CELEBRATING 75 YEARS

CK BIRLA GROUP

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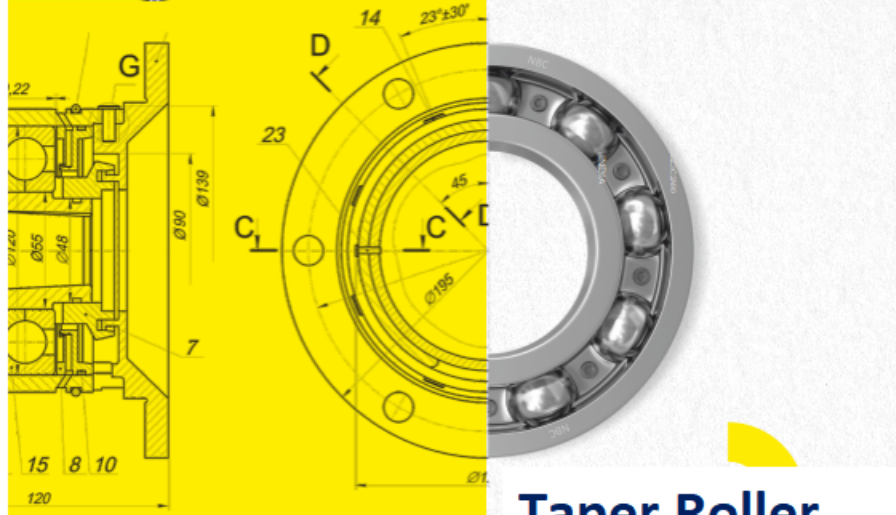
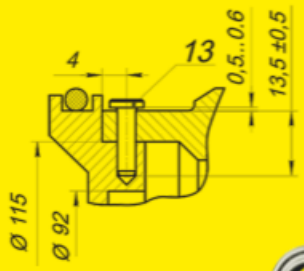


Taper Roller Bearings



2 WHEELERS | 3 WHEELERS | 4 WHEELERS | TRACTORS | LCV, HCV | INDUSTRIES | RAILWAYS

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About National Engineering Industries Ltd. (NBC Bearings)

A symbol of dependability and flexible engineering solutions, NB Bearings is the brand of National Engineering Industries. Founded in 1946, National Engineering Industries Ltd (NEI) is India's leading bearings manufacturer and exporter, renowned for excellence in quality and delivery. In 2021, NBC bearings completed 75 years of its incorporation.

Headquartered in Jaipur, Having started with 30,000 bearings in 19 sizes in 1946, NBC has evolved to manufacture over 200 million bearings each year offering in 2300+ variants to serve a host of customers in India and over 30 other countries across five continents in automotive, railways and industrial segments. NBC also serves the Indian aftermarket through a countrywide network of 550+ authorized stockists and thousands of retailers.

Award & Recognitions :

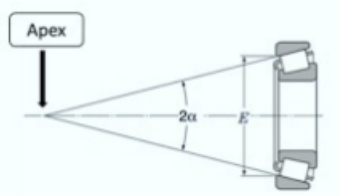
NBC has been the recipient of several award and accolades for its quality consciousness and manufacturing prowess. Most prominent being the coveted Deming Grand Prize which is the highest honour in quality awarded to a company for excellence in Total Quality Management (TQM). NBC bearings is the only bearing manufacturer to win both - The Deming Application Award and The Deming Grand Prize Award.

The award is given by the Japanese Union of Scientists and Engineers (JUSE) to companies for demonstrating practicing TQM in the areas of production, customer service, safety, human resource, corporate social responsibility, environment, etc. NBC stands committed to an endless journey of continuous improvement through TQM.

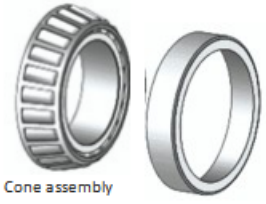
Taper Roller Bearing

Taper Roller Bearing Configuration

Taper roller bearing have cup, cone and rollers which are tapered in shape. The rollers are restrained by a flange on the cone, against which their large end slides. These bearings can take combined loads simultaneously i.e. radial and axial load. Projection lines of the cup and cone raceways and rollers meet at a common point on the bearing axis. The axial load carrying capacity of bearings increases with the increasing contact angle. Bearings are separable. Cup can be separated from cone assembly. Hence both can be mounted separately. The raceway and rollers have crown profiles. Improved surface finish of flange enable cooler running by forming a full lubrication film with roller head.



E : Nominal small end dimeter of outer ring
α : Nominal contact angle



Cone assembly

Cup

Separable bearing

Depending upon the application requirement the taper roller bearings are available in double row and four row combinations. These bearings are preset assemblies ready to mount.

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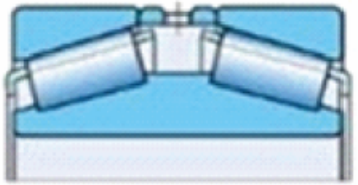
Double Row Taper Roller Bearing

When the bearings are matched face-to-face,

- An intermediate spacer is positioned between the two cups.
- The load lines converge towards the bearing axis.
- Axial loads acting in both directions can be accommodated by each bearing. Face-to-face arrangement (TDI)



Back-to-back arrangement (TDO)

When the bearings are arranged back-to-back

- An intermediate spacer is positioned both between the two cones.
- The load lines diverge towards the bearing axis, thus providing relatively rigid bearing arrangements, which can also take up tilting moments.
- Axial loads acting in both directions can be accommodated by each bearing

Four-row tapered roller bearings

Four-row tapered roller bearings can accommodate radial and axial loads at low to moderate speeds. These bearings are specially designed for rolling mill applications. They are used in work roll and back up roll applications in rolling mills. The bearings may be in straight bore or tapered bore.

TQO (Straight bore four row bearing arrangement):

- Two double cones with cone spacer, two single cups
- Two single cups on sides and a Double cup in middle.
- Two cup spacers separating single cup and double cup.
- Spacers have holes for lubrication.
- Cone spacers are hardened to reduce face wear.

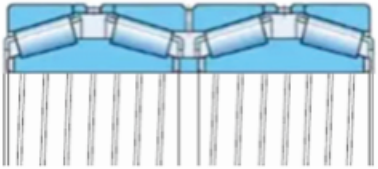
NBC also provides set of 2X TDI. It consists of two double row taper roller bearings, separated individual by spacers between two inside cups and two cones.

TQIT (Tapered Bore Four-Row Arrangement)

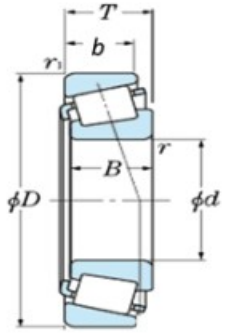
- One double cone & two single cones, all with tapered bore matched through all the cones and four single cups and three cup spacers.
- Lubrication holes in three cup spacers.
- Faces of single cones and both faces of double cone contact each other.

TQI bearings are available in straight tapered bore and tapered bore.

The variants are also provided with helical groove inside bore and slots on face of the bearings for better lubrication. The double and four row bearings are pre-set assemblies from company with exact spacer width to maintain initial bench end play (BEP).The bench end play in each bearing is adjusted by cup & cone spacers. The total spacer width is the measured distance between the adjacent cup and cones and BEP value. The bearings are mostly used in steel plants on roll neck.



Single Row Taper Roller Bearing (Inch series)



Equivalent radial load
dynamic $P_r = XF_r + YF_a$

$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	0	0.4	Y_2

static
$P_{or} = 0.5F_r + Y_oF_a$
When $P_o < F_r$ *use* $P_o = F_r$
For values of e, Y_2 and Yo see the table below.

Boundary Dimension							Basic Load Rating				Fatigue Load Limit	Constant	Axial load factors		Bearing Number	Mass Kg. (Apporox.)
							Dynamic	Static	Dynamic	Static		e	Y_2	Y_o		
mm							KN		Kgf		KN					
d	D	T	B	b	r	r_1	Cr	Cor	Cr	Cor	Cu					
15.875	42.862	14.288	14.288	9.525	1.5	1.5	18	18	1835	1835	2.2	0.70	0.85	0.47	**11590/11520**	0.101
17.462	39.878	13.843	14.605	10.668	1.3	1.3	22.4	23	2284	2345	2.8	0.29	2.10	1.15	**LM11749/LM11710**	0.081
19.05	45.237	15.494	16.637	12.065	1.3	1.3	29.3	29.9	2988	3049	3.6	0.30	2.00	1.10	**LM11949/LM11910**	0.119
19.05	49.225	18.034	19.05	14.288	1.2	1.2	41	42.2	4130	4303	5.1	0.28	2.14	1.18	**M12644/ M12611**	0.180
21.43	50.005	17.526	18.288	13.97	1.3	1.3	41	42.4	4140	4324	5.2	0.28	2.16	1.19	**M12649/M12610**	0.166
23.812	61.912	28.575	30.416	23.812	2.36	3.3	73.6	78.6	7505	8015	9.6	0.28	2.14	1.18	**3659/3620**	0.300
25	57.15	16.8	17.2	12.7	1.0	1.5	40	46	4099	4691	5.6	0.40	1.49	0.82	**N1449XA**	0.210
25.4	57.15	19.431	19.431	14.732	1.6	1.6	42	49	4283	4997	6.0	0.54	1.11	0.61	**M84548/ M84510**	0.236
25.4	63.5	20.638	20.638	15.875	1.3	1.5	42.2	47.8	4303	4874	5.8	0.35	1.71	0.94	**15100S/15250X**	0.225
25.4	65.088	22.225	21.463	15.875	1.5	1.5	47.8	52	4874	5302	6.3	0.73	0.82	0.45	**23100/23256**	0.356
26.988	50.29	14.224	14.732	10.668	3.5	1.3	27.8	32.2	2835	3283	3.9	0.37	1.60	0.88	**L44649/L44610**	0.117
28.575	57.15	19.845	19.355	15.875	3.5	1.5	46.7	53.4	4762	5445	6.5	0.33	1.82	1.00	**1988/1922**	0.216
28.575	62	18.161	19.05	14.288	3.5	1.3	42.2	47.8	4303	4874	5.8	0.35	1.71	0.94	**15112R/15245**	0.274
28.575	73.025	22.225	22.225	17.462	0.8	3.3	60	74.2	6159	7566	9.0	0.45	1.32	0.73	**02872/02820**	0.477
29.985	62	19.05	20.638	14.288	1.3	1.3	42.2	47.8	4303	4874	5.8	0.35	1.71	0.94	**15117/15245**	0.275
30.162	64.292	21.433	21.433	16.67	1.6	1.6	51.5	61.4	5251	6261	7.5	0.55	1.09	0.60	**M86649/M86610**	0.336

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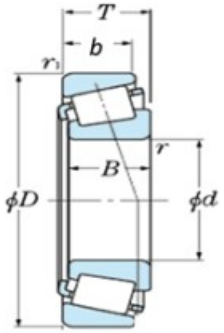
Single Row Taper Roller Bearing (Inch series)



Equivalent radial load
dynamic $P_r = XF_r + YF_a$

$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	0	0.4	Y_2

static
$P_{or} = 0.5F_r + Y_oF_a$
When $P_o < F_r$ *use* $P_o = F_r$
For values of e, Y_2 and Yo see the table below.

Boundary Dimension							Basic Load Rating				Fatigue Load Limit	Constant	Axial load factors		Bearing Number	Mass Kg. (Apporox.)
							Dynamic	Static	Dynamic	Static						
mm							KN		Kgf		KN	e	Y_2	Y_o		
d	D	T	B	b	r	r_1	Cr	Cor	Cr	Cor	Cu					
31.75	59.131	15.875	16.764	11.811	3.56	1.3	34.5	41.5	3518	4232	5.1	0.41	1.46	0.80	**LM67048/LM67010**	0.184
31.75	62	18.161	19.05	14.288	3.5	1.3	42.2	47.8	4303	4874	5.8	0.35	1.71	0.94	**15123/15245**	0.225
31.75	62	19.05	20.638	14.288	3.5	1.3	42.2	47.8	4303	4874	5.8	0.35	1.71	0.94	**15125/15245**	0.239
31.75	68.263	22.225	22.225	17.463	3.5	1.5	51	57.1	5160	5822	7.0	0.42	1.44	0.79	**02475/02420**	0.379
31.75	69.012	19.845	19.583	15.875	3.5	1.3	45.9	54.8	4680	5588	6.7	0.38	1.57	0.86	**14125A/14276**	0.350
31.75	72.626	30.162	29.997	23.812	1.5	3.3	78.5	88.7	8005	9045	10.8	0.33	1.80	0.99	**3188S/3120**	0.574
33.338	68.262	22.225	22.225	17.462	0.8	1.6	57	72	5812	7342	8.8	0.55	1.09	0.60	**M88048/M88010**	0.382
33.338	69.012	19.845	19.583	15.875	0.8	1.3	45.9	54.8	4680	5588	6.7	0.38	1.57	0.86	**14131/14276**	0.334
34.925	76.2	29.37	28.575	23.02	1.5	3.3	78.5	106	8005	10839	13.0	0.55	1.10	0.60	**HM89446X1XA/HM89410F**	0.644
34.925	76.2	29.37	28.575	23.02	3.5	3.3	78.5	106	8005	10839	13.0	0.55	1.10	0.60	**HM89446/HM89410**	0.641
34.925	65.088	18.034	18.288	13.97	3.5	1.3	50	61	5099	6220	7.4	0.38	1.59	0.88	**LM48548/LM48510**	0.250
34.925	69.012	19.845	19.583	15.875	1.5	1.3	45.9	54.8	4680	5588	6.7	0.38	1.57	0.86	**14137A/14276**	0.319
34.925	72.233	25.4	25.4	19.842	2.4	2.4	65	84.5	6628	8616	10.3	0.55	1.09	0.60	**HM88649/HM88610**	0.498
34.925	73.025	23.813	24.608	19.05	1.5	0.8	71.4	85.5	7281	8718	10.4	0.29	2.07	1.14	**25877/25821**	0.444
34.925	73.025	23.813	24.608	19.05	1.5	2.3	71.4	85.5	7281	8718	10.4	0.29	2.07	1.14	**25877/25820**	0.444
34.925	76.2	29.37	28.575	23.812	1.5	3.3	81	96.9	8229	9881	11.8	0.40	1.49	0.82	**31594/31520**	0.619
34.989	79.375	29.37	29.771	23.812	3.5	3.3	87	105	8871	10666	12.8	0.37	1.64	0.90	**3490/3420**	0.679
34.989	79.985	32.751	30.925	25	2.5	2.5	87	104	8871	10635	12.7	0.37	1.64	0.90	**3478X/3424S**	0.765

