~280.192mm



Equivalent bearing load dynamic
 $P_d = X F_r + Y F_a$

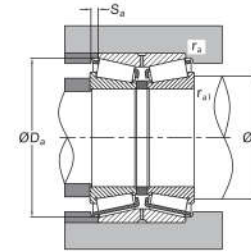
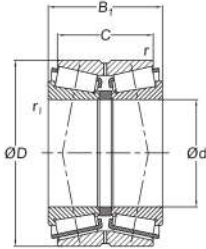
$\frac{F_a}{F_r} \leq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	Y ₁	0.67	Y ₂

 static
 $P_{st} = F_r + Y_0 F_a$
 For values of e , Y_2 and Y_0 see the table below.

Principal Dimensions (mm)				Bearing Designations	Basic Load Ratings (kN)		Abutment and Fillet Dimensions (mm)				Calculation Factors				Weight (kg)
d	D	B ₁	C		Dynamic Cr	Static Cor	d _a (min)	D _a (max)	r _a (max)	r _{a1} (max)	e	Y ₁	Y ₂	Y ₃	
228.600	358.775	152.400	117.475	M249732/M249710D	1390	3300	256	343	3.5	1.5	0.33	2.03	3.02	1.98	50.9
	400.050	187.325	136.525	EE430900/431576D	1620	3250	271	367	10.5	1.5	0.44	1.54	2.29	1.50	88.3
	488.950	254.000	152.400	HH949549/HH949510DG2	2700	4550	297	456	6.4	1.5	0.94	0.72	1.07	0.70	207
231.775	358.775	152.400	117.475	M249734/M249710D	1390	3300	263	343	6.4	1.5	0.33	2.03	3.02	1.98	50
	311.150	98.425	73.025	LM446349/LM446310D	695	1640	252	301	3.5	0.8	0.36	1.86	2.77	1.82	17.9
234.950	327.025	114.300	82.550	8575/8520D	815	1900	259	313	6.4	1.5	0.41	1.66	2.47	1.62	25.9
	355.600	152.400	111.125	96925/96140D	1100	2540	265	334	7.0	1.5	0.59	1.14	1.70	1.12	47.5
	384.175	238.125	193.675	H247549/H247510D	2500	5450	269	362	6.4	1.5	0.33	2.03	3.02	1.98	96.2
237.330	358.775	152.400	117.475	M249736/M249710D	1390	3300	267	343	6.4	1.5	0.33	2.03	3.02	1.98	48.2
	327.025	114.300	82.550	8578/8520D	815	1900	264	313	6.4	1.5	0.41	1.66	2.47	1.62	24.3
241.300	349.148	127.000	101.600	EE127095/127136D	940	2010	267	329	6.4	1.5	0.35	1.91	2.85	1.87	35.4
	368.300	120.650	85.725	EE170950/171450D	790	1630	269	337	6.4	1.5	0.36	1.85	2.76	1.81	40.8
	393.700	157.162	109.538	EE275095/275156D	1340	2800	278	378.1	6.4	1.5	0.40	1.68	2.50	1.64	66.5
	406.400	215.900	184.150	H249148/H249111D	2460	4750	273	385	6.4	1.5	0.33	2.03	3.02	1.98	101
	444.500	209.550	158.750	EE923095/923176DG2	2380	4250	277	407	6.4	1.5	0.34	2.00	2.98	1.96	128
244.475	381.000	171.450	127.000	EE126097/126151D	1300	2880	275	358	6.4	1.5	0.52	1.31	1.95	1.28	64
247.650	368.300	120.650	85.725	EE170975/171451D	790	1630	274	337	6.4	1.5	0.36	1.85	2.76	1.81	39.2
	406.400	247.650	203.200	HH249949/HH249910D	2830	6000	284	383	6.4	1.5	0.33	2.03	3.02	1.98	112
249.250	381.000	171.450	127.000	EE126098/126151D	1300	2880	279	358	6.4	1.5	0.52	1.31	1.95	1.28	62.2
	323.850	63.500	50.800	29875/29820D	216	635	267	312	1.5	0.8	0.35	1.95	2.90	1.91	11.2
254.000	358.775	152.400	117.475	M249749/M249710D	1390	3300	274	343	3.5	1.5	0.33	2.03	3.02	1.98	42.8
	365.125	130.175	98.425	EE134100/134144D	1050	2380	281	347	6.4	1.5	0.37	1.80	2.69	1.76	39.2
	393.700	157.162	109.538	EE275100/275156D	1340	2800	287	378	6.4	1.5	0.40	1.68	2.50	1.64	62.2
	422.275	178.592	139.700	HM252343/HM252310D	2000	3600	287	400	6.8	1.5	0.33	2.03	3.02	1.98	88.9
	533.400	276.225	165.100	HH953749/HH953710D	2880	5200	328	496	6.4	1.5	0.94	0.71	1.06	0.70	266
260.350	365.125	130.175	98.425	EE134102/134144D	1050	2380	286	347	6.4	1.5	0.37	1.80	2.69	1.76	37.3
	400.050	155.575	107.950	EE221026/221576D	1220	2460	296	372	9.7	1.5	0.39	1.71	2.54	1.67	62.7
	419.100	184.150	136.525	EE435102/435165D	1580	3250	295	395	6.4	1.5	0.61	1.11	1.66	1.09	86.8
	422.275	178.592	139.700	HM252348/HM252310D	2000	3600	292	400	6.8	1.5	0.33	2.03	3.02	1.98	86.3
	488.950	254.000	196.850	EE295102/295192D	3000	5950	299	451	6.4	1.5	0.31	2.16	3.22	2.12	190
263.525	355.600	127.000	101.600	LM451345/LM451310D	1070	2670	283	343	3.5	1.5	0.36	1.87	2.79	1.83	31.7
	323.850	63.500	50.800	29880/29820D	216	635	277	312	1.5	0.8	0.35	1.95	2.90	1.91	9.37
266.700	355.600	127.000	101.600	LM451349/LM451310D	1070	2670	285	343	3.5	1.5	0.36	1.87	2.79	1.83	30.7
	393.700	157.162	109.538	EE275105/275156D	1340	2800	296	378	6.4	1.5	0.40	1.68	2.50	1.64	57.6
269.875	381.000	158.750	123.825	M252349/M252310D	1520	3600	296	364	6.4	1.5	0.33	2.03	3.02	1.98	52.3
273.050	393.700	157.162	109.538	EE275180/275156D	1340	2800	301	378	6.4	1.5	0.40	1.68	2.50	1.64	55.3
	374.650	104.775	79.375	L555233/L555210D	810	2020	300	362	3.5	1.5	0.40	1.68	2.50	1.64	28.5
279.400	469.900	200.025	149.225	EE722110/722186D	2030	4350	321	433	9.7	1.5	0.38	1.78	2.65	1.74	125
	488.950	254.000	196.850	EE295110/295192D	3000	5950	303	451	1.3	1.5	0.31	2.16	3.22	2.12	179
279.982	380.898	139.700	107.950	LM654642/LM654610D	1140	3100	302	368	3.5	1.5	0.43	1.56	2.33	1.53	40.7
280.192	406.400	149.225	117.475	EE128111/128160D	1310	3100	309	384	6.8	1.5	0.39	1.75	2.61	1.71	56.5

Note: Bearing chamfers r and r₁ should be larger than the max value of r_a and r_{a1}.