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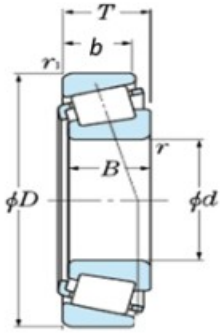
Single Row Taper Roller Bearing (Inch series)



Equivalent radial load
dynamic $P_r = XF_r + YF_a$

$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	0	0.4	Y_2

static
$P_{or} = 0.5F_r + Y_oF_a$
When $P_o < F_r$ *use* $P_o = F_r$
For values of e, Y_2 and Yo see the table below.

Boundary Dimension							Basic Load Rating				Fatigue Load Limit	Constant	Axial load factors		Bearing Number	Mass Kg. (Apporox.)
							Dynamic	Static	Dynamic	Static						
mm							KN		Kgf		KN	e	Y_2	Y_o		
d	D	T	B	b	r	r_1	Cr	Cor	Cr	Cor	Cu					
34.989	82.931	23.812	25.4	19.05	0.8	0.8	76.7	98.4	7821	10034	12.0	0.33	1.79	0.99	25572/25520	0.645
37.966	63	17	17	13.5	2	1.3	39.1	53.4	3987	5445	6.5	0.42	1.43	0.79	N1504XA/JL69310	0.195
38.1	65.088	18.034	18.288	13.97	3.5	1.3	42.6	55.7	4344	5680	6.8	0.33	1.82	1.00	LM29749/LM29710	0.232
38.1	79.375	29.37	29.771	23.812	3.5	3.2	91	111.2	9279	11339	13.6	0.37	1.64	0.90	3490/3420	0.675
38.1	65.107	19.812	20	15.748	2.3	1.3	46.6	68.3	4752	6965	8.3	0.43	1.40	0.77	N1261X1/ N1261FPX1	0.267
38.1	65.107	19.812	20	15.748	2.3	1.3	46.6	68.3	4752	6965	8.3	0.43	1.40	0.77	TS1N1261FPX1X1	0.267
38.1	65.107	19.812	20	15.748	2.3	1.3	46.6	68.3	4752	6965	8.3	0.43	1.40	0.77	TS1N1261FPX1X1T2X	0.257
38.1	88.5	26.988	29.083	22.225	3.6	1.6	98.2	111.7	10012	11388	13.6	0.26	2.28	1.25	418/414	0.810
39.688	73.025	19.395	22.098	15.265	2.3	1.5	55	65	5608	6628	7.9	0.31	1.94	1.06	U399/U360L	0.36
39.688	76.2	23.812	25.654	19.05	3.5	0.8	77	97	7852	9891	11.8	0.30	2.00	1.10	TMB2789/2729	0.477
39.688	76.2	23.812	25.654	19.05	3.6	0.8	73	92	7444	9381	11.2	0.30	2.00	1.10	2789/2729	0.477
40	80	21	22.403	17.826	3.5	1.3	69	76.3	7036	7780	9.3	0.27	2.22	1.22	344/332	0.469
40.988	67.975	17.5	18	13.5	3.5	1.5	45.3	61.4	4619	6261	7.5	0.35	1.71	0.94	LM300849X/LM300811	0.239
41.275	73.431	19.558	19.812	14.732	3.6	0.8	58.2	73.2	5938	7460	8.9	0.40	1.50	0.83	LM501349/LM501310	0.333
41.275	76.2	22.225	23.017	17.462	3.6	0.8	66.3	83.3	6762	8497	10.2	0.39	1.53	0.84	24780/24720	0.423
41.275	82.55	26.543	25.654	20.193	3.5	3.3	84	111.5	8565	11370	13.6	0.55	1.09	0.60	M802048/M802011	0.619
41.275	82.55	26.543	25.654	20.193	3.5	3.3	80	106	8198	10758	12.9	0.55	1.09	0.60	ASTM802048XA/11F	0.628
41.275	87.312	30.162	30.886	23.812	1.5	3.5	97	122.9	9891	12532	15.0	0.31	1.96	1.08	3585/3525	0.834

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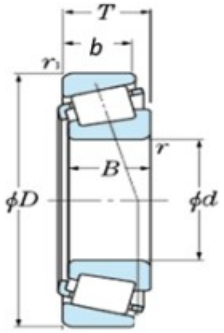
Single Row Taper Roller Bearing (Inch series)



Equivalent radial load
dynamic $P_r = XF_r + YF_a$

$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	0	0.4	Y_2

static
$P_{or} = 0.5F_r + Y_oF_a$
When $P_o < F_r$ *use* $P_o = F_r$
For values of e, Y_2 and Yo see the table below.

Boundary Dimension							Basic Load Rating				Fatigue Load Limit	Constant	Axial load factors		Bearing Number	Mass Kg. (Apporox.)
							Dynamic	Static	Dynamic	Static						
mm							KN		Kgf		KN	e	Y_2	Y_o		
d	D	T	B	b	r	r_1	Cr	Cor	Cr	Cor	Cu					
41.275	88.9	30.162	29.37	23.02	3.5	3.3	94.6	119	9646	12134	14.5	0.55	1.10	0.60	ASTBHM803146XA/10	0.857
41.275	95.25	30.958	28.575	22.225	3.5	0.8	97.8	118.3	9973	12063	14.4	0.74	0.81	0.45	HM903245XA/HM903210	1.036
42.07	91	39.688	40.386	33.338	3.5	-	146	186	14888	18966	-	-	-	-	4T4395XA CONE ASSLY.	0.771
42.875	82.931	26.988	25.4	22.225	3.5	2.3	76.8	98.2	7831	10013	12.0	0.33	1.79	0.99	25577/25523	0.615
44.45	95.25	27.783	28.575	22.225	0.8	2.3	109	141.6	11105	14439	17.3	0.33	1.82	1.00	33885/33821	0.976
44.45	92.075	30.163	29.37	23.02	3.6	3.3	99	125	10095	12746	15.2	0.55	1.09	0.60	HM803149/HM803112	0.920
44.45	93.264	30.162	30.302	23.812	3.56	3.3	102	134	10401	13664	16.3	0.34	1.77	0.97	3782/3720	0.961
44.45	95.25	30.958	28.875	22.225	3.5	0.8	98.4	11.9	10034	1213	1.5	0.74	0.81	0.45	HM903249/HM303210	1.838
44.45	111.125	38.1	36.975	30.162	3.5	3.3	143.3	181	14612	18406	22.0	0.30	2.02	1.11	535/532A	1.838
44.45	112.713	30.133	26.909	20.638	0.8	3.3	107	141	10860	14327	17.1	0.88	0.68	0.37	55176C/55443	1.500
44.987	79.975	23.75	26	18	2.5	1.5	71.7	86.4	7311	8810	10.5	0.32	1.88	1.03	U497/U460	0.500
45.242	77.788	21.43	19.842	16.667	3.5	0.8	56.9	72.6	5802	7403	8.9	0.43	1.40	0.77	LM603049/LM603012	0.381
45.242	77.788	19.842	19.842	15.08	3.5	0.8	56.9	72.7	5802	7413	8.9	0.43	1.41	0.77	LM603049/LM603011	0.358
45.242	77.788	19.842	19.842	15.08	3.5	0.8	56.7	72.4	5782	7383	8.8	0.43	1.40	0.77	ASTLM603049/TS1LM603011	0.360
45.242	77.788	19.842	19.842	15.08	3.5	0.8	56.7	72.4	5782	7383	8.8	0.43	1.40	0.77	ASTLM603049T2X/TS1LM603011F	0.360
45.618	82.931	23.812	25.4	19.05	3.5	2.3	76.7	98.4	7821	10034	12.0	0.33	1.79	0.99	25590/25520	0.543
45.618	83.058	23.876	25.4	19.114	3.58	2	76.7	98.4	7821	10034	12.0	0.33	1.82	1.00	4T25590/25522	0.538
45.618	88.9	20.638	22.225	16.513	3.5	1.3	77.8	93.8	7933	9565	11.4	0.32	1.88	1.03	3695/362A	0.548

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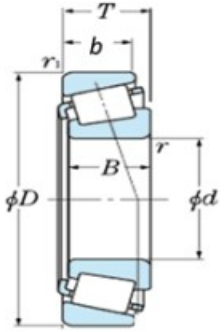
Single Row Taper Roller Bearing (Inch series)



Equivalent radial load
dynamic $P_r = XF_r + YF_a$

$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	0	0.4	Y_2

static
$P_{or} = 0.5F_r + Y_oF_a$
When $P_o < F_r$ *use* $P_o = F_r$
For values of e, Y_2 and Yo see the table below.

Boundary Dimension							Basic Load Rating				Fatigue Load Limit	Constant	Axial load factors		Bearing Number	Mass Kg. (Apporox.)
							Dynamic	Static	Dynamic	Static		e	Y_2	Y_o		
mm							KN		Kgf		KN					
d	D	T	B	b	r	r_1	Cr	Cor	Cr	Cor	Cu					
45.618	95.25	30.162	29.37	23.02	3.5	3.3	110	148.7	11166	15163	18.1	0.55	1.10	0.60	HM804846/HM804810	0.773
49.213	103.18	43.658	44.475	36.51	3.5	3.3	174	232	17743	23657	28.3	0.30	2.02	1.11	5395/5335	0.773
49.987	112.713	30.1875	26.909	20.638	3.5	3.3	107	141	10860	14327	17.1	0.88	0.68	0.37	55187C/55443	1.415
50	93.564	30.162	30.302	23.812	2.0	3.3	104	139.1	10605	14184	17.0	0.34	1.77	0.97	N1280/3720	0.862
50.8	93.264	30.162	30.302	23.812	3.56	3.3	102	134	10401	13664	16.3	0.34	1.77	0.97	3780XA/3720	0.840
50.8	92.075	24.608	25.4	19.845	3.56	0.8	84.6	116.4	8627	11869	14.2	0.38	1.59	0.87	28580/28521	0.703
50.8	93.264	30.162	30.302	23.812	3.56	3.3	102	134	10401	13664	16.3	0.34	1.76	0.97	3780/3720	0.618
50.8	95.25	27.783	28.575	22.225	3.5	0.8	109	141.6	11105	14439	17.3	0.33	1.82	1.00	4TB33889XA/22F	0.853
50.8	104.775	30.163	30.958	23.812	0.8	3.18	130	169	13256	17233	20.6	0.33	1.80	0.99	45285AXA/45220	1.208
50.8	111.125	30.162	26.909	20.638	3.6	3.3	111	149	11319	15194	18.2	0.88	0.68	0.37	55200C/55437	1.340
50.8	116.8	36.512	36.512	28.575	0.8	0.8	149.3	209	15224	21271	25.4	0.49	1.23	0.68	TS2HM807046XA/10TSF	1.545
52.388	111.125	30.162	26.909	20.638	3.6	3.3	111	149	11319	15194	18.2	0.88	0.68	0.38	55206C/55437	1.310
53.975	107.95	36.512	36.957	28.575	3.5	3.3	143.3	181	14612	18416	22.0	0.30	2.02	1.11	539/532X	1.450
53.975	114.981	65.085	26.909	44.445	2.3	3.3	178.6	286.9	18212	29255	35.0	0.88	0.68	0.38	55194/55452D	3.120
53.975	123.825	36.512	32.791	25.4	3.5	3.3	157.7	193	16081	19680	23.5	0.74	0.81	0.45	72212C/72487	2.010
57.15	104.775	30.162	29.317	24.605	2.3	3.3	117	155	11930	15805	18.9	0.34	1.79	0.98	462A/453X	1.060
57.15	112.712	30.162	30.162	23.813	8.0	3.3	151.6	218.7	15459	22301	26.7	0.34	1.77	0.97	39581/39520	1.315
59.985	109.985	29.751	28	23.813	2.4	1.5	117.4	171.6	11971	17498	20.9	0.40	1.50	0.83	3977X/3922X (X32212)	1.200

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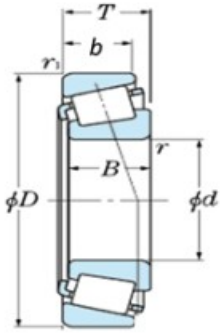
Single Row Taper Roller Bearing (Inch series)



Equivalent radial load
dynamic $P_r = XF_r + YF_a$

$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	0	0.4	Y_2

static
$P_{or} = 0.5F_r + Y_oF_a$
When $P_o < F_r$ *use* $P_o = F_r$
For values of e, Y_2 and Yo see the table below.