TDO Design • Inch Size
d: 285.750~406.400mm



Equivalent bearing load dynamic
 $P_i = X F_r + Y F_a$

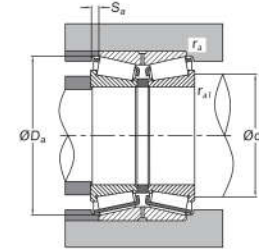
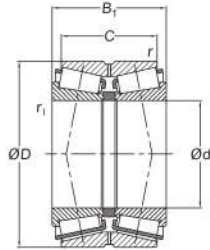
$\frac{F_a}{F_r} \leq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	Y ₁	0.67	Y ₂

static
 $P_{0i} = F_r + Y_0 F_a$
For values of e , Y_1 and Y_2 see the table below.

Principal Dimensions (mm)				Bearing Designations	Basic Load Ratings (kN)		Abutment and Fillet Dimensions (mm)				Calculation Factors				Weight (kg)
d	D	B ₁	C		Dynamic Cr	Static Cor	d _a (min)	D _a (max)	r _a (max)	r _{a1} (max)	e	Y ₁	Y ₂	Y ₃	
285.750	358.775	76.200	53.975	545112/545142DA	450	1080	302	345	3.5	1.5	0.49	1.38	2.05	1.34	15.7
	380.898	139.700	107.950	LM654649/LM654610D	1140	3100	306	368	3.5	1.5	0.43	1.56	2.33	1.53	38.7
	501.650	203.200	120.650	EE147112/147198D	1960	3700	329	468	6.4	3.3	0.84	0.81	1.20	0.79	151
288.925	406.400	165.100	130.175	M255449/M255410DA	1740	4150	316	388	6.4	1.5	0.34	2.00	2.98	1.96	59
292.100	374.650	104.775	79.375	L555249/L555210D	810	2020	309	362	3.5	1.5	0.40	1.68	2.50	1.64	25.2
	469.900	200.025	149.225	EE722115/722186D	2030	4350	330	433	9.7	1.5	0.38	1.78	2.65	1.74	118
298.450	444.500	146.050	98.425	EE291175/291751D	1080	2300	332	414	8.0	1.5	0.38	1.78	2.65	1.74	69.3
299.974	495.300	301.625	247.650	HM258248/HM258210DG2	4200	9800	342	467	6.4	1.5	0.33	2.03	3.02	1.98	205
300.038	422.275	174.625	136.525	HM256849/HM256810DG2	1950	4800	328	403	6.4	1.5	0.34	2.00	2.99	1.96	67.4
304.800	393.700	107.950	82.550	L357049/L357010D	835	2070	329	380	6.4	1.5	0.36	1.87	2.79	1.83	29.3
	438.048	165.100	120.650	EE129120X/129120D	1380	3200	334	411	6.4	1.5	0.42	1.62	2.42	1.59	71.4
	444.800	146.050	98.425	EE291201/291751D	1080	2300	337	414	8.0	1.5	0.38	1.78	2.65	1.74	66.8
	495.300	196.850	146.050	EE724120/724196D	2120	4700	359	459	16.0	1.5	0.40	1.68	2.50	1.64	131
317.500	444.500	146.050	98.425	EE291250/291751D	1080	2300	346	414	8.0	1.5	0.38	1.78	2.65	1.74	61.8
	447.675	180.975	146.050	HM259049/HM259010D	1990	4800	341	428	3.5	1.5	0.33	2.02	3.00	1.97	78.8
	622.300	304.800	174.625	H961649/H961610DG2	3250	6250	410	582	14.3	3.3	0.95	0.71	1.06	0.70	382
330.200	482.600	133.350	88.900	EE161300/161901D	1200	2870	367	455	7.0	1.5	0.50	1.35	2.01	1.32	72.2
	482.600	177.800	127.000	EE526130/526191D	1640	3950	360	454	6.4	1.5	0.39	1.72	2.56	1.68	96.3
333.375	469.900	190.500	152.400	HM261049/HM261010DA	2320	5500	363	449	6.4	1.5	0.33	2.02	3.00	1.97	91.3
342.900	457.098	142.875	104.775	LM961548/LM961511D	1210	3300	367	443.1	3.3	1.5	0.71	0.95	1.41	0.93	57.1
	533.400	165.100	114.300	EE971354/972102D	1830	3450	373	996	4.8	1.5	0.33	2.03	3.02	1.98	120
346.075	482.600	133.350	88.900	EE161363/161901D	1200	2870	379	455	7.0	1.5	0.50	1.35	2.01	1.32	66
	488.950	200.025	158.750	HM262749/HM262710DG2	2540	6400	377	467	6.4	1.5	0.33	2.02	3.00	1.97	104
349.250	514.350	193.675	152.400	EE333137/333203D	2040	4550	382	478	6.4	1.5	0.36	1.85	2.76	1.81	121
355.600	444.500	136.525	111.125	L163149/L163110D	1120	3500	374	430	3.5	1.5	0.31	2.02	3.27	2.15	42.5
	482.600	133.350	88.900	EE161400/161901D	1200	2870	386	455	7.0	1.5	0.50	1.35	2.01	1.32	62.1
	501.650	155.575	107.950	EE231400/231976D	1550	3650	388	481	6.4	1.5	0.44	1.53	2.28	1.50	85.2
	514.350	193.675	152.400	EE333140/333203D	2040	4550	387	478	6.4	1.5	0.36	1.85	2.76	1.81	117
368.249	523.875	214.312	169.862	HM265049/HM265010DG2	2610	6550	400	499	6.4	1.5	0.33	2.03	3.02	1.98	142
371.475	501.650	155.575	107.950	EE231462/231976D	1550	3650	400	481	6.4	1.5	0.44	1.53	2.28	1.50	77.3
381.000	508.000	139.700	88.900	EE192150/192201D	920	2270	410	482	6.4	1.5	0.53	1.27	1.89	1.24	69
	546.100	222.250	177.800	HM266446/HM266410D	2950	7350	415	519	6.4	1.5	0.33	2.03	3.02	1.98	149
	590.550	244.475	193.675	M268730/M268710DG2	3650	9450	425	561	6.4	1.5	0.33	2.03	3.02	1.98	247
384.175	441.325	68.262	52.388	LL365340/LL365310D	360	1060	399	433	3.5	0.8	0.34	1.99	2.96	1.94	14.1
	546.100	222.250	177.800	HM266448/HM266410D	2950	7350	417	519	6.4	1.5	0.33	2.03	3.02	1.98	146
	546.100	222.250	177.800	HM266449/HM266410DG2	3150	8050	417	520	6.4	1.5	0.33	2.03	3.02	1.98	146
385.762	514.350	177.800	139.700	LM665949/LM665910D	2120	5550	415	495	6.4	1.5	0.42	1.61	2.40	1.58	90
396.875	539.750	142.875	101.600	EE234156/234213D	1330	3300	428	516	6.4	1.5	0.47	1.43	2.12	1.40	83.6
	546.100	158.750	117.475	EE234156/234216D	1330	3300	428	516	6.4	1.5	0.47	1.43	2.12	1.40	97.7
406.400	539.750	142.875	101.600	EE234160/234213D	1330	3300	435	518	6.4	1.5	0.47	1.43	2.12	1.40	78.8
	609.600	187.325	123.825	EE911600/912401D	2110	4650	443	570	6.8	1.5	0.38	1.76	2.62	1.72	169

Note: Bearing chamfers r and r₁ should be larger than the max value of r_a and r_{a1}.

TDO Design • Inch Size
d: 415.925~1270.000mm



Equivalent bearing load
dynamic
 $P_i = X F_r + Y F_a$

$\frac{F_a}{F_r} \leq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	Y ₁	0.67	Y ₂

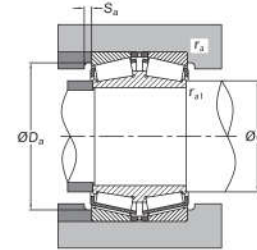
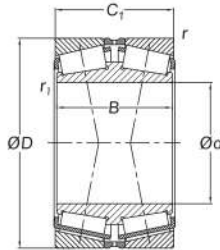
static
 $P_{0i} = F_r + Y_0 F_a$
For values of e , Y_1 and Y_0 see the table below.

Principal Dimensions (mm)				Bearing Designations	Basic Load Ratings (kN)		Abutment and Fillet Dimensions (mm)				Calculation Factors				Weight (kg)
d	D	B ₁	C		Dynamic Cr	Static Cor	d _a (min)	D _a (max)	r _a (max)	r _{a1} (max)	e	Y ₁	Y ₂	Y ₀	
415.925	590.550	244.475	193.675	M268749/M268710DG2	3650	9450	451	561	6.4	1.5	0.33	2.03	3.02	1.98	188
431.800	571.500	155.575	111.125	LM869448/LM869410D	1880	4950	457	549	3.3	1.5	0.55	1.24	1.84	1.21	95.3
	603.250	159.639	104.775	EE241701/242377D	1670	4100	446	561	6.4	1.5	0.53	1.28	1.91	1.25	124
447.675	673.100	192.639	127.000	EE571703/572651D	2560	5350	472	630	6.4	1.5	0.40	1.68	2.50	1.64	225
	635.000	257.175	206.375	M270749/M270710DAG2	4150	11100	484	606	6.4	1.5	0.33	2.03	3.02	1.98	228
457.200	596.900	165.100	120.650	EE244180/244236D	1670	4700	494	570	9.7	1.5	0.40	1.67	2.49	1.63	106
	730.148	254.000	177.800	EE671801/672875D	4350	8750	507	681	9.7	1.5	0.39	1.72	2.56	1.68	360
479.425	679.450	276.225	222.250	M272749/M272710DG2	4900	13000	516	648	6.4	1.5	0.33	2.03	3.02	1.98	310
482.600	615.950	184.150	146.050	LM272249/LM272210DG2	2320	6700	513	597	6.4	1.5	0.33	2.03	3.02	1.98	118
	634.873	177.800	142.875	EE243190/243251D	2000	6150	516	609	6.4	1.5	0.34	1.98	2.94	1.93	148
488.950	634.873	180.975	136.525	LM772748/LM772710DA	2500	6950	522	613	6.4	1.5	0.47	1.43	2.12	1.40	130
	660.400	206.375	158.750	EE640192/640261DG2	3150	8050	522	627	6.4	1.5	0.31	2.20	3.27	2.15	178
489.026	634.873	177.800	142.875	EE243192/243251D	2000	6150	522	609	6.4	1.5	0.34	1.98	2.94	1.93	140
498.475	634.873	177.800	142.875	EE243196/243251D	2000	6150	528	609	6.4	1.5	0.34	1.98	2.94	1.93	129
508.000	838.200	304.800	222.250	EE426200/426331D	5450	12800	564	768	9.7	3.3	0.48	1.41	2.09	1.37	592
533.400	812.800	269.875	187.325	EE626210/626321D	4450	10400	585	762	9.7	3.3	0.44	1.52	2.26	1.49	444
	536.575	761.873	311.150	247.650	M276449/M276410DG2	5900	15200	576	726	6.4	1.5	0.33	2.03	3.02	1.98
549.275	692.150	174.625	136.525	L476549/L476510D	2320	6950	579	666	6.4	1.5	0.38	1.79	2.67	1.75	135
	736.600	165.100	114.300	EE542220/542291D	2050	5400	594	705	6.4	3.3	0.51	1.32	1.96	1.29	166
558.800	736.600	187.328	138.112	EE843220/843291D	2500	6750	591	708	6.4	1.5	0.34	1.98	2.94	1.93	189
	736.600	225.425	177.800	LM377449/LM377410D	3150	8800	594	708	6.4	1.5	0.35	1.95	2.90	1.91	227
571.500	812.800	333.375	263.525	M278749/M278710DAG2	6950	18300	615	774	6.4	1.5	0.33	2.03	3.02	1.98	487
609.600	787.400	206.375	158.750	EE649240/649311DG2	3750	10100	642	764	6.4	1.5	0.33	2.03	3.02	1.98	235
	812.800	190.500	146.050	EE743240/743321D	2860	7850	645	765	6.4	3.3	0.33	2.06	3.06	2.01	241
660.400	812.800	203.200	158.750	L281148/L281110DA	3250	10300	693	789	6.4	1.5	0.37	1.80	2.69	1.76	199
711.200	914.400	190.500	139.700	EE755280/755361DG2	3100	8950	750	876	6.4	3.3	0.38	1.77	2.64	1.73	275
723.900	914.400	187.325	139.700	EE755285/755361DG2	3100	8950	756	876	5.5	3.3	0.38	1.77	2.64	1.73	256
977.900	1130.300	139.700	101.600	LL687949/LL687910D	2050	7200	1010	1100	6.4	3.3	0.44	1.54	2.30	1.51	196
1270.000	1435.100	146.050	101.600	LL889049/LL889010D	2730	10100	1305	1400	6.4	3.3	0.58	1.17	1.75	1.15	285

Note: Bearing chamfers r and r₁ should be larger than the max value of r_a and r_{a1}.

TDI Design • Metric Size

d: 110 ~ 500 mm



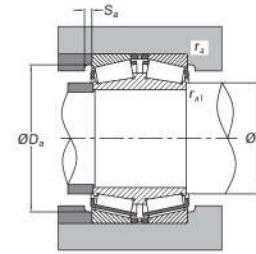
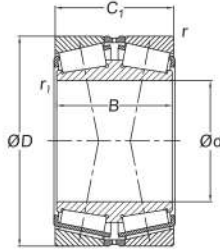
Equivalent bearing load dynamic
 $P_d = X F_r + Y F_a$

$\frac{F_a}{F_r} \leq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	Y ₁	0.67	Y ₂

static
 $P_{st} = F_r + Y_0 F_a$
 For values of e, Y₁ and Y₀
 see the table below.