Boundary Dimension							Basic Load Rating				Fatigue Load Limit	Constant	Axial load factors		Bearing Number	Mass Kg. (Apporox.)
							Dynamic	Static	Dynamic	Static						
mm							KN		Kgf		KN	e	Y_2	Y_o		
d	D	T	B	b	r	r_1	Cr	Cor	Cr	Cor	Cu					
59.985	134.983	35.862	30.925	21.948	3.5	3.5	144.9	169.4	14775	17274	20.7	0.82	0.73	0.40	HM911244/HM911216	2.423
60	112.712	30.162	30.162	23.812	0.8	3	151.6	218.7	15459	22301	-	-	-	-	N1258 CONE ASSLY.	1.368
60.325	100	25.4	25.4	19.845	3.6	3.3	95	141	9687	14378	17.2	0.42	1.43	0.79	28985/28921	0.750
63.5	110	29.37	30.048	23.02	7.1	1.5	117.4	171.6	11971	17498	20.9	0.40	1.49	0.82	3982X/3927XA	1.100
63.5	112.712	30.163	30.048	23.813	7.1	3.3	117.4	171.6	11971	17498	20.9	0.40	1.50	0.83	3982X/3920	1.214
63.5	112.712	30.162	30.162	23.812	3.6	3.3	145	203	14786	20700	24.8	0.34	1.76	0.97	39585/39520	1.380
63.5	119.985	32.751	30.914	26.949	2.3	0.8	151.7	218.5	15469	22280	26.6	0.34	1.77	0.97	39586/39528	1.500
63.5	122.238	38.1	38.354	29.718	7.1	1.5	190	249.2	19374	25411	30.4	0.34	1.78	0.98	HM212047/HM212010	1.933
63.5	130	36.937	33.937	28	6.5	3.5	171.5	211.6	17488	21577	25.8	0.38	1.57	0.86	JHM513640/JHM513615	2.126
65	105	24	23	18.5	3.0	1.0	94	128	9585	13052	15.6	0.45	1.33	0.73	JLM710949C/JLM710910	0.750
65.088	135.755	53.975	56.007	44.45	3.5	3.3	265	355.9	27022	36291	43.4	0.32	1.85	1.02	6379/6320	3.598
65.088	135.755	53.975	56.007	44.45	7.5	3.2	265	356	27022	36291	43.4	0.32	1.88	1.03	ASTB6379X1XA/6320	3.603
66.675	123.825	38.1	36.678	30.162	3.6	3.3	161	221	16417	22535	27.0	0.35	1.71	0.94	559/552A	1.900
66.675	110.00	22.00	21.996	18.824	3.6	1.3	86	114	8769	11625	13.9	0.40	1.50	0.83	3955/394A	0.784
66.675	112.712	30.162	30.048	23.813	3.5	3.3	117.4	171.5	11971	17488	20.9	0.40	1.49	0.82	3984/3920	1.142
66.675	112.712	30.162	30.048	23.813	4.51	2.6	123.1	183	12553	18650	22.3	0.40	1.50	0.83	3984MANXA/20F	1.157
66.675	112.712	30.162	30.162	23.813	3.6	3.0	151.6	218.7	15459	22301	26.7	0.34	1.76	0.97	39590/39520	1.203
66.675	122.238	38.1	38.354	29.718	3.56	3.3	187	244	19068	24881	29.8	0.34	1.76	0.97	HM212049/HM212011	1.860

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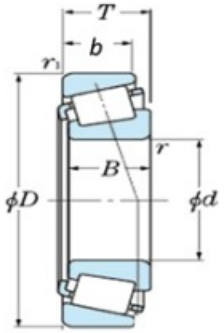
Single Row Taper Roller Bearing (Inch series)



Equivalent radial load
dynamic $P_r = XF_r + YF_a$

$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	0	0.4	Y_2

static
$P_{or} = 0.5F_r + Y_oF_a$
When $P_o < F_r$ *use* $P_o = F_r$
For values of e, Y_2 and Yo see the table below.

Boundary Dimension							Basic Load Rating				Fatigue Load Limit	Constant	Axial load factors		Bearing Number	Mass Kg. (Apporox.)
							Dynamic	Static	Dynamic	Static		e	Y_2	Y_o		
mm							KN		Kgf		KN					
d	D	T	B	b	r	r_1	Cr	Cor	Cr	Cor	Cu					
68.262	110	22	21.996	18.824	2.3	1.3	86	114	8769	11625	13.9	0.40	1.50	0.83	399A/394A	0.759
68.262	152.4	47.625	46.038	31.75	3.5	3	247	282.9	25187	28847	33.6	0.66	0.91	0.50	AST9185XA/9121F	3.688
69.85	120	29.794	29.007	24.237	3.5	2.0	134.1	190	13674	19374	23.2	0.38	1.56	0.86	482/472	1.320
69.85	127	36.512	36.17	28.575	3.5	3.3	165.3	232.9	16856	23749	28.4	0.36	1.65	0.91	566/563	1.900
69.85	146.05	41.275	39.688	25.4	3.5	3.3	243	250	24779	25493	30	0.78	0.77	0.42	H913849/10	2.870
69.865	120	32.545	32.545	26.195	3.6	3.3	149.7	219.2	15267	22351	26.7	0.36	1.67	0.92	47487/47420	1.467
71.438	120	32.545	32.545	26.195	3.5	3.3	150	219	15296	22331	26.7	0.36	1.67	0.92	4TB47490/47420	1.418
71.438	127	36.512	36.17	28.575	3.5	3.3	165.3	232.9	16856	23749	28.4	0.36	1.65	0.91	567A/563	1.85
73.025	139.992	36.512	36.098	28.575	3.5	-	175.4	26.9	17886	2743	3.2	-	-	-	576 CONE ASSLY.	1.705
73.025	112.712	25.4	25.4	19.05	3.56	3.3	95.5	151	9738	15397	18.4	0.49	1.23	0.68	TMB29685/TMB29620	0.873
73.025	127	36.512	36.17	28.575	3.5	3.3	165.3	232.9	16856	23749	28.4	0.36	1.65	0.91	567/563	1.825
76.2	149.225	53.975	54.229	44.45	9.65	3.3	288.2	411	29388	41859	48.5	0.36	1.66	0.91	6461A/6420	4.240
76.2	127	30.162	31	22.225	3.5	3.3	137.3	198.4	14000	20231	24.1	0.42	1.43	0.79	42687/42620	1.460
77.788	127	30.162	31	22.225	3.5	3.3	136.9	197.8	13960	20170	24.0	0.42	1.43	0.79	42690XA/42620F	1.376
80	140	35.25	33	28	3.0	3.0	186.1	282.2	18977	28776	33.5	0.40	1.49	0.82	M32216A/M32216E	2.192
82.55	139.992	36.512	36.098	28.575	3.5	3.2	173.9	258	17733	26308	30.6	0.40	1.49	0.82	580/572F	2.155
82.55	136.525	30.162	29.769	22.225	3.5	3.3	13	191.9	1326	19568	22.8	0.44	1.35	0.74	495/493	2.020

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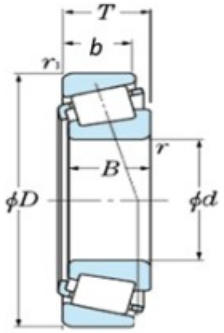
Single Row Taper Roller Bearing (Inch series)



Equivalent radial load
dynamic $P_r = XF_r + YF_a$

$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	0	0.4	Y_2

static
$P_{or} = 0.5F_r + Y_oF_a$
When $P_o < F_r$ *use* $P_o = F_r$
For values of e, Y_2 and Yo see the table below.

Boundary Dimension							Basic Load Rating				Fatigue Load Limit	Constant	Axial load factors		Bearing Number	Mass Kg. (Apporox.)
							Dynamic	Static	Dynamic	Static						
mm							KN		Kgf		KN	e	Y_2	Y_o		
d	D	T	B	b	r	r_1	Cr	Cor	Cr	Cor	Cu					
82.55	139.992	36.512	36.098	28.575	3.5	3.3	174.3	258.7	17773	26380	30.7	0.40	1.49	0.82	**580/572**	2.138
82.57	150	38.5	36	30	6.5	2	227	306	23147	31233	35.7	0.42	1.43	0.79	**N1573/32217F**	2.770
85	130	30	29	24	3.0	2.5	140	223	14276	22739	26.7	0.44	1.36	0.75	**JM716649/JM716610**	1.370
85.725	136.525	30.162	26.769	22.225	3.5	3.3	129.1	190	13164	19415	22.6	0.44	1.35	0.74	**497/493**	1.525
95	135	20	20	14	5.0	2.5	82.4	146.2	8402	14905	17	0.58	1.03	0.57	**JL819349/JL819310**	0.862
95.25	168.275	41.275	41.275	30.162	3.5	3.2	225.1	347.8	22953	35465	39.0	0.47	1.28	0.70	**683/672**	3.650
95.25	152.4	39.688	36.322	30.162	5.0	3.3	181	281.1	18457	28664	32.3	0.44	1.36	0.75	**594A/592A**	2.090
95.25	168.275	41.275	41.275	30.162	3.5	3.3	224	347	22841	35384	38.9	0.47	1.28	0.70	**683/672**	2.680
99.975	156.975	42	42	34	3.0	3.5	251	381	25594	38820	43.2	0.33	1.82	1.00	**HM220149/HM220110**	2.797
101.6	190.05	57.15	57.3	44.45	8.0	3.3	382.9	562.2	39044	57328	61	0.33	1.82	1.00	**861/854**	7.000
101.6	200	52.761	49.212	34.25	3.5	3.3	352	481	35893	49048	52	0.63	0.95	0.52	**98400/98788**	6.850
107.95	158.75	23.02	21.438	15.875	3.56	3.3	115.4	196.8	11767	20068	22.1	0.61	0.98	0.54	**TMB37425/TMB37625**	1.370
107.95	158.75	23.02	21.438	15.875	3.5	3.3	113.4	191	11563	19435	21.4	0.61	0.98	0.54	**4TB37425/37625F**	1.385
127	182.56	39.69	38.1	33.34	3.5	3.3	240	430	24473	43847	46	0.31	1.94	1.06	**48290/48220**	3.320
127	228.6	53.975	49.428	38.1	3.4	3.3	414.4	592.5	42256	60417	61	0.74	0.81	0.45	**HM926747/HM926710**	8.830
127	304.8	88.9	82.55	57.15	6.4	6.4	991.3	1281	101083	130664	124	0.73	0.82	0.45	**HH932132/HH932110**	30.100
127	234.95	63.5	63.5	49.212	6.4	3.3	525	827	53534	84329	84	0.63	0.95	0.52	**95500/95925**	11.800

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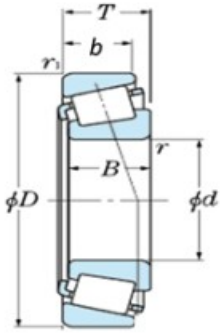
Single Row Taper Roller Bearing (Inch series)



Equivalent radial load
dynamic $P_r = XF_r + YF_a$

$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	0	0.4	Y_2

static
$P_{or} = 0.5F_r + Y_oF_a$
When $P_o < F_r$ *use* $P_o = F_r$
For values of e, Y_2 and Yo see the table below.