Principal Dimensions (mm)						Bearing Designations	Basic Load Ratings (N)		Abutment and Fillet Dimensions (mm)				Calculation Factors			Weight (kg)	
d	D	B	C ₁	r (min)	r ₁ (min)		Dynamic Cr	Static Cor	d _a (min)	D _a (max)	r _a (max)	r _{a1} (max)	e	Y ₁	Y ₂		Y ₀
110	180	56	56	2	2.5	110KBD031	300000	505000	128	160	2	2	0.35	1.95	2.90	1.91	5.40
120	180	46	46	2	2.5	120KBD030	229000	424000	138	163	2	2	0.26	2.55	3.80	2.50	4.08
120	220	62	62	2	2.5	120KBD031	353000	598000	142	178	2	2	0.35	1.95	2.90	1.91	7.92
130	200	52	52	2	2.5	130KBD030	300000	548000	152	179	2	2	0.27	2.47	3.67	2.41	5.96
130	210	64	64	2	2.5	130KBD031	412000	657000	153	185	2	2	0.36	1.87	2.79	1.83	8.41
140	210	53	53	2	2.5	140KBD030	311000	564000	159	188	2	2	0.27	2.47	3.67	2.41	6.45
140	225	68	68	2.5	3	140KBD031	486000	807000	160	210	2	2.5	0.40	1.68	2.50	1.64	10.0
150	225	56	56	2.5	3	150KBD030	355000	686000	174	203	2	2.5	0.26	2.55	3.80	2.50	7.78
150	250	80	80	2.5	3	150KBD031	593000	955000	179	220	2	2.5	0.35	1.95	2.90	1.91	15.5
160	240	60	60	2.5	3	160KBD030	421000	705000	184	217	2	2.5	0.24	2.79	4.15	2.73	9.22
160	270	86	86	2.5	3	160KBD031	678000	1100000	193	237	2	2.5	0.35	1.95	2.90	1.91	19.8
170	260	67	67	2.5	3	170KBD030	521000	956000	195	233	2	2.5	0.31	2.21	3.29	2.16	12.4
170	280	88	88	2.5	3	170KBD031	723000	1210000	201	247	2	2.5	0.33	2.03	3.02	1.98	21.6
180	280	74	74	2.5	3	180KBD030	575000	1050000	208	250	2	2.5	0.28	2.43	3.61	2.37	16.8
180	300	96	96	3	4	180KBD031	860000	1370000	210	263	2.5	3	0.35	1.95	2.90	1.91	26.5
190	290	75	75	2.5	3	190KBD030	599000	1130000	219	260	2	2.5	0.26	2.55	3.80	2.50	17.7
190	320	104	104	3	4	190KBD031	981000	1590000	224	280	2.5	3	0.35	1.95	2.90	1.91	34.0
200	310	82	82	2.5	3	200KBD030	728000	1410000	234	280	2	2.5	0.26	2.55	3.80	2.50	22.9
200	340	112	112	3	4	200KBD031	1080000	1840000	244	300	2.5	3	0.35	1.95	2.90	1.91	41.9
220	340	90	90	3	4	220KBD030	804000	1460000	259	306	2.5	3	0.28	2.43	3.61	2.37	28.5
220	370	120	120	4	5	220KBD031	1210000	2060000	263	324	3	4	0.35	1.95	2.90	1.91	50.8
240	360	92	92	3	4	240KBD030	915000	1790000	271	325	2.5	3	0.32	2.12	3.15	2.07	32.2
240	400	128	128	4	5	240KBD031	1430000	2470000	286	354	3	4	0.35	1.95	2.90	1.91	65.4
260	400	104	104	4	5	260KBD030	1140000	2120000	302	360	3	4	0.25	2.74	4.08	2.68	48.1
260	440	144	144	4	5	260KBD031	1890000	3440000	313	386	3	4	0.35	1.95	2.90	1.91	92.2
280	420	106	106	4	5	280KBD030	1190000	2470000	321	370	3	4	0.25	2.69	4.00	2.63	51.9
300	460	118	118	4	5	300KBD030	1610000	3150000	350	418	3	4	0.25	2.74	4.08	2.68	78.5
300	500	160	160	5	6	300KBD031	2120000	4240000	356	440	4	5	0.35	1.95	2.90	1.91	129
320	480	121	121	4	5	320KBD030	1630000	3180000	368	434	3	4	0.26	2.55	3.80	2.50	77.8
320	540	176	176	5	6	320KBD031	2690000	5280000	378	474	4	5	0.32	2.12	3.15	2.07	167
340	580	190	190	5	6	340KBD031	3290000	5470000	401	515	4	5	0.32	2.12	3.15	2.07	202
360	540	134	134	5	6	360KBD030	2050000	3910000	408	488	4	5	0.32	2.12	3.15	2.06	101
360	600	192	192	5	6	360KBD031	3360000	6750000	419	528	4	5	0.32	2.12	3.15	2.06	228
380	560	135	135	5	6	380KBD030	2060000	3790000	428	510	4	5	0.27	2.47	3.67	2.41	112
380	620	194	194	5	6	380KBD031	3070000	6360000	445	545	4	5	0.32	2.12	3.15	2.07	234
400	600	148	148	5	6	400KBD030	2410000	4960000	452	545	4	5	0.33	2.03	3.02	1.98	143
400	650	200	200	6	6	400KBD031	3850000	7810000	458	580	5	5	0.39	1.74	2.59	1.70	265
420	700	224	224	6	6	420KBD031	4710000	6380000	488	623	5	5	0.39	1.74	2.59	1.70	352
440	650	157	157	6	6	440KBD030	2750000	5500000	500	592	5	5	0.28	2.43	3.61	2.37	182
440	720	226	226	6	6	440KBD031	4990000	9130000	506	642	5	5	0.39	1.74	2.59	1.70	367
460	680	163	163	6	6	460KBD030	3000000	5660000	510	616	5	5	0.39	1.74	2.59	1.70	197
480	700	165	165	6	6	480KBD030	3060000	6710000	531	625	5	5	0.40	1.68	2.50	1.64	215
500	720	167	167	6	6	500KBD030	3430000	7350000	545	645	5	5	0.39	1.74	2.59	1.70	222

TDI Design • Inch Size
d: 152.400~355.600mm



Equivalent bearing load dynamic
 $P_d = X F_r + Y F_a$

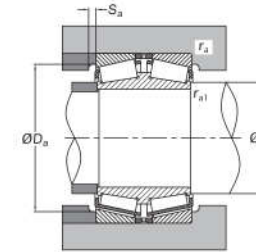
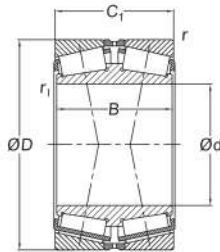
$\frac{F_a}{F_r} \leq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	Y ₁	0.67	Y ₂

static
 $P_{0a} = F_r + Y_0 F_a$
For values of e , Y_2 and Y_0 see the table below.

Principal Dimensions (mm)				Bearing Designations	Basic Load Ratings (kN)		Abutment and Fillet Dimensions (mm)				Calculation Factors				Weight (kg)
d	D	B	C ₁		Dynamic Cr	Static Cor	d _a (min)	D _a (max)	r _a (max)	r _{a1} (max)	e	Y ₁	Y ₂	Y ₀	
152.400	307.975	171.450	161.924	450900D/451212	1510	2620	187.5	269	9.7	6.8	0.33	2.07	3.08	2.02	60.5
177.800	288.925	123.825	123.825	94706D/94113	940	1900	195	259	1.5	3.3	0.47	1.44	2.15	1.41	31.6
	288.925	123.825	123.825	HM237546D/HM237510	1160	2140	194	266	1.5	3.3	0.32	2.12	3.15	2.07	31.6
187.325	319.964	161.925	168.276	H239649D/H239610	1590	2790	209	293	3.3	4.8	0.32	2.12	3.15	2.07	53.7
190.500	365.049	152.400	158.750	EE420750D/421437	1670	3200	221	329	3.3	3.3	0.40	1.68	2.50	1.64	72.8
203.200	317.500	123.825	123.825	93800D/93125	1060	2310	222	286	1.5	3.3	0.52	1.29	1.92	1.26	36.3
	365.049	152.400	158.750	EE420800D/421437	1670	3200	230	329	3.3	3.3	0.40	1.68	2.50	1.64	69.0
206.375	336.550	184.150	180.976	H242649D/H242610	1900	4050	227	306	1.5	3.3	0.33	2.03	3.02	1.98	64.1
215.900	285.750	85.725	85.725	LM742749D/LM742710	650	1640	229	266	2.3	3.3	0.48	1.40	2.09	1.37	14.8
219.075	358.775	200.025	196.850	H244849D/H244810A	2130	4550	242	323	1.5	6.4	0.33	2.03	3.02	1.98	79.5
220.662	314.325	115.888	115.886	M244249D/M244210	1070	2450	235	293	1.5	3.3	0.33	2.03	3.02	1.98	28.6
228.600	400.050	139.700	139.700	EE529091D/529157	1500	2870	256	367	3.3	3.3	0.31	2.18	3.24	2.13	74.2
241.478	349.148	107.950	107.950	EE127097D/127135	940	2010	258	325	1.5	3.3	0.35	1.91	2.85	1.87	33.8
244.475	327.025	92.075	92.075	LM247748D/LM247710A	835	2050	257	310	1.5	3.3	0.32	2.09	3.11	2.04	21.4
	381.000	146.050	146.050	EE126096D/126150	1300	2880	269	343	3.3	4.8	0.52	1.31	1.95	1.28	61.4
247.650	406.400	219.075	215.900	HH249949D/HH249910	2830	6000	278	366	3.3	6.4	0.33	2.03	3.02	1.98	112.0
254.000	358.775	130.175	130.175	M249748D/M249710	1390	3300	273	335	3.3	3.3	0.33	2.03	3.02	1.98	41.2
	368.300	92.862	92.710	EE170975D/171450	790	1630	269	340	1.5	3.3	0.36	1.85	2.76	1.81	32.5
260.350	400.050	114.300	119.060	EE221025D/221575	1220	2460	290	366	6.4	6.4	0.39	1.71	2.54	1.67	52.0
266.700	355.600	109.538	107.950	LM451349D/LM451310	1070	2670	281	335	1.5	3.3	0.36	1.87	2.79	1.83	29.9
269.875	381.000	136.525	136.525	M252349D/M252310	1520	3600	290	356	3.3	3.3	0.33	2.03	3.02	1.98	48.6
276.225	393.700	130.175	130.175	EE275109D/275155	1340	2800	294	366	1.5	6.4	0.40	1.68	2.50	1.64	50.5
279.400	393.700	127.000	127.000	EE135111D/135155	1130	2670	297	368	1.5	6.4	0.40	1.68	2.50	1.64	48.1
	457.200	244.475	244.475	HH255149D/HH255110	3550	7900	309	412	1.5	6.4	0.33	2.03	3.02	1.98	158.0
285.750	380.898	117.475	117.475	LM654648D/LM654610	1140	3100	302	356	1.5	3.3	0.43	1.56	2.33	1.53	36.7
288.925	406.400	144.462	144.463	M255449D/M255410A	1740	4150	310	379	3.3	3.3	0.34	2.00	2.98	1.96	58.1
300.038	422.275	150.812	150.813	HM256849D/HM256810G2	1925	4800	322	394	3.3	3.3	0.34	2.00	2.99	1.96	65.6
304.648	438.048	131.762	131.762	EE329119D/329172	1440	3250	327	410	3.3	3.3	0.33	2.04	3.04	2.00	64.3
304.800	419.100	130.175	130.175	M257149D/M257110	1400	3400	322	392	1.5	6.4	0.33	2.03	3.02	1.98	53.1
	444.500	107.950	111.126	EE291200D/291750	1080	2300	337	416	7.9	1.5	0.38	1.78	2.65	1.74	55.7
304.902	412.648	128.588	128.588	M257248D/M257210	1500	3700	325	388	3.3	3.3	0.32	2.12	3.15	2.07	49.0
305.000	438.048	134.145	138.112	M757449D/M757410	1530	3450	328	407	3.3	4.8	0.47	1.43	2.12	1.40	65.3
317.500	422.275	128.588	128.587	LM258648D/LM258610	1320	3500	334	398	1.5	3.3	0.32	2.10	3.13	2.06	49.1
	447.675	158.750	158.750	HM259049D/HM259010	1990	4800	340	418	3.3	3.3	0.33	2.02	3.00	1.97	77.9
333.375	469.900	166.688	166.688	HM261049D/HM261010	2320	5500	357	439	3.3	3.3	0.33	2.02	3.00	1.97	90.1
343.052	457.098	122.238	122.238	LM761649D/HM261010A	1380	3450	361	432	1.5	3.3	0.47	1.43	2.12	1.40	55.0
346.075	488.950	174.625	174.625	HM262749D/HM262710G2	2490	6150	371	456	3.3	3.3	0.33	2.02	3.00	1.97	103.0
347.662	469.900	138.112	138.112	M262449D/M262410	1860	4550	369	443	3.3	3.3	0.33	2.03	3.02	1.98	68.0
355.600	444.500	114.300	112.712	L163149D/L163110	1120	3500	370	422	1.5	3.3	0.31	2.20	3.27	2.15	40.1
	457.200	120.650	120.650	LM263149D/LM263110	1440	3900	372	434	1.5	3.3	0.32	2.12	3.15	2.07	49.1
	482.600	128.588	133.350	LM763449D/LM763410	1630	3850	375	453	1.5	3.3	0.47	1.43	2.14	1.40	67.4

Note: Bearing chamfers r and r₁ should be larger than the max value of r_a and r_{a1}.

TDI Design • Inch Size
d: 355.600~501.650mm



Equivalent bearing load dynamic
 $P_r = X F_r + Y F_a$

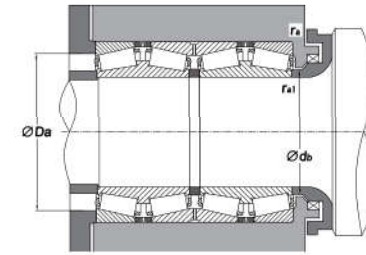
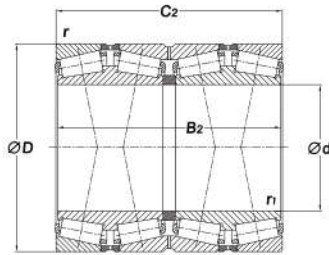
$\frac{F_a}{F_r} \leq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	Y ₁	0.67	Y ₂

static
 $P_{0r} = F_r + Y_0 F_a$
 For values of e , Y_1 and Y_0 see the table below.