Boundary Dimension							Basic Load Rating				Fatigue Load Limit	Constant	Axial load factors		Bearing Number	Mass Kg. (Apporox.)
							Dynamic	Static	Dynamic	Static						
mm							KN		Kgf		KN	e	Y_2	Y_o		
d	D	T	B	b	r	r_1	Cr	Cor	Cr	Cor	Cu					
139.7	236.538	57.15	56.64	44.45	3.5	3.3	492	814.6	50169	83065	81.7	0.32	1.88	1.03	**HM231132/HM231110**	10.260
146.05	236.538	57.15	56.642	44.45	3.5	3.3	488	794	49761	80964	80	0.32	1.88	1.03	**HM231140/HM231110**	9.340
152.4	285.75	76.2	73.025	55.563	1.5	6.4	778	1101	79333	112269	106	0.40	1.50	0.83	**EE217060/112**	20.6
152.4	307.975	88.9	93.662	66.675	9.7	6.8	1000	1350	101970	137660	128	0.33	1.82	1.00	**HH234048/HH234010**	30.000
155.575	336.55	85.725	79.375	53.975	6.4	6.0	921.8	1358	93996	138434	126.2	0.81	0.74	0.41	**H936340/H936313**	36.600
159.951	244.475	47.625	46.83	33.338	3.5	3.3	354	585	36097	59652	58	0.35	1.71	0.94	**81630/81962**	7.210
165.1	336.55	92.07	95.25	69.85	3.3	6.4	1173	1730	119601	176388	160.4	0.37	1.62	0.89	**HH437549/HH437510**	39.000
165.1	225.425	41.275	39.688	33.338	3.5	3.3	261	575	26614	58633	57	0.38	1.58	0.87	**46790/46720**	4.650
174.625	311.15	82.55	82.55	65.088	6.4	6.4	1000	1600	101970	163152	150	0.33	1.82	1.00	**H238148/H238110**	27.500
174.625	247.65	47.62	47.62	38.1	3.5	3.3	341.5	693.5	34823	70716	67.5	0.44	1.36	0.75	**67787/67720**	1.230
190.5	266.7	47.63	46.83	38.1	3.5	3.3	347.1	727.7	35394	74204	69	0.48	1.25	0.69	**67885/67820**	8.000
190.5	428.625	106.362	95.25	61.912	6.4	6.4	1166	1522	118907	155147	133.3	0.76	0.79	0.43	**EE350750/EE351687**	63.100
203.2	482.6	117.475	95.25	73.025	6.4	6.4	1400	2000	142758	203940	169	0.87	0.69	0.38	**EE380080/EE380190**	96.000
206.38	336.55	98.25	100.01	77.79	3.3	3.3	1119.7	2049	114176	208947	185.6	0.33	1.82	1.00	**H242649/H242610**	34.280
220.662	314.325	61.912	66.675	49.212	1.6	5.0	625	1239	63731	126341	113	0.33	1.82	1.00	**M244249A/N1060**	15.000
221.17	314.325	61.91	66.675	49.212	1.6	5.0	625	1239	63731	126341	113	0.33	1.82	1.00	**M244210/N1059**	14.000
228.6	320.68	50.8	49.21	33.34	6.4	3.3	402	742.8	40992	75743	67	0.49	1.22	0.67	**88900/88126**	12.660
234.95	384.175	112.712	112.712	90.488	6.4	6.4	1460	2730	148876	278378	238	0.33	1.82	1.00	**H247549/H247510**	50.500

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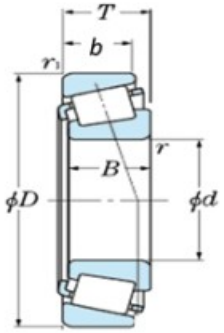
Single Row Taper Roller Bearing (Inch series)



Equivalent radial load
dynamic $P_r = XF_r + YF_a$

$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	0	0.4	Y_2

static
$P_{or} = 0.5F_r + Y_oF_a$
When $P_o < F_r$ *use* $P_o = F_r$
For values of e, Y_2 and Yo see the table below.

Boundary Dimension							Basic Load Rating				Fatigue Load Limit	Constant	Axial load factors		Bearing Number	Mass Kg. (Apporox.)
							Dynamic	Static	Dynamic	Static						
mm							KN		Kgf		KN	e	Y_2	Y_o		
d	D	T	B	b	r	r_1	Cr	Cor	Cr	Cor	Cu					
247.65	346.075	63.5	63.5	50.8	6.4	6.4	750	1600	76478	163152	141	0.34	1.76	0.97	**M348449/10**	17.5
247.65	406.4	115.89	117.475	93.662	6.4	3.3	3393	6315	345981	643890	541	0.38	1.58	0.87	**HH249949/H249910 (N1053)**	60.200
254	533.4	133.35	120.65	77.78	6.4	6.4	2024	2870	206387	292654	232	0.87	0.69	0.38	**HH953749/HH953710**	135.000
255.6	342.9	57.15	63.5	44.45	1.5	3.3	614.1	1282	62620	130766	113	0.35	1.71	0.94	**M349547/M349510**	13.795
257.175	358.775	71.438	76.2	53.975	1.5	3.3	818.5	1664	83462	169637	145	0.33	1.82	1.00	**M249747/M249710**	20.650
266.7	444.5	121.031	117.475	88.9	6.4	6.4	1788.6	3410	182384	347738	286	0.58	1.03	0.57	**H852849/H852810**	72.000
317.5	635	165.1	146.015	114.3	19.0	12.7	2910	4960	296733	505771	379	0.94	0.64	0.35	**NP340527/NP360214**	233.100
317.5	622.3	147.638	131.762	82.55	14.2	12.7	2561.7	3723	261217	379604	286	0.94	0.64	0.35	**H961649/H961610**	176.800
317.5	444.5	63.5	61.912	39.688	8.0	1.5	750	1300	76478	132561	106	0.38	1.58	0.87	**EE291250/EE291750**	26.500
368.3	609.6	142.875	139.7	111.125	8.0	6.4	2750	5060	280418	515968	383	0.35	1.71	0.94	**EE321145/EE321240**	156.000
371.475	501.65	74.612	66.675	50.8	6.4	3.3	910	1820	92793	185585	143	0.44	1.36	0.75	**EE231462/EE231975**	36.000
381	522.288	85.725	84.138	61.912	6.4	3.3	1320	2910	134600	296733	226	0.39	1.54	0.85	**LM565949/565910**	50.700
385.762	514.35	82.55	82.55	63.5	6.4	3.3	1300	3200	132561	326304	249	0.42	1.43	0.79	**LM665949/LM665910**	50.000
425.45	685.698	142.875	142.8	104.775	12.7	6.4	3050	5810	311009	592446	424	0.40	1.50	0.83	**EE328167/328269**	188.000
479.425	679.45	128.588	128.588	101.6	6.4	6.4	3000	7000	305910	713790	504	0.33	1.82	1.00	**M272749/M242710**	141.000
489.026	634.873	80.962	80.962	63.5	6.4	3.3	1440	3580	146837	365053	260	0.34	1.76	0.97	**EE243192/243250**	62.500
571.5	812.8	155.58	155.575	120.65	6.4	6.4	4440	10600	452747	1080882	723	0.33	1.82	1.00	**M278749/M278710**	227.000
630	850	108	100	78	6.0	6.0	2500	5680	254925	579190	380	0.41	1.46	0.80	**10079/630**	164.000

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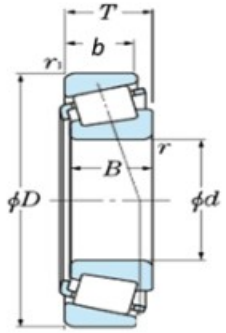
Single Row Taper Roller Bearing (Inch series)



Equivalent radial load
dynamic $P_r = XF_r + YF_a$

$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	0	0.4	Y_2

static
$P_{or} = 0.5F_r + Y_oF_a$
When $P_o < F_r$ *use* $P_o = F_r$
For values of e, Y_2 and Yo see the table below.

Boundary Dimension							Basic Load Rating				Fatigue Load Limit	Constant	Axial load factors		Bearing Number	Mass Kg. (Apporox.)
							Dynamic	Static	Dynamic	Static						
mm							KN		Kgf		KN	e	Y_2	Y_o		
d	D	T	B	b	r	r_1	Cr	Cor	Cr	Cor	Cu					
660.4	939.8	136.525	127	98.425	6.4	6.4	3490	7800	355875	795366	510	0.41	1.46	0.80	**EE538260/EE538370**	293.730
710	950	114	106	80	6.0	6.0	2800	6500	285516	662805	420	0.46	1.30	0.72	**10079/710**	211.000
900	1180	124	122	87	8.0	8.0	4140	9740	422156	993188	588	0.40	1.49	0.82	**10079/900**	330.000
900	1280	190	170	135	7.5	7.5	6450	14500	657707	1478565	864	0.54	1.11	0.61	**71/900**	703.000
1320	1600	176	165	142	6.0	6.0	6350	20550	647510	2095484	1121	0.36	1.67	0.92	**20078/1320**	719.000

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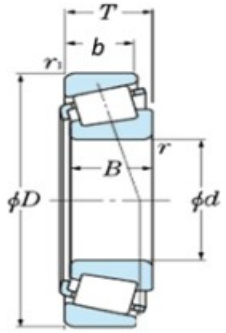
19.2 Single Row Taper Roller Bearing (Metric series)



Equivalent radial load
dynamic $P_r = XF_r + YF_a$

$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	0	0.4	Y_2

static
$P_{or} = 0.5F_r + Y_oF_a$
When $P_o < F_r$ *use* $P_o = F_r$
For values of e, Y_2 and Yo see the table below.

Boundary Dimension							Basic Load Rating				Fatigue Load Limit	Constant	Axial load factors		Bearing Number	Mass Kg. (Apporox.)
							Dynamic	Static	Dynamic	Static						
mm							KN		Kgf		KN	e	Y_2	Y_o		
d	D	T	B	b	r_1	r	Cr	Cor	Cr	Cor	Cu					
15	35	11.75	11	10	0.6	0.6	16.1	14.8	1642	1509	1.8	0.32	1.88	1.03	**30202**	0.05
15	42	14.25	13	11	1.5	1.5	22.7	20.3	2315	2070	2.5	0.29	2.11	1.16	**30302**	0.096
17	40	13.25	12	11	1.0	1.0	21.7	21.9	2214	2235	2.7	0.35	1.74	0.96	**30203**	0.080
20	42	15	15	12	0.6	0.6	26.1	29.7	2661	3029	3.6	0.37	1.60	0.88	**32004X**	0.097
20	47	15.25	14	12	1.5	1.5	29.3	30.1	2988	3069	3.7	0.35	1.74	0.96	**30204**	0.121
20	52	16.25	15	13	1.5	1.5	34.7	33.2	3538	3385	4.0	0.30	2.00	1.10	**30304**	0.160
20	52.055	14.9	15	11	0.5	1.1	30.5	32.7	3110	3334	4.0	0.50	1.20	0.66	**MLN1518FXA**	0.159
21.5	47	16.5	16.5	13	1.0	1.0	35.1	39.9	3579	4069	4.9	0.37	1.60	0.88	**N1061**	0.136
22	52.055	14.9	15	12	1.1	1.1	29.4	31.2	2998	3181	3.8	0.35	1.70	0.93	**MLN1519FXA**	0.153
25	52	19.25	18	16	1.0	1.0	41.9	47.9	4273	4884	5.8	0.36	1.67	0.92	**32205 (Low Carbon Steel)**	0.184
25	47	15	15	11.5	3.3	0.6	27.8	34	2835	3447	4.1	0.43	1.39	0.77	**32005**	0.120
25	47	15	15	11.5	3.3	0.6	27.8	34	2835	3447	4.1	0.43	1.40	0.77	**32005F**	0.120
25	47	15	15	11.5	3.3	0.6	27.8	33.8	2835	3447	4.1	0.43	1.39	0.77	**32005x1N**	0.130
25	47	15	15	11.5	0.6	1.0	27.7	33.7	2825	3436	4.1	0.43	1.40	0.77	**ML32005X1XAT2X**	0.110
25	47	17	17	14	0.6	0.6	32.2	40.2	3283	4099	4.9	0.29	2.07	1.14	**33005**	0.130
25	47	17	17	14	0.6	0.6	32.2	40.2	3283	4099	4.9	0.29	2.07	1.14	**ML33005**	0.129

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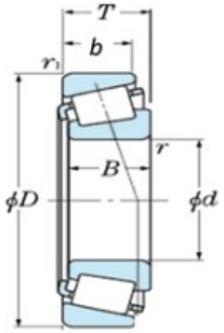
Single Row Taper Roller Bearing (Metric series)



Equivalent radial load
dynamic $P_r = XF_r + YF_a$

$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	0	0.4	Y_2

static
$P_{or} = 0.5F_r + Y_oF_a$
When $P_o < F_r$ *use* $P_o = F_r$
For values of e, Y_2 and Yo see the table below.