Principal Dimensions (mm)				Bearing Designations	Basic Load Ratings (kN)		Abutment and Fillet Dimensions (mm)				Calculation Factors				Weight (kg)
d	D	B	C ₁		Dynamic Cr	Static Cor	d _a (min)	D _a (max)	r _a (max)	r _{a1} (max)	e	Y ₁	Y ₂	Y ₀	
355.600	488.950	153.988	153.988	M263349D/M263310	2030	5000	374	459	1.5	3.3	0.33	2.03	3.02	1.98	85.4
	501.650	111.125	127.000	EE231401D/231975	1550	3650	382	472	3.3	3.3	0.44	1.53	2.28	1.50	68.5
368.300	523.875	185.738	185.738	HM265049D/HM265010G2	2610	6550	394	487	3.3	6.4	0.33	2.03	3.02	1.98	130.0
384.175	546.100	193.675	193.675	HM266449D/HM266410G2	3150	8050	411	507	3.3	6.4	0.33	2.03	3.02	1.98	153.0
393.700	546.100	138.112	138.112	LM767745D/LM767710	1870	5100	418	510	1.5	6.4	0.48	1.42	2.11	1.38	97.4
406.400	546.100	138.112	138.112	LM767749D/LM767710	1870	5100	427	510	1.5	6.4	0.48	1.42	2.11	1.38	90.5
	590.550	193.675	193.674	EE833160XD/833232	2820	6800	435	549	3.3	6.4	0.33	2.07	3.09	2.03	175.0
409.575	546.100	161.925	161.925	M667947D/M667910G2	2390	6350	431	510	1.5	6.4	0.42	1.61	2.40	1.58	104.0
415.925	590.550	209.550	209.550	M268749D/M268710G2	3650	9450	444	549	3.3	6.4	0.33	2.03	3.02	1.98	181.0
431.800	571.500	133.350	136.526	LM869449D/LM869410	1880	4950	453	537	1.5	3.3	0.55	1.24	1.84	1.21	92.1
	571.500	161.925	161.925	LM769349D/LM769310	2160	5900	453	534	1.5	6.4	0.44	1.52	2.26	1.49	112.0
447.675	635.000	223.838	223.838	M270749D/M270710AG2	4150	11100	478	591	3.3	6.4	0.33	2.03	3.02	1.98	224.0
457.200	596.900	133.350	136.525	L770847DL/770810AG2	2070	5200	478	567	1.5	3.3	0.47	1.43	2.12	1.40	96.7
	596.900	133.350	136.525	L770849D/L770810	2070	5200	478	567	1.5	3.3	0.47	1.43	2.12	1.40	96.7
479.425	679.450	238.125	238.125	M272749D/M272710G2	4900	13000	510	633	3.3	6.4	0.33	2.03	3.02	1.98	293.0
482.600	615.950	158.750	158.750	LM272249D/LM272210G2	2320	6700	504	585	3.3	6.4	0.33	2.03	3.02	1.98	115.0
	647.700	201.612	201.612	M272647D/M272610G2	3700	10100	510	609	3.3	6.4	0.33	2.03	3.02	1.98	185.0
489.026	634.873	153.988	153.988	LM772749D/LM772710A	2500	6950	516	600	3.3	3.3	0.47	1.43	2.12	1.40	124.0
501.650	711.200	250.825	250.825	M274149D/M274110G2	5050	13700	534	663	3.3	6.4	0.33	2.03	3.02	1.98	314.0

Note: Bearing chamfers r and r₁ should be larger than the max value of r_a and r_{a1}.

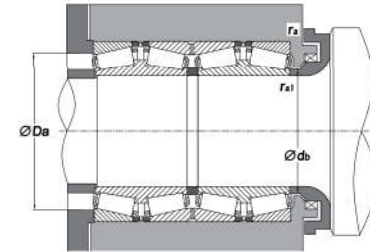
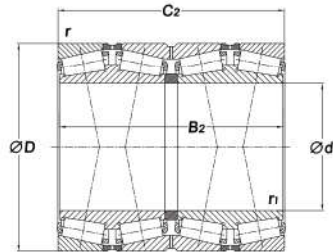
Metric Size
d: 100 ~ 500 mm



Principal Dimensions (mm)								Bearing Designations	Basic Load Ratings (N)		r (min)	r ₁ (min)	Abutment and Fillet Dimensions (mm)				Weight (kg)
d		D		B ₂		C ₂			Dynamic Cr	Static Cor			d _a	D _a	r _a (max)	r _{a1} (max)	
(mm)	(inch)	(mm)	(inch)	(mm)	(inch)	(mm)	(inch)										
100	3.9370	140	5.5118	104	4.0945	104	4.0945	100KBV039	300000	725000	2	2	108	130	2	2	5.0
110	4.3307	155	6.1023	114	4.4882	114	4.4882	110KBV039	365000	790000	2.5	2.5	120	145	2	2	6.4
120	4.7244	170	6.6929	124	4.8819	124	4.8819	120KBV039	435000	910000	2.5	2.5	130	160	2	2	8.5
130	5.1181	184	7.2441	134	5.2756	134	5.2756	130KBV039	555000	1330000	2.5	2.5	140	174	2	2	12.3
140	5.5118	198	7.7952	144	5.6693	144	5.6693	140KBV039	580000	1330000	2.5	2.5	153	184	2	2	13.3
150	5.9055	212	8.3465	155	6.1024	155	6.1024	150KBV039	680000	1550000	2.5	2.5	161	200	2	2	15.0
160	6.2992	226	8.8976	165	6.4961	165	6.4961	160KBV039	725000	1950000	2.5	2.5	173	208	2	2	20.2
170	6.6929	240	9.4488	175	6.8898	175	6.8898	170KBV039	915000	2220000	2.5	2.5	183	225	2	2	23.7
180	7.0866	254	10.0000	185	7.2835	185	7.2835	180KBV039	980000	2410000	2.5	2.5	193	235	2	2	28.0
190	7.4803	268	10.5512	196	7.7165	196	7.7165	190KBV039	1030000	2760000	2.5	2.5	204	245	2	2	33.0
200	7.8740	282	11.1024	206	8.1102	206	8.1102	200KBV039	1290000	3400000	2.5	2.5	215	263	2	2	49.2
220	8.6614	310	12.2047	226	8.8976	226	8.8976	220KBV039	1500000	4000000	3	3	234	296	2.5	2.5	52.7
240	9.4488	338	13.3071	248	9.7638	248	9.7638	240KBV039	1740000	4450000	3	3	260	310	2.5	2.5	68.3
260	10.2362	368	14.4882	268	10.5512	268	10.5512	260KBV039	2010000	5750000	4	4	282	348	3	3	90.0
280	11.0236	395	15.5512	288	11.3386	288	11.3386	280KBV039	2540000	7050000	4	4	300	374	3	3	108
300	11.8110	424	16.6929	310	12.2047	310	12.2047	300KBV039	2600000	6800000	4	4	320	394	3	3	137
320	12.5984	460	18.1102	338	13.3071	338	13.3071	320KBV039	3100000	8800000	4	4	340	428	3	3	183
340	13.3858	480	18.8976	350	13.7795	350	13.7795	340KBV039	3400000	10100000	5	5	362	458	4	4	198
360	14.1732	508	20.0000	370	14.5669	370	14.5669	360KBV039	4050000	11900000	5	5	382	486	4	4	233
380	14.9606	536	21.1024	390	15.3543	390	15.3543	380KBV039	4450000	13600000	5	5	408	500	4	4	271
400	15.7480	564	22.2047	412	16.2205	412	16.2205	400KBV039	4700000	14000000	5	5	422	542	4	4	317
420	16.5354	592	23.3071	432	17.0079	432	17.0079	420KBV039	4900000	14000000	5	5	450	556	4	4	366
440	17.3228	620	24.4094	454	17.8740	454	17.8740	440KBV039	6500000	19900000	6	6	474	574	5	5	422
460	18.1102	650	25.5906	474	18.6614	474	18.6614	460KBV039	6800000	19600000	6	6	488	622	5	5	487
480	18.8976	678	26.6929	494	19.4488	494	19.4488	480KBV039	7350000	22900000	6	6	515	637	5	5	552
500	19.6850	705	27.7559	515	20.2756	515	20.2756	500KBV039	7650000	24000000	6	6	528	677	5	5	650