Boundary Dimension							Basic Load Rating				Fatigue Load Limit	Constant	Axial load factors		Bearing Number	Mass Kg. (Apporox.)
							Dynamic	Static	Dynamic	Static						
mm							KN		Kgf		KN	e	Y_2	Y_o		
d	D	T	B	b	r_1	r	Cr	Cor	Cr	Cor	Cu					
25	52	16.25	15	13	1.0	1.0	36	40.1	3661	4085	4.9	0.37	1.60	0.88	**30205**	0.148
25	52	16.25	15	13	1.0	1.0	36.6	41	3732	4181	5.0	0.37	1.62	0.89	**30205F**	0.148
25	52	19.25	18	16	1.0	1.0	41	45	4181	4589	5.5	0.36	1.67	0.92	**32205**	0.184
25	52	22	22	18	1.0	1.0	47.5	57.5	4844	5863	7.0	0.35	1.71	0.94	**33205**	0.219
25	52	14.5	15	11	1.0	1.0	31.1	33.2	3171	3385	4.0	0.38	1.59	0.88	**MLN1466XA**	0.136
25	62	18.25	17	15	2.0	2.0	46	45.9	4691	4680	5.6	0.30	2.00	1.10	**30305**	0.260
25	62	18.25	17	14	1.5	2.2	42	42.3	4283	4313	5.2	0.55	1.10	0.60	**30305C**	0.264
25	62	25.25	24	20	2.0	2.0	63	66.5	6424	6781	8.1	0.30	2.00	1.10	**32305**	0.381
28	67	30.5	32	24	2.5	1.0	84.3	90.8	8596	9259	11.1	0.24	2.53	1.39	**N1114**	0.513
30	55	17	17	13	1.0	1.0	38	47.5	3875	4844	5.8	0.43	1.40	0.77	**32006X (Low Carbon steel)**	0.172
30	55	17	17	13	1.0	1.0	38	47.5	3875	4844	5.8	0.43	1.39	0.77	**32006X**	0.172
30	62	17.25	16	14	1.0	1.0	44.3	49	4517	4997	6.0	0.37	1.60	0.88	**30206**	0.241
30	62	21.25	20	17	1.0	1.0	55.5	65.5	5659	6679	8.0	0.37	1.60	0.88	**32206**	0.299
30	62	25	25	19.5	1.0	1.0	63.8	75.4	6506	7689	9.2	0.34	1.76	0.97	**33206**	0.340
30	72	20.75	19	16	2.0	2.0	62.14	63.6	6336	6486	7.8	0.31	1.90	1.05	**30306**	0.387
30	72	20.75	19	14	1.5	2.2	58.6	579	5975	59041	70.6	0.55	1.10	0.60	**30306C**	0.381
30	72	20.75	19	14	1.5	1.5	48.5	51.5	4946	5251	6.3	0.83	0.72	0.40	**30306D**	0.398

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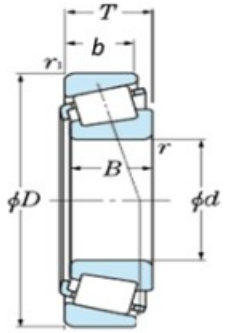
Single Row Taper Roller Bearing (Metric series)



Equivalent radial load
dynamic $P_r = XF_r + YF_a$

$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	0	0.4	Y_2

static
$P_{or} = 0.5F_r + Y_oF_a$
When $P_o < F_r$ *use* $P_o = F_r$
For values of e, Y_2 and Yo see the table below.

Boundary Dimension							Basic Load Rating				Fatigue Load Limit	Constant	Axial load factors		Bearing Number	Mass Kg. (Apporox.)
							Dynamic	Static	Dynamic	Static						
mm							KN		Kgf		KN	e	Y_2	Y_o		
d	D	T	B	b	r_1	r	Cr	Cor	Cr	Cor	Cu					
32	58	17	17	13	1.0	1.0	37.7	47	3844	4793	5.7	0.45	1.32	0.73	**320/32X**	0.188
35	62	18	18	14	1.5	0.5	42.7	54.4	4354	5547	6.6	0.45	1.32	0.73	**32007X**	0.224
35	72	18.25	17	15	2.0	2.0	53.1	58.1	5415	5924	7.1	0.37	1.60	0.88	**30207**	0.315
35	72	24.25	23	19	1.5	1.5	74.21	89.5	7567	9125	10.9	0.37	1.60	0.88	**32207**	0.447
35	72	24.25	23	19	2.0	2.0	63	77.6	6424	7913	9.5	0.58	1.03	0.57	**32207B**	0.457
35	72	28	28	22	1.5	1.5	87.5	109	8922	11115	13.3	0.35	1.70	0.93	**33207**	0.539
35	80	22.75	21	18	2.0	2.0	60.7	73.9	6190	7536	9.0	0.31	1.90	1.05	**30307**	0.520
35	80	22.75	21	15	2.0	1.5	63.4	71.5	6465	7291	8.7	0.83	0.73	0.40	**30307DFXA**	0.513
35	80	32.75	31	25	2.5	2.5	97.7	109.3	9962	11145	13.3	0.31	1.90	1.05	**32307**	0.737
36	62	17	17	13	1.5	1.5	40	50	4079	5099	6.1	0.45	1.32	0.73	**TS2N1126**	0.197
38	63	17	17	13.5	1.3	1.3	39.1	53.4	3987	5445	6.5	0.41	1.46	0.80	**MLJL69349X1XA/10F**	0.190
40	80	21	22.4	17.83	3.5	1.3	68	75	6934	7648	9.1	0.27	2.20	1.21	**TMB344A/332**	0.482
40	68	19	19	14.5	1.0	1.0	51.1	66.8	5211	6812	8.1	0.38	1.58	0.87	**32008X**	0.273
40	80	19.75	18	16	2.0	2.0	62.6	69.2	6383	7056	8.4	0.37	1.60	0.88	**30208**	0.435
40	80	24.75	23	19	1.5	1.5	79.1	93.6	8066	9544	11.4	0.37	1.60	0.88	**32208**	0.523
40	80	32	32	25	1.5	1.5	79.7	94	8127	9585	11.5	0.36	1.68	0.92	**4TB33208XA**	0.721

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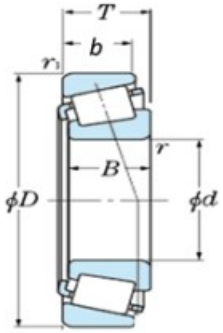
Single Row Taper Roller Bearing (Metric series)



Equivalent radial load
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$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	0	0.4	Y_2

static
$P_{or} = 0.5F_r + Y_oF_a$
When $P_o < F_r$ *use* $P_o = F_r$
For values of e, Y_2 and Yo see the table below.

Boundary Dimension							Basic Load Rating				Fatigue Load Limit	Constant	Axial load factors		Bearing Number	Mass Kg. (Apporox.)
							Dynamic	Static	Dynamic	Static						
mm							KN		Kgf		KN	e	Y_2	Y_o		
d	D	T	B	b	r_1	r	Cr	Cor	Cr	Cor	Cu					
40	80	34	34	27	2.0	2.0	103	145	10503	14786	17.7	0.43	1.39	0.77	**N1090**	0.788
40	85	18.5	18.25	17	1.5	0.3	57.7	64	5884	6526	7.8	0.37	1.60	0.88	**N1062**	0.547
40	85	33	32.5	28	2.5	2.0	115.6	140.7	11788	14347	17.2	0.34	1.74	0.96	**TS2T2EE040XA**	0.870
40	90	25.25	23	20	2.0	1.5	84.2	91.4	8586	9320	11.1	0.35	1.74	0.96	**30308**	0.769
40	90	25.25	23	17	2.0	1.5	85	96	8667	9789	11.7	0.82	0.73	0.40	**31308**	0.725
40	90	35.25	33	27	2.5	2.5	117.8	141.9	12012	14470	17.3	0.35	1.74	0.96	**32308**	1.016
40	90	35.25	33	27	2.5	2.5	117.8	141.9	12012	14470	17.3	0.35	1.71	0.94	**32308F**	1.016
40	95	27.5	25	19	2.0	1.5	91.2	101.8	9300	10381	12.4	0.79	0.76	0.42	**331257**	0.895
45	100	27.25	25	18	2.0	1.5	98.5	112.1	10044	11431	13.7	0.83	0.73	0.40	**31309X1**	0.957
45	100	38.25	36	30	2.5	2.5	144.5	176.7	14735	18018	21.5	0.35	1.71	0.94	**32309XA (32309)**	1.372
45	100	38.25	36	30	2.5	2.5	144.1	176.1	14694	17957	21.5	0.35	1.71	0.94	**32309 (32309F)**	1.373
45	100	38.25	36	30	2.5	2.5	82.4	100.7	8402	10268	12.3	0.35	1.74	0.96	**ASTB32309**	1.373
45	75	20	20	15.5	1.3	2.0	58.5	78.4	5965	7994	9.6	0.39	1.53	0.84	**32009X**	0.347
45	85	20.75	19	16	2.0	2.0	60.8	67.9	6200	6924	8.3	0.40	1.48	0.81	**30209**	0.451
45	85	24.75	23	19	1.5	1.5	84.4	103.7	8606	10574	12.6	0.40	1.48	0.81	**32209**	0.582
45	100	27.25	25	22	2.0	1.5	113.4	129.1	11563	13164	15.7	0.35	1.74	0.96	**30309**	1.009

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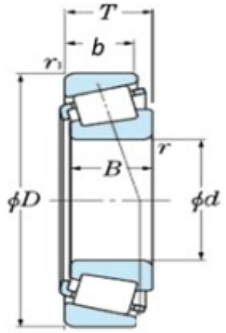
Single Row Taper Roller Bearing (Metric series)



Equivalent radial load
dynamic $P_r = XF_r + YF_a$

$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	0	0.4	Y_2

static
$P_{or} = 0.5F_r + Y_oF_a$
When $P_o < F_r$ *use* $P_o = F_r$
For values of e, Y_2 and Yo see the table below.

Boundary Dimension							Basic Load Rating				Fatigue Load Limit	Constant	Axial load factors		Bearing Number	Mass Kg. (Apporox.)
							Dynamic	Static	Dynamic	Static						
mm							KN		Kgf		KN	e	Y_2	Y_o		
d	D	T	B	b	r_1	r	Cr	Cor	Cr	Cor	Cu					
45	100	27.25	25	18	2.5	2.5	99.4	113.5	10136	11574	13.8	0.83	0.73	0.40	**31309**	0.960
45	100	28.35	36	30	2.5	2.5	144.5	176.7	14735	18018	21.5	0.35	1.74	0.96	**32309**	1.360
45	100	38.25	36	30	2.5	2.5	144.5	176.7	14735	18018	21.5	0.35	1.74	0.96	**ASTB32309**	1.360
50	80	20	20	15.5	1.3	2.0	63.7	90.1	6495	9187	11.0	0.42	1.42	0.78	**32010X**	0.373
50	80	24	24	19	1.5	1.0	70.4	104.3	7179	10635	12.7	0.32	1.90	1.04	**33010**	0.433
50	80	20	20	15.5	3.0	1.0	63.5	89.9	6475	9167	11.0	0.42	1.43	0.79	**32010X1**	0.366
50	80	24	24	19	1.8	1.0	70.7	104.7	7209	10676	12.8	0.32	1.90	1.04	**ASTBN1569XA**	0.440
50	90	21.75	20	17	1.5	1.5	78.7	95.3	8025	9718	11.6	0.42	1.43	0.79	**30210**	0.552
50	90	24.75	23	19	1.5	1.5	84.7	104.3	8637	10635	12.7	0.42	1.43	0.79	**32210**	0.648
50	90	32	32	24.5	1.5	1.5	115	158	11727	16111	19.3	0.41	1.45	0.80	**33210**	0.860
50	90	21.75	20	17	3.5	1.5	78.4	94.8	7994	9667	11.6	0.42	1.43	0.79	**ASTB30210X1**	0.548
50	110	29.25	27	23	2.5	2.0	135	155	13766	15805	18.9	0.35	1.71	0.94	**30310**	1.280
50	110	29.25	27	19	2.5	2.0	111	126	11319	12848	15.4	0.83	0.72	0.40	**31310**	1.210
50	110	42.25	40	33	2.5	2.0	184.1	218.1	18773	22240	26.6	0.35	1.71	0.94	**AST32310 (AST32310PX1)**	1.819
50	110	42.25	40	33	2.5	2.0	111	126	11319	12848	15.4	0.35	1.74	0.96	**32310**	1.210

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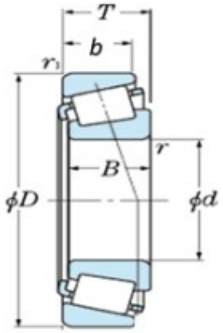
Single Row Taper Roller Bearing (Metric series)



Equivalent radial load
dynamic $P_r = XF_r + YF_a$

$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	0	0.4	Y_2

static
$P_{or} = 0.5F_r + Y_oF_a$
When $P_o < F_r$ *use* $P_o = F_r$
For values of e, Y_2 and Yo see the table below.

Boundary Dimension							Basic Load Rating				Fatigue Load Limit	Constant	Axial load factors		Bearing Number	Mass Kg. (Apporox.)
							Dynamic	Static	Dynamic	Static						
mm							KN		Kgf		KN	e	Y_2	Y_o		
d	D	T	B	b	r_1	r	Cr	Cor	Cr	Cor	Cu					
55	90	23	23	17.5	1.5	1.5	80	118	8158	12032	14.4	0.41	1.48	0.81	**32011**	0.557
55	95	30	30	23	2.0	2.0	113	159.5	11523	16264	19.5	0.37	1.60	0.88	**33111**	0.846
55	100	22.75	21	18	2.0	1.5	93	111	9483	11319	13.5	0.40	1.48	0.81	**30211**	0.740
55	100	26.75	25	21	2.5	2.5	107.9	133.6	11003	13623	16.3	0.40	1.48	0.81	**32211**	0.824
55	100	35	35	27	2.0	1.5	142	192	14480	19578	23.4	0.40	1.50	0.83	**33211**	1.160
55	105	36	36	28.5	2.5	2.5	149	192.7	15194	19650	23.5	0.35	1.70	0.93	**ASTBN1091XA**	1.326
55	105	36	36	25.5	2.5	2.5	142.2	128.5	14500	13103	15.7	0.35	1.70	0.93	**N1091**	1.324
55	120	31.5	29	25	2.5	2.0	158	184	16111	18762	22.4	0.35	1.74	0.96	**30311**	1.610
55	120	31.5	29	21	2.5	2.0	135.6	157.8	13827	16091	19.2	0.82	0.73	0.40	**31311**	1.560
55	120	45.5	43	35	2.5	2.0	211	269	21516	27430	32.8	0.55	1.10	0.60	**32311C**	2.370
55	120	45.5	43	35	2.5	2.0	184.6	275.2	18824	28062	33.6	0.55	1.10	0.60	**32311C**	2.489
55	130	33.45	31.2	22	2.0	1.5	141.6	180.1	14439	18365	22.0	0.44	1.36	0.75	**TMBSPN1099**	1.850
55	140	45	40	33	2.5	2.0	202.6	275.9	20659	28134	33.6	0.65	0.92	0.51	**4TN1243**	3.427
60	110	23.75	22	19	3.0	2.0	106.9	128.2	10901	13073	15.6	0.40	1.48	0.81	**30212X1**	0.902
60	95	27	27	21	1.5	1.5	96.7	151.1	9860	15408	18.4	0.33	1.82	1.00	**33012**	0.691
60	100	30	30	23	1.5	1.5	117.9	172.1	12022	17549	21.0	0.40	1.51	0.83	**33112**	0.907
60	110	23.75	22	19	2.0	1.5	108	129	11013	13154	15.7	0.40	1.48	0.81	**30212**	0.902
60	110	29.75	28	24	2.0	1.5	139	179	14174	18253	21.8	0.40	1.50	0.83	**32212**	1.160

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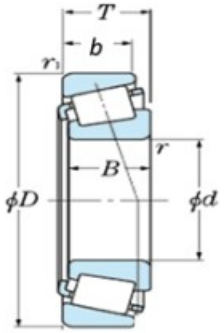
Single Row Taper Roller Bearing (Metric series)



Equivalent radial load
dynamic $P_r = XF_r + YF_a$

$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	0	0.4	Y_2

static
$P_{or} = 0.5F_r + Y_oF_a$
When $P_o < F_r$ *use* $P_o = F_r$
For values of e, Y_2 and Yo see the table below.