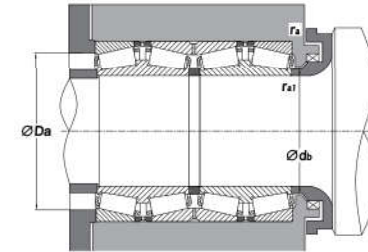
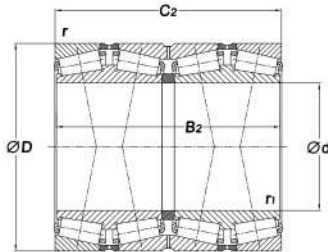


TQO Design • Inch Size
d: 120.650 ~ 317.500mm



Principal Dimensions (mm)								Bearing Designations	Basic Load Ratings (kN)		r (min)	r _i (min)	Abutment and Fillet Dimensions (mm)				Weight (kg)
d	D	B ₂	C ₂	Dynamic C _r	Static C _{or}	d _a	D _a		r _a (max)	r _{a1} (max)							
120.650	4.750	174.625	6.875	141.288	5.563	139.703	5.500	M224749D/M224710/M224710D	510	1220	1.5	0.8	129	163	1.5	0.8	11.5
127.000	5.000	182.562	7.187	158.750	6.250	158.750	6.250	48290D/48220/48220D	660	1730	3.3	1.5	144	177	3.3	1.5	14.3
136.525	5.375	190.500	7.500	161.925	6.375	161.925	6.375	48393D/48320/48320D	715	1900	3.3	1.5	147	183	3.3	1.5	14.9
139.700	5.500	200.025	7.875	157.165	6.188	160.340	6.313	48680D/48620/48620D	700	1950	3.3	0.8	150	185	3.3	0.8	17.3
152.400	6.000	222.250	8.750	174.625	6.875	174.625	6.875	M231649D/M231610/M231610D	930	2350	1.5	1.5	165	207	1.5	1.5	24.7
165.100	6.500	225.425	8.875	161.100	6.500	168.275	6.625	46791D/46720/46721D	745	2220	3.3	0.8	175	209	3	0.8	20.7
177.800	7.000	247.650	9.750	192.088	7.563	192.088	7.563	67791D/67720/67721D	990	2720	3.3	1.5	190	229	3.3	1.5	29.0
177.800	7.000	279.400	11.000	234.950	9.250	234.947	9.250	82681D/82620/82620D	1420	3400	3.3	1.5	195	251	3.3	1.5	55.3
177.800	7.000	304.800	12.000	238.227	9.379	233.365	9.188	EE280700D/281200/281201D	1580	3100	3.3	3.3	198	279	3.3	3.3	69.9
187.325	7.375	269.875	10.625	211.138	8.313	211.138	8.313	M238849D/M238810/M238810D	1240	3400	3.3	1.5	200	250	3.3	1.5	41.8
190.500	7.500	266.700	10.500	187.325	7.375	188.912	7.437	67885D/67820/67820D	1030	2900	3.3	1.5	204	246	3.3	1.5	33.6
198.438	7.813	284.162	11.187	225.425	8.875	225.425	8.875	M240648D/M240611/M240611D	1530	4000	3.3	1.5	212	264	3.3	1.5	46.0
203.200	8.000	317.500	12.500	215.900	8.500	209.550	8.250	EE132082D/132125/132126D	1270	2820	3.3	3.3	224	294	3.3	3.3	62.5
206.375	8.125	282.575	11.125	190.500	7.500	190.500	7.500	67986D/67920/67920D	1120	2890	3.3	0.8	219	260	3.3	0.8	35.4
215.900	8.500	288.925	11.375	177.800	7.000	177.800	7.000	LM742749D/LM742714/LM742714D	1110	3250	3.3	0.8	227	267	3.3	0.8	34.3
216.103	8.508	330.200	13.000	263.525	10.375	269.875	10.625	9974D/9920/9920D	2000	5150	3.3	1.5	235	277	3.3	1.5	82.1
220.662	8.687	314.325	12.375	239.712	9.437	239.712	9.437	M244249D/M244210/M244210D	1840	4900	3.3	1.5	235	293	3.3	1.5	60.2
228.600	9.000	425.450	16.750	349.250	13.750	361.950	14.250	EE700090D/700167/700168D	3450	8250	6.4	3.5	263	381	6.4	3.5	232.0
234.950	9.250	327.025	12.875	196.850	7.750	196.850	7.750	8576D/8520/8520D	1370	3700	3.3	1.5	250	305	3.3	1.5	53.6
244.475	9.625	327.025	12.875	193.675	7.625	193.675	7.625	LM247748D/LM247710/LM247710DA	1430	4100	3.3	1.5	258	309	3.3	1.5	46.1
254.000	10.000	358.775	14.125	269.875	10.625	269.875	10.625	M249748D/M249710/M249710D	2390	6550	3.3	3.3	272.5	335	3.3	3.3	85.5
260.350	10.250	422.275	16.625	314.325	12.375	317.500	12.500	HM252349D/HM252310/HM252310D	2980	7150	3.3	6.4	290	392	3.2	6.4	178.0
266.700	10.500	393.700	15.500	269.878	10.625	269.878	10.625	EE275106D/275155/275156D	2110	6000	6.4	3.3	292	367	6.4	3.3	116.0
266.700	10.500	355.600	14.000	230.188	9.063	228.600	9.000	LM451349D/LM451310/LM451310D	1840	5350	3.3	1.5	280	335	3.2	1.5	64.4
269.875	10.625	381.000	15.000	282.575	11.125	282.575	11.125	M252349D/M252310/M252310D	2470	6850	3.3	3.3	290	356	3.3	3.3	97.5
276.225	10.875	406.400	16.000	268.290	10.563	260.355	10.250	EE275109D/275160/275161D	2110	6000	6.4	1.5	294	366	6.4	1.5	122.0
279.400	11.000	393.700	15.500	269.875	10.625	269.875	10.625	EE135111D/135155/135156D	1920	5300	6.4	1.5	297	368	6.4	1.5	103.0
279.578	11.007	380.898	14.996	244.475	9.625	244.475	9.625	LM654644D/LM654610/LM654610D	1950	6200	3.3	1.5	297	356	3.3	1.5	83.2
285.750	11.250	380.898	14.996	244.475	9.625	244.475	9.625	LM654648D/LM654610/LM654610D	1950	6300	3.3	1.5	302	356	3.3	1.5	84.3
288.925	11.375	406.400	16.000	298.450	11.750	298.450	11.750	M255449D/M255410/M255410DA	2980	8300	3.3	3.3	310	379	3.3	3.3	125.0
292.100	11.500	476.250	18.750	296.047	11.655	292.100	11.500	EE921150D/921875/921876D	3050	6800	3.3	1.5	321	441	3.3	1.5	208.0
300.038	11.813	422.275	16.625	311.150	12.250	311.150	12.250	HM256849D/HM256810/HM256810D	3350	9600	3.3	3.3	322	394	3.3	3.3	143.0
304.648	11.994	438.048	17.246	280.990	11.063	279.400	11.000	M757448D/M757410/M757410D	2630	6900	4.8	3.3	328	407	4.8	3.3	140.0
304.800	12.000	419.100	16.500	269.875	10.625	269.875	10.625	M257149D/M257110/M257110D	2460	7050	6.4	1.5	322	392	6.4	1.5	110.0
304.902	12.004	412.648	16.246	266.700	10.500	266.700	10.500	M257248D/M257210/M257210D	2610	7450	3.3	3.3	325	388	3.3	3.3	107.0
305.003	12.008	438.048	17.246	280.990	11.063	279.400	11.000	M757449D/M757410/M757410D	2630	6900	4.8	3.3	328	407	4.8	3.3	139.0
317.500	12.500	422.275	16.625	269.875	10.625	269.875	10.625	LM258649D/LM258610/LM258610D	2260	7050	3.3	1.5	334	398	3.3	1.5	110.0