Boundary Dimension							Basic Load Rating				Fatigue Load Limit	Constant	Axial load factors		Bearing Number	Mass Kg. (Apporox.)
							Dynamic	Static	Dynamic	Static						
mm							KN		Kgf		KN	e	Y_2	Y_o		
d	D	T	B	b	r_1	r	Cr	Cor	Cr	Cor	Cu					
60	130	33.5	31	26	3.5	3.5	171.2	197	17457	20088	24.0	0.35	1.74	0.96	**30312**	1.930
60	130	48.5	46	37	3.0	2.5	244	315	24881	32121	38.4	0.35	1.74	0.96	**32312**	2.990
60	135	33.5	30.95	22	3.5	3.3	154.6	182.1	15765	18569	22.2	0.83	0.73	0.40	**330632C**	2.079
60	130	33.5	31	22	3.0	2.5	151.2	180.8	15418	18436	22.0	0.83	0.73	0.40	**MLB30312DXA**	1.925
60	130	48.5	46	37	3.0	2.5	244	315	24881	32121	38.4	0.35	1.74	0.96	**ASTB32312**	2.990
65	100	23	23	17.5	1.5	1.5	83	128	8464	13052	15.6	0.46	1.31	0.72	**32013X**	0.629
65	100	27	21	21	1.5	1.5	98	158	9993	16111	19.3	0.35	1.71	0.94	**33013**	0.736
65	110	28	28	22.5	3.0	2.5	123.1	183	12553	18661	22.3	0.40	1.50	0.83	**JM511946/JM511910**	1.055
65	120	24.75	23	20	2.0	1.5	125	151	12746	15397	18.4	0.40	1.48	0.81	**30213**	1.180
65	120	32.75	31	27	2.0	1.5	155.2	198.7	15826	20261	24.2	0.40	1.48	0.81	**32213**	1.574
65	120	41	41	32	2.0	1.5	197	266	20088	27124	32.4	0.39	1.54	0.85	**33213**	1.980
65	120	41	41	32	2.0	1.5	197	266	20088	27124	32.4	0.39	1.54	0.85	**33213F**	1.980
65	140	36	33	28	3.0	2.5	204	239	20802	24371	28.8	0.34	1.76	0.97	**30313**	2.430
65	140	36	33	23	3.0	2.5	173	204	17641	20802	24.7	0.82	0.73	0.40	**31313**	2.370
65	140	51	48	39	3.0	2.5	271	347	27634	35384	42.0	0.34	1.76	0.97	**32313**	3.660
65	145	39.75	36.5	26.5	3.5	3.3	186	223	18946	22699	26.8	0.81	0.74	0.41	**77213L**	2.955
65	145	87.25	36.5	26.5	3.5	3.3	315	487.7	32121	49731	58.6	0.81	0.74	0.41	**477213LXA**	6.350

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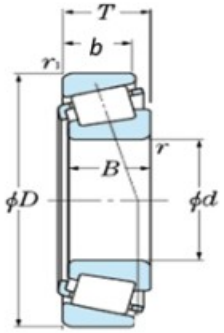
Single Row Taper Roller Bearing (Metric series)



Equivalent radial load
dynamic $P_r = XF_r + YF_a$

$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	0	0.4	Y_2

static
$P_{or} = 0.5F_r + Y_oF_a$
When $P_o < F_r$ *use* $P_o = F_r$
For values of e, Y_2 and Yo see the table below.

Boundary Dimension							Basic Load Rating				Fatigue Load Limit	Constant	Axial load factors		Bearing Number	Mass Kg. (Apporox.)
							Dynamic	Static	Dynamic	Static						
mm							KN		Kgf		KN	e	Y_2	Y_o		
d	D	T	B	b	r_1	r	Cr	Cor	Cr	Cor	Cu					
70	150	38	35	25	3.0	2.5	187	231	19058	23555	27.4	0.82	0.73	0.40	**31314**	2.860
70	165	51	51	34	3.0	2.5	260	366	26512	37321	42.1	0.75	0.80	0.44	**4TN1244**	5.177
70	125	26.25	24	21	4.0	1.5	137.4	171.8	14011	17518	21.0	0.42	1.43	0.79	**30214X1**	1.242
70	150	64	61	42	6.0	2.5	307	363.3	31305	37046	43.4	0.35	1.71	0.94	**N1257 (32314)**	4.676
70	110	25	25	19	1.5	1.5	104	160	10605	16315	19.5	0.43	1.40	0.77	**32014**	0.864
70	125	26.25	24	21	2.5	2.5	125.5	152.7	12797	15571	18.6	0.42	1.43	0.79	**30214**	1.240
70	125	33.25	31	27	2.0	1.5	161	210.7	16417	21485	25.7	0.42	1.43	0.79	**32214**	1.585
70	125	41	41	32	2.5	2.5	201	282	20496	28756	34.4	0.41	1.47	0.81	**33214**	2.100
70	125	26.25	24	21	2.5	2.5	137.4	171.8	14011	17518	21.0	0.42	1.43	0.79	**MLB30214X2XA**	1.231
70	125	26.25	24	21	2.5	2.5	137.4	171.8	14011	17518	21.0	0.42	1.43	0.79	**30214X2XA**	1.231
70	150	38	35	30	3.0	2.5	228	269	23249	27430	31.9	0.35	1.71	0.94	**30314**	2.990
70	150	54	51	42	3.0	2.5	312	406	31815	41400	48.5	0.34	1.76	0.97	**32314**	4.330
75	160	45	45	30	3.0	2.5	248.5	328.3	25340	33477	37.9	0.75	0.80	0.44	**4TN1247FP5**	4.070
75	115	25	25	19	3.2	2.5	107.5	169.8	10962	17315	20.7	0.46	1.30	0.72	**32015X1F**	0.888
75	115	25	25	19	3.2	2.5	107.3	169.3	10941	17264	20.6	0.46	1.31	0.72	**32015X1XA**	0.888
75	125	37	37	29	2.0	1.5	186	280	18966	28552	34.1	0.40	1.50	0.83	**33115**	1.780
75	130	27.25	25	22	2.5	2.5	14.2	181.1	1448	18467	21.9	0.44	1.38	0.76	**30215**	1.410

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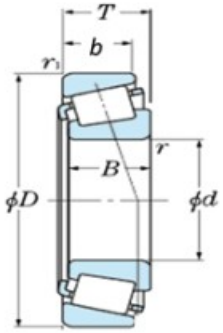
Single Row Taper Roller Bearing (Metric series)



Equivalent radial load
dynamic $P_r = XF_r + YF_a$

$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	0	0.4	Y_2

static
$P_{or} = 0.5F_r + Y_oF_a$
When $P_o < F_r$ *use* $P_o = F_r$
For values of e, Y_2 and Yo see the table below.

Boundary Dimension							Basic Load Rating				Fatigue Load Limit	Constant	Axial load factors		Bearing Number	Mass Kg. (Apporox.)
							Dynamic	Static	Dynamic	Static						
mm							KN		Kgf		KN	e	Y_2	Y_o		
d	D	T	B	b	r_1	r	Cr	Cor	Cr	Cor	Cu					
75	130	33.25	31	27	2.0	1.5	177.3	240	18074	24479	29.0	0.44	1.38	0.76	**32215**	1.740
75	130	41	41	31	2.5	3.0	210.1	302.6	21424	30856	36.7	0.43	1.40	0.77	**33215**	2.225
75	160	40	37	26	3.0	2.5	216	256	22026	26104	29.7	0.82	0.73	0.40	**31315**	3.380
75	160	58	55	45	3.0	2.5	346	452	35282	46090	52.5	0.34	1.76	0.97	**32315**	5.280
80	170	61.5	58	48	3.0	2.5	397	543	40482	55370	61.9	0.34	1.76	0.97	**32316**	6.370
80	125	29	29	22	1.5	1.5	141.6	220.8	14439	22515	26.7	0.42	1.42	0.78	**32016X**	1.284
80	125	29	29	22	1.5	1.5	138	217	14072	22127	26.3	0.42	1.43	0.79	**32016**	1.270
80	130	37	37	29	2.0	1.5	180.3	277	18385	28246	33.3	0.42	1.44	0.79	**33116**	1.839
80	140	28.25	26	22	3.0	3.0	141	169.2	14378	17253	20.1	0.42	1.43	0.79	**30216**	1.720
80	140	35.25	33	28	2.5	2.0	206	277	21011	28235	32.8	0.42	1.43	0.79	**32216**	2.180
80	140	46	46	35	2.5	2.0	246	362	25054	36893	42.9	0.42	1.43	0.79	**332016**	2.830
85	180	44.5	41	28	4.0	3.0	195	242	19884	24677	27.1	0.42	1.43	0.79	**31317**	4.600
85	192	64	64	45	4.0	3.0	393	538	40023	54829	59.1	0.75	0.80	0.44	**4TN1248FP5**	8.665
85	150	49	49	37	2.5	2.0	280	418	28572	42593	48.5	0.42	1.43	0.79	**33217**	3.536
85	150	30.5	28	24	0.4	0.3	183	232	18661	23657	27.0	0.42	1.43	0.79	**30217X**	0.172
85	150	38.5	36	30	2.5	2.0	224	300	22841	30591	34.9	0.42	1.43	0.79	**32217**	2.745
85	150	46	46	38	3.0	2.5	272	387	27736	39462	45.0	0.33	1.82	1.00	**JH217249/JH217210**	3.080

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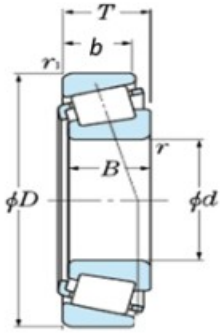
Single Row Taper Roller Bearing (Metric series)



Equivalent radial load
dynamic $P_r = XF_r + YF_a$

$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	0	0.4	Y_2

static
$P_{or} = 0.5F_r + Y_oF_a$
When $P_o < F_r$ *use* $P_o = F_r$
For values of e, Y_2 and Yo see the table below.

Boundary Dimension							Basic Load Rating				Fatigue Load Limit	Constant	Axial load factors		Bearing Number	Mass Kg. (Apporox.)
							Dynamic	Static	Dynamic	Static						
mm							KN		Kgf		KN	e	Y_2	Y_o		
d	D	T	B	b	r_1	r	Cr	Cor	Cr	Cor	Cu					
85	150	49	49	37	2.5	2.0	284	420	28959	42827	48.8	0.42	1.43	0.79	**33217**	3.600
85	180	44.5	41	34	4.0	3.0	306	363	31203	37015	40.7	0.34	1.76	0.97	**30317**	4.970
85	180	63.5	60	49	4.0	3.0	438	587	44663	59856	65.8	0.34	1.76	0.97	**32317**	7.300
85	150	38.5	36	30	2.5	2.0	224	300	22841	30591	34.9	0.42	1.43	0.79	**ASTB32217**	2.745
85	150	30.5	28	24	2.5	2.1	184.9	235.7	18854	24034	27.5	0.42	1.43	0.79	**MLB30217XA**	2.095
90	140	32	32	24	2.0	1.5	169	271	17233	27634	31.7	0.42	1.43	0.79	**32018**	1.790
90	150	45	45	35	2.5	2.0	254	420	25900	42827	48.5	0.39	1.54	0.85	**33118**	3.130
90	160	42.5	40	34	3.0	3.0	269.8	395.5	27512	40329	45.2	0.42	1.43	0.79	**32218**	3.439
90	190	46.5	43	36	4.0	3.0	354	434	36097	44255	47.8	0.34	1.76	0.97	**30318**	5.800
90	190	67.5	64	53	4.0	3.0	497	677	50679	69034	74.6	0.35	1.71	0.94	**32318**	8.780
95	200	49	45	32	4.0	3.0	292	355	29775	36199	38.5	0.82	0.73	0.40	**31319**	6.950
95	145	39	39	32.5	2.5	2.5	219	365	22372	37250	42.2	0.28	2.14	1.18	**33019 (33019F)**	2.277
95	170	34.5	32	27	3.0	2.5	242	318	24687	32396	35.6	0.42	1.43	0.79	**30219**	3.040
95	170	45.5	43	37	3.0	2.5	315	445	32121	45377	49.9	0.42	1.43	0.79	**32219**	4.240
95	170	45.5	43	37	3.5	3.5	299	418	30479	42583	46.9	0.42	1.43	0.79	**32219X1XA**	4.129
95	200	49.5	45	38	4.0	3.0	369	478	37627	48742	51.9	0.34	1.76	0.97	**30319**	6.800

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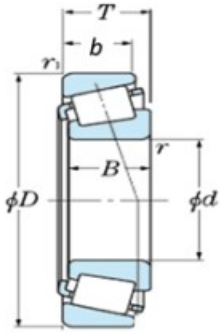
Single Row Taper Roller Bearing (Metric series)



Equivalent radial load
dynamic $P_r = XF_r + YF_a$

$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	0	0.4	Y_2

static
$P_{or} = 0.5F_r + Y_oF_a$
When $P_o < F_r$ *use* $P_o = F_r$
For values of e, Y_2 and Yo see the table below.

Boundary Dimension							Basic Load Rating				Fatigue Load Limit	Constant	Axial load factors		Bearing Number	Mass Kg. (Apporox.)
							Dynamic	Static	Dynamic	Static						
mm							KN		Kgf		KN	e	Y_2	Y_o		
d	D	T	B	b	r_1	r	Cr	Cor	Cr	Cor	Cu					
100	215	77.5	73	60	4.0	3.0	580	861	59143	87796	91.6	0.34	1.76	0.97	**32320**	12.700
100	150	32	32	24	2.0	1.5	171.9	286	17529	29163	32.6	0.46	1.31	0.72	**32020XF**	1.904
100	150	32	32	24	2.5	3.0	172.2	286.7	17559	29235	32.7	0.46	1.31	0.72	**32020X**	1.912
100	150	39	39	32.5	2.0	1.5	224	390	22841	39768	44.6	0.29	2.09	1.15	**33020**	2.370
100	155	36	35	28	3.0	2.5	193	312	19670	31825	35.4	0.47	1.28	0.70	**JM720249/10F**	2.343
100	180	37	34	29	3.0	2.5	258	335	26349	34170	36.9	0.42	1.43	0.79	**30220**	3.780
105	225	81.5	77	63	4.0	3.0	659	911	67198	92895	95.6	0.34	1.76	0.97	**32321**	14.500
105	160	35	35	26	2.5	2.0	205	336	20945	34242	37.6	0.44	1.36	0.75	**32021**	2.400
105	190	39	36	30	3.0	25.0	283	382	28878	38942	41.4	0.42	1.43	0.79	**30221F**	4.377
105	190	53	50	43	3.0	2.5	381	579	38851	59041	62.8	0.42	1.43	0.79	**32221**	6.300
110	200	41	38	32	3.0	2.5	327	440	33344	44867	47.0	0.42	1.43	0.79	**30222**	5.210
110	200	56	53	46	3.0	2.5	439	642	44765	65465	68.7	0.42	1.43	0.79	**32222**	7.430
110	240	54.5	50	42	4.0	3.0	430	580	43847	59143	59.9	0.34	1.76	0.97	**30322**	11.100
110	240	63	57	38	4.0	3.0	425	590	43337	60162	60.8	0.82	0.73	0.40	**31322**	12.500
110	240	84.5	80	65	4.0	3.0	816	1132	83167	115430	116.7	0.34	1.76	0.97	**32322**	18.000

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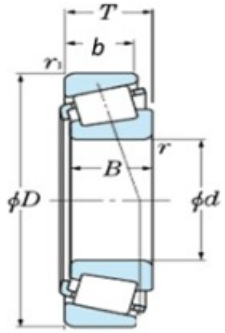
Single Row Taper Roller Bearing (Metric series)



Equivalent radial load
dynamic $P_r = XF_r + YF_a$

$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	0	0.4	Y_2

static
$P_{or} = 0.5F_r + Y_oF_a$
When $P_o < F_r$ *use* $P_o = F_r$
For values of e, Y_2 and Yo see the table below.

Boundary Dimension							Basic Load Rating				Fatigue Load Limit	Constant	Axial load factors		Bearing Number	Mass Kg. (Apporox.)
							Dynamic	Static	Dynamic	Static						
mm							KN		Kgf		KN	e	Y_2	Y_o		
d	D	T	B	b	r_1	r	Cr	Cor	Cr	Cor	Cu					
110	170	47	47	37	2.5	2.0	288	500	29367	50985	55.1	0.29	2.07	1.14	**33022**	3.800
110	170	38	38	29	2.5	2.0	231	381	23586	38810	41.9	0.43	1.40	0.77	**32022XF**	3.000
110	170	38	38	29	2.5	2.0	231.3	380.6	23586	38810	41.9	0.43	1.40	0.77	**ASTB32022X**	3.003
120	215	61.5	58	50	3.0	2.5	497	751	50679	76579	78.5	0.44	1.36	0.75	**32224**	9.260
120	180	38	38	29	2.5	2.0	245	420	24983	42827	45.3	0.46	1.30	0.72	**32024**	3.250
120	260	59.5	55	46	4.0	3.0	589	746	60060	76070	75.0	0.34	1.76	0.97	**30324**	14.200
120	260	68	62	42	4.0	3.0	533	676	54350	68932	68.0	0.82	0.73	0.40	**31324**	15.200
120	260	90.5	86	69	4.0	3.0	864	1230	88102	125423	123.7	0.34	1.76	0.97	**32324**	15.200
120	215	43.5	40	34	3.0	2.5	345	470	35180	47926	49.1	0.44	1.36	0.75	**30224**	6.500
130	230	43.75	40	34	3	4	379	514	38647	52413	54	0.43	1.4	0.8	**30226**	6.84
130	230	67.75	64	54	4.0	3.0	530	820	54044	83615	83.8	0.44	1.36	0.75	**32226**	11.500
130	280	98.75	93	78	5.0	4.0	895	1263	91263	128788	124.2	0.34	1.76	0.97	**32326**	27.600
140	250	71.75	68	58	4.0	3.0	610	980	62202	99931	97.8	0.44	1.36	0.75	**32228**	14.700
140	210	45	45	34	2.5	2.0	333	589	33966	60081	60.7	0.46	1.30	0.72	**32028XF**	5.280
150	225	48	48	36	3.0	2.5	365	670	37219	68320	67.7	0.46	1.30	0.72	**32030**	6.400
150	270	77	73	60	4.0	3.0	700	1130	71379	115226	110.3	0.43	1.40	0.77	**32230**	18.400

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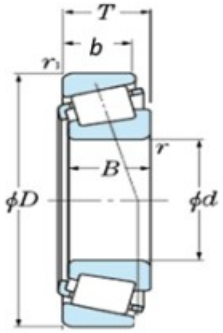
Single Row Taper Roller Bearing (Metric series)



Equivalent radial load
dynamic $P_r = XF_r + YF_a$

$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	0	0.4	Y_2

static
$P_{or} = 0.5F_r + Y_oF_a$
When $P_o < F_r$ *use* $P_o = F_r$
For values of e, Y_2 and Yo see the table below.

Boundary Dimension							Basic Load Rating				Fatigue Load Limit	Constant	Axial load factors		Bearing Number	Mass Kg. (Apporox.)
							Dynamic	Static	Dynamic	Static						
mm							KN		Kgf		KN	e	Y_2	Y_o		
d	D	T	B	b	r_1	r	Cr	Cor	Cr	Cor	Cu					
160	240	51	51	38	3.0	2.5	415	730	42318	74438	72.3	0.46	1.30	0.72	**32032**	7.700
160	375	86.55	79.4	50	4.7	4.7	880	1090	89734	111147	98.9	0.66	0.91	0.50	**7832**	39.400
160	290	84	80	67	4.0	3.0	897	1430	91467	145817	136.7	0.43	1.40	0.77	**32232**	23.400
170	260	57	57	43	3.0	2.5	519	920	52922	93812	89.2	0.44	1.36	0.75	**32034**	10.600
170	260	57	57	43	3.0	2.5	519	920	52922	93812	89.2	0.44	1.36	0.75	**32034X**	10.600
170	360	127	120	100	5.0	4.0	1430	2120	145817	216176	193.0	0.36	1.67	0.92	**32334**	57.900
170	230	38	38	30	2.0	2.5	286	590	29163	60162	58.4	0.38	1.58	0.87	**32934**	4.500
170	230	39	38	31	3.1	2.5	335	590	34160	60162	58.4	0.38	1.58	0.87	**JHM534149/110**	4.510
180	320	91	86	71	5.0	4.0	950	1650	96872	168251	153	0.46	1.30	0.72	**32236**	29.800
180	380	98	88	60	5.0	5.0	1090	1491	111127	152027	133.5	0.36	1.67	0.92	**27336**	46.000
190	290	64	64	48	3.0	2.5	655	1210	66790	123384	113.5	0.44	1.36	0.75	**32038X**	14.700
190	340	97	92	75	5.0	4.0	1150	1850	117266	188645	168.4	0.43	1.40	0.77	**32238**	35.200
200	360	104	98	82	5.0	4.0	1300	2200	132561	224334	197.0	0.41	1.46	0.80	**32240**	43.2
200	420	108	100.01	66	6.0	6.0	1293	1864	131868	190041	161.9	0.36	1.67	0.92	**27340**	63.000
220	340	76.5	66.675	62	4.0	4.0	858	14401	87490	1468470	1295	0.35	1.71	0.94	**2007144**	22.300
220	400	72	65	54	5.0	4.0	1000	1460	101970	148876	126.8	0.43	1.40	0.77	**7244(30244)**	35.200

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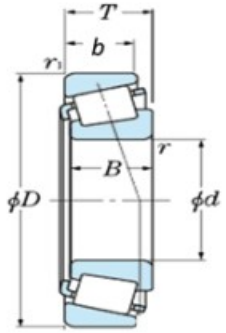
Single Row Taper Roller Bearing (Metric series)



Equivalent radial load
dynamic $P_r = XF_r + YF_a$

$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	0	0.4	Y_2

static
$P_{or} = 0.5F_r + Y_oF_a$
When $P_o < F_r$ *use* $P_o = F_r$
For values of e, Y_2 and Yo see the table below.

Boundary Dimension							Basic Load Rating				Fatigue Load Limit	Constant	Axial load factors		Bearing Number	Mass Kg. (Apporox.)
							Dynamic	Static	Dynamic	Static						
mm							KN		Kgf		KN	e	Y_2	Y_o		
d	D	T	B	b	r_1	r	Cr	Cor	Cr	Cor	Cu					
240	320	51	48	41	3.0	2.5	470	990	47926	100950	88.6	0.46	1.30	0.72	**32948**	11.000
240	360	76	72	62	4.0	3.0	900	1750	91773	178448	153.5	0.46	1.30	0.72	**32048**	27.300
255	560	123.05	104.8	70	6.0	6.0	1780	2490	181507	253905	199.2	0.87	0.69	0.38	**30651**	120.000
260	360	64.5	60	52	3.5	3.5	696	1323	70930	134927	114.9	0.37	1.62	0.89	**2007952**	17.700
280	420	87	82	71	5.0	4.0	1110	2040	113187	208019	170.8	0.37	1.62	0.89	**2007156**	39.300
300	460	100.7	95	82	5.0	5.0	1478	2610	150661	266111	213.2	0.31	1.94	1.06	**2007160**	55.900
300	460	100	100	74	5.0	4.0	1484	2980	151323	303871	243.5	0.43	1.40	0.77	**32060**	58.000
320	480	100	100	74	5.0	4.0	1520	2940	154994	299792	236.5	0.42	1.43	0.79	**32064**	59.000
320	670	210	200	170	7.5	7.5	4570	8040	466003	819839	606.8	0.37	1.62	0.89	**32364**	331.200
500	670	85	78	60	6.0	5.0	1470	3100	149896	316107	222.5	0.43	1.40	0.77	**10079/500**	74.100

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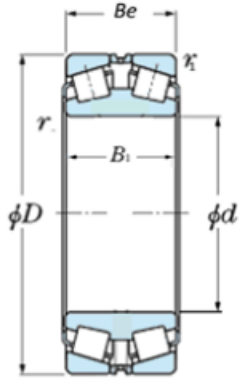
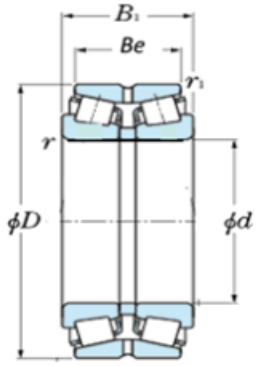
Double Row Taper Roller Bearing



TDI (X-Arrangement)



TDO (O-Arrangement))

Equivalent radial load

dynamic

$P_r = XF_r + YF_a$

$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	Y_1	0.67	Y_2

static

$P_{or} = F_r + Y_o F_a$

For values of e, Y_2 and Y_o see the table below.