TQO Design • Inch Size
d: 317.500 ~ 508.000mm



Principal Dimensions (mm)								Bearing Designations	Basic Load Ratings (kN)		r (min)	r ₁ (min)	Abutment and Fillet Dimensions (mm)				Weight (kg)
d	D	B ₂	C ₂	Dynamic Cr	Static Cor	d _a	D _a		r _a (max)	r _{a1} (max)							
317.500	12.500	447.675	17.625	327.025	12.875	327.025	12.875	HM259049D/HM259010/HM259010D	3400	9550	3.3	3.3	340	418	3.3	3.3	161.0
330.200	13.000	482.600	19.000	306.388	12.063	311.150	12.250	EE526131D/526190/526191D	2810	7900	3.3	1.5	351	448	3.3	1.5	197.0
333.375	13.125	469.900	18.500	342.900	13.500	342.900	13.500	HM261049D/HM261010/HM261010DA	4000	11100	3.3	3.3	357	439	3.3	3.3	187
341.312	13.437	457.098	17.996	254.000	10.000	254.000	10.000	LM761648D/LM761610/LM761600	2370	6900	3.3	1.5	359	432	3.3	1.5	125.0
343.052	13.506	457.098	17.996	254.000	10.000	254.000	10.000	LM761649D/LM761610/LM761610D	2480	7150	3.3	1.5	361	432	3.3	1.5	113.0
346.075	13.625	488.950	19.250	358.775	14.125	358.775	14.125	HM262749D/HM262710/HM262710D	4350	12800	3.3	3.3	371	456	3.3	3.3	227
347.662	13.687	469.900	18.500	292.100	11.500	292.100	11.500	M262449D/M262410/M262410D	3200	9100	3.3	3.3	369	443	3.3	3.3	148.0
355.600	14.000	444.500	17.500	241.300	9.500	241.300	9.500	L163149D/L163110/L163110D	1760	6200	3.3	1.5	370	422	3.3	1.5	89.5
355.600	14.000	457.200	18.000	252.412	9.937	252.412	9.937	LM263149D/LM263110/LM263110D	2470	7850	3.3	1.5	372	434	3.3	1.5	106.0
355.600	14.000	482.600	19.000	265.112	10.437	269.875	10.625	LM763449D/LM763410/LM763410D	2790	7650	3.3	1.5	375	453	3.3	1.5	145.0
355.600	14.000	488.950	19.250	317.500	12.500	317.500	12.500	M263349D/M263310/M263310D	3500	10000	3.3	1.5	374	459	3.3	1.5	173.0
368.300	14.500	523.875	20.625	382.588	15.063	382.588	15.063	HM265049D/HM265010/HM265010D	4450	13100	6.4	3.3	394	487	6.4	3.3	280.0
368.300	14.500	596.900	23.500	342.900	13.500	342.900	13.500	EE181455D/182350/182351D	4600	10600	6.4	6.4	421	541	6.4	6.4	373.0
374.650	14.750	501.650	19.750	250.825	9.875	260.350	10.250	LM765149D/LM765110/LM765110D	2360	6250	3.3	1.5	393	472	3.3	1.5	145.0
384.175	15.125	546.100	21.500	400.050	15.750	400.050	15.750	HM266449D/HM266410/HM266410D	5750	16600	6.4	3.3	411	507	6.4	3.3	308.0
385.762	15.187	514.350	20.250	317.500	12.500	317.500	12.500	LM665949D/LM665910/LM665910D	3650	11100	3.3	3.3	409	482	3.3	3.3	240.0
393.700	15.500	546.100	21.500	288.925	11.375	288.925	11.375	LM767745D/LM767710/LM767710D	3200	10200	6.4	1.5	418	510	6.4	1.5	219.0
406.400	16.000	546.100	21.500	288.288	10.563	288.925	11.375	EE234161D/234215/234216D	2290	6550	6.4	1.5	438	505	6.4	1.5	190.0
406.400	16.000	546.100	21.500	288.925	11.375	288.925	11.375	LM767749D/LM767710/LM767710D	3200	10200	6.4	1.5	427	510	6.4	1.5	201.0
406.400	16.000	590.550	23.250	400.050	15.750	400.050	15.750	EE833161D/833232/833233D	4850	13600	6.4	3.3	448	549	6.4	3.3	395.0
409.575	16.125	546.100	21.500	334.962	13.187	334.962	13.187	M667947D/M667911/M667911D	4100	12700	6.4	1.5	431	510	6.4	1.5	226.0
415.925	16.375	590.550	23.250	434.975	17.125	434.975	17.125	M268749D/M268710/M268710D	6300	18900	6.4	3.3	444	549	6.4	3.3	421.0
431.800	17.000	571.500	22.500	279.400	11.000	279.400	11.000	LM869449D/LM869410/LM869410D	3200	9850	3.3	1.5	453	537	3.3	1.5	193.0
431.800	17.000	571.500	22.500	336.550	13.250	336.550	13.250	LM769349D/LM769310/LM769310D	3700	11800	6.4	1.5	453	534	6.4	1.5	232.0
431.800	17.000	635.000	25.000	355.600	14.000	355.600	14.000	EE931170D/931250/931251XD	5650	15000	6.4	6.4	490	607	6.4	6.4	402.0
447.675	17.625	635.000	25.000	463.550	18.250	463.550	18.250	M270749D/M270710/M270710D	7100	22100	6.4	3.3	478	591	6.4	3.3	509.0
457.200	18.000	596.900	23.500	276.225	10.875	279.400	11.000	L770849D/L770810/L770810D	2900	9150	3.3	1.5	478	567	3.3	1.5	201.0
457.200	18.000	660.400	26.000	323.850	12.750	323.847	12.750	EE737179D/737260/737260D	4150	11200	6.4	3.3	495	616	6.4	3.3	379.0
479.425	18.875	679.450	26.750	495.300	19.500	495.300	19.500	M272749D/M272710/M272710XD	6450	18900	6.4	3.2	510	633	6.4	3.2	590.0
482.600	19.000	615.950	24.250	330.200	13.000	330.200	13.000	LM272249D/LM272210/LM272210D	4000	13400	6.4	3.3	504	585	6.4	3.3	250.0
482.600	19.000	647.700	25.500	417.512	16.437	417.512	16.437	M272647D/M272610/M272610D	5950	14800	6.4	3.3	505	611	6.4	3.2	432.0
488.950	19.250	660.400	26.000	365.125	14.375	361.950	14.250	EE640193D/640260/640261D	5350	16100	6.4	8.0	519	624	6.4	8.0	364.0
489.026	19.253	634.873	24.995	320.675	12.625	320.675	12.625	LM772749D/LM772710/LM772710DA	3650	12000	3.3	3.3	513	600	3.3	3.3	268.0
501.650	19.750	711.200	28.000	520.700	20.500	520.700	20.500	M274149D/M274110/M274110D	8650	27300	6.4	3.3	534	663	6.4	3.3	726.0
508.000	20.000	762.000	30.000	463.550	18.250	463.550	18.250	EE531201D/531300/531301XD	7800	21400	6.4	6.4	549	711	5.0	5.0	740.0