Boundary Dimension						Basic Load Rating				Fatigue Load Limit	Constant	Axial Load Factor			Bearing Number	Type	Mass Kg. (Apporox.)
						Dynamic	Static	Dynamic	Static								
mm						KN		Kgf		KN	e	Y_1	Y_2	Y_o			
d	D	Bi	Be	r	r_1	Cr	Cor	Cr	Cor	Cu							
101.6	146.05	49.212	39.688	1.5	0.8	182	331	18559	33752	38	0.39	1.73	2.58	1.69	**L521945/L521910D**	TDI	2.430
101.6	200.025	115.888	80.216	3.6	2.4	591	936	60264	95444	101	0.63	1.07	1.60	1.05	**98400/98789D**	TDO	15.000
105	190	117.25	96	3.0	1.1	610	1100	62202	112167	119	0.42	1.61	2.39	1.57	**97521**	TDO	14.000
109.987	159.987	74.612	58.738	3.6	0.8	318	642	32426	65465	72	0.40	1.69	2.51	1.65	**LM522549/LM522510D**	TDO	4.600
120	260	136	124	1.5	3.0	1050	1426	107069	145409	143	0.82	0.82	1.23	0.80	**31324DF**	TDI	30.200
120.65	174.625	77.788	61.913	3.6	0.8	359	728	36607	74234	79	0.33	2.05	3.05	2.00	**M224749/M224710D**	TDO	5.710
127	196.85	101.6	85.725	3.5	0.8	550	1150	56084	117266	121	0.34	1.99	2.96	1.94	**67388/67322D**	TDO	11.000
127	234.95	142.875	114.3	3.5	1.5	897	1654	91467	168658	169	0.37	1.82	2.72	1.78	**NA95500/95927CD**	TDO	27.300
127.792	228.6	115.888	84.138	3.5	2.3	570	1200	58123	122364	123	0.73	0.92	1.38	0.90	**HM926749/HM926710D**	TDI	19.000
130	230	150	120	4.0	2.0	945	1645	96362	167741	168	0.42	1.61	2.39	1.57	**97526**	TDO	25.300
133.35	196.85	92.075	92.075	3.3	1.5	550	1200	56084	122364	126	0.34	1.99	2.96	1.94	**67390D/67322**	TDI	9.500
133.35	199.949	101.6	85.725	3.5	0.8	540	1138	55064	116042	119	0.34	1.99	2.96	1.94	**67390/67326D**	TDO	10.530
140	300	140	154	1.5	4.0	1200	1830	122364	186605	176	0.82	0.82	1.23	0.80	**31328X/DF**	TDI	51.500
150	250	137.25	112	2.5	1.0	785	1560	80046	159073	155	0.25	2.70	4.02	2.64	**2097730**	TDI	25.800
150	270	172	138	4.0	1.5	1351	2388	137751	243504	233	0.42	1.61	2.39	1.57	**97530**	TDO	39.100
150	320	164	150	1.5	4.0	1360	2250	138679	229433	212	0.82	0.82	1.23	0.80	**31330XDF**	TDI	58.500

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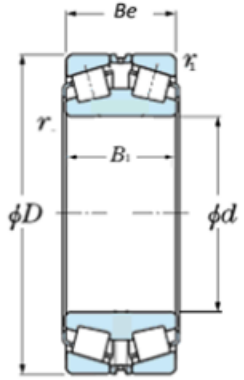
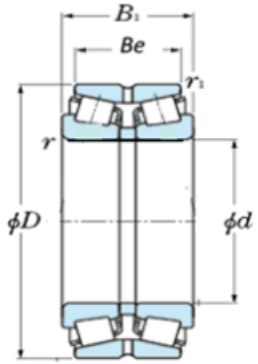
Double Row Taper Roller Bearing



TDI (X-Arrangement)



TDO (O-Arrangement))

Equivalent radial load
dynamic

$P_r = XF_r + YF_a$

$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	Y_1	0.67	Y_2

static

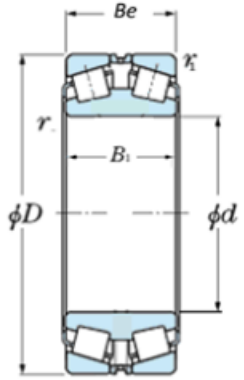
$P_{or} = F_r + Y_o F_a$

For values of e, Y_2 and Y_o see the table below.

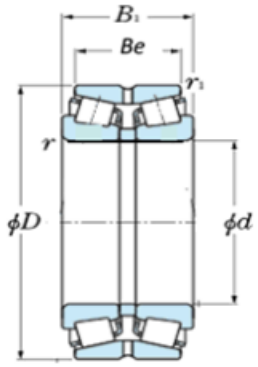
Boundary Dimension						Basic Load Rating				Fatigue Load Limit	Constant	Axial Load Factor			Bearing Number	Type	Mass Kg. (Apporox.)
						Dynamic	Static	Dynamic	Static								
mm						KN		Kgf		KN	e	Y_1	Y_2	Y_o			
d	D	Bi	Be	r	r_1	Cr	Cor	Cr	Cor	Cu							
152.4	254	142.876	111.125	7.9	3.5	996	1930	101562	196802	190	0.41	1.65	2.45	1.61	NA99600/99102CD	TDO	27.300
159.95	244.48	107.95	79.37	3.5	1.5	589	1069	60071	109006	106	0.35	1.93	2.87	1.89	81630/81963D	TDO	18.180
160	270	150	120	2.5	1.0	1070	1890	109108	192723	183	0.32	2.11	3.14	2.06	2097732	TDI	27.200
165.1	288.925	142.875	111.125	1.5	7.0	1160	2140	118285	218216	204	0.32	2.11	3.14	2.06	HM237535/HM237510D	TDO	36.500
170	260	114	114	1.0	2.5	1050	1915	107069	195273	186	0.44	1.53	2.28	1.50	32034XDF	TDI	21.000
177.8	279.4	133.353	96.838	3.3	1.6	863	1872	88000	190888	178	0.53	1.27	1.90	1.25	82680X/82620D	TDO	29.000
	288.925	123.825	123.825	1.5	3.3	1090	1980	111147	201901	176	0.32	2.11	3.14	2.06	HM237546D/HM237510	TDI	31.000
180	280	128	128	1.0	2.5	1100	2320	112167	236570	220	0.42	1.61	2.39	1.57	32036X/DF	TDI	29.500
180	300	163.25	134	3.0	1.0	1220	2360	124403	240649	207	0.26	2.60	3.87	2.54	2097736	TDO	43.500
180	280	133.25	108	3.0	1.0	940	1810	95852	184566	162	0.29	2.33	3.47	2.28	2097136	TDO	29.000
190.5	266.7	103.188	84.138	3.5	0.8	625	1540	63731	157034	147	0.48	1.41	2.09	1.38	67885/67820D	TDO	16.900
190.5	368.3	158.75	152.4	3.3	3.3	1690	3200	172329	326304	287	0.40	1.69	2.51	1.65	EE420750D/EE421450	TDI	77.900
190.5	368.3	193.675	136.525	6.4	1.5	1800	3300	183546	336501	296	0.40	1.69	2.51	1.65	EE420751/421451	TDO	87.000
200	310	151	123	3.0	1.0	995	2080	101460	212098	192	0.37	1.82	2.72	1.78	2097140	TDI	38.300
200.025	317.5	146.05	111.125	4.3	1.5	1257	2337	128176	238304	214	0.52	1.30	1.93	1.27	93787/93127CD	TDO	40.800

nbc flexible solutions

Double Row Taper Roller Bearing



TDI (X-Arrangement)



TDO (O-Arrangement))

Equivalent radial load dynamic

$P_r = XF_r + YF_a$

$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	Y_1	0.67	Y_2

static

$P_{or} = F_r + Y_o F_a$

For values of e, Y_2 and Y_o see the table below.

Boundary Dimension						Basic Load Rating				Fatigue Load Limit	Constant	Axial Load Factor			Bearing Number	Type	Mass Kg. (Apporox.)
						Dynamic	Static	Dynamic	Static								
mm						KN		Kgf		KN	e	Y_1	Y_2	Y_o			
d	D	Bi	Be	r	r_1	Cr	Cor	Cr	Cor	Cu							
203.2	276.225	95.25	73.025	3.5	0.8	706	1467	71991	149590	138	0.32	2.11	3.14	2.06	LM241149NW/LM241110D	TDO	15.6
206.375	336.55	184.15	180.975	3.3	1.5	2216	4072	225986	415201	368	0.33	2.05	3.05	2.00	H242649D/H242610	TDI	63.750
220	340	163	130	4.0	1.5	1530	2980	156014	303871	267	0.35	1.93	2.87	1.89	2097144	TDO	49.300
220.662	314.325	131.762	106.362	6.4	1.5	1070	2450	109108	249827	222	0.33	2.05	3.05	2.00	M244249/M244210D	TDO	30.600
228.46	431.8	184.15	184.15	6.4	6.4	1479	2512	150854	256138	214	0.88	0.77	1.14	0.75	EE113091/EE113170	TDI	108.400
228.46	355.6	158.751	117.475	6.8	0.8	1200	2500	122364	254925	221	0.33	2.05	3.05	2.00	EE130902/131402D	TDO	52.300
234.95	384.175	238.125	193.675	6.4	1.5	2500	5450	254925	555737	474	0.33	2.05	3.05	2.00	H247549/H247510D	TDO	105.000
240	320	109	90	3.0	1.1	690	1610	70359	164172	144	0.36	1.88	2.79	1.83	2097948	TDI	22.000
240	360	165	130	4.0	1.0	1360	2940	138679	299792	258	0.31	2.18	3.24	2.13	2097148	TDI	46.000
240	400	209	168	5.0	2.0	1870	4050	190684	412979	348	0.36	1.88	2.79	1.83	2097748	TD1	98.500
241.3	327.025	185.224	217.466	3.3	2.0	765	1740	78007	177428	155	0.41	1.65	2.45	1.61	8578/8520DF	TDI	54.000
247.65	406.4	234.95	231.776	1.5	6.4	3393	6315	345981	643890	540	0.82	0.82	1.23	0.80	HH249949D/HH249910	TDO	98.000
247.65	406.4	247.65	206.2	1.5	6.4	2680	5800	273280	591426	496	0.33	2.05	3.05	2.00	NP985601/NP490062	TDO	122.000
260	360	133	109	3.5	1.2	1200	2652	122364	270424	230	0.37	1.82	2.72	1.78	2097952	TDO	36.800
260	400	185	146	1.3	3.7	1760	3790	179467	386466	323	0.29	2.33	3.47	2.28	2097152	TDO	74.300
260	420	170	170	5.0	5.0	2080	4047	212057	412693	342	0.40	1.69	2.51	1.65	47752	TDI	88.500
260	440	225	180	4.0	1.3	2440	4750	248807	484358	398	0.24	2.81	4.19	2.75	2097752	TDI	124.000

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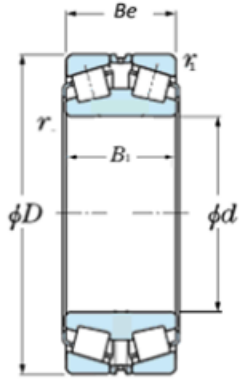
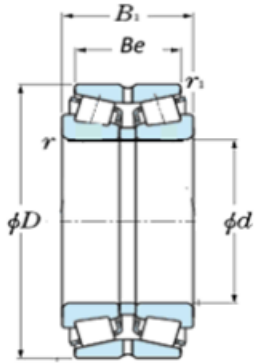
Double Row Taper Roller Bearing



TDI (X-Arrangement)



TDO (O-Arrangement))

Equivalent radial load dynamic

$P_r = XF_r + YF_a$

$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	Y_1	0.67	Y_2

static

$P_{or} = F_r + Y_o F_a$

For values of e, Y_2 and Y_o see the table below.

Boundary Dimension						Basic Load Rating				Fatigue Load Limit	Constant	Axial Load Factor			Bearing Number	Type	Mass Kg. (Apporox.)
						Dynamic	Static	Dynamic	Static								
mm						KN		Kgf		KN							
d	D	Bi	Be	r	r_1	Cr	Cor	Cr	Cor	Cu	e	Y_1	Y_2	Y_o			
279.4	457.2	244.475	244.475	1.5	6.4	3490	7685	355845	783639	634	0.33	2.05	3.05	2.00	**HH255149D/HH255110**	TDI	163.600
280	420	188	154	5.0	2.0	1910	4080	194763	416038	342	0.37	1.82	2.72	1.78	**2097156**	TDO	85.000
300	420	160	128	4.0	1.0	1510	3630	153975	370151	301	0.36	1.88	2.79	1.83	**2097960**	TDO	62.900
300	500	204	152	1.8	4.7	2510	4910	255945	500673	395	0.32	2.11	3.14	2.06	**1097760**	TDO	148.000
300	440	105	105	4.0	4.0	980	2050	99931	209039	169	0.88	0.77	1.14	0.75	**370660D**	TDO	55.500
303.213	495.3	263.525	263.525	6.4	3.3	4180	9420	426235	960557	758	0.33	2.05	3.05	2.00	**HH258249DW/HH258210**	TDI	220.000
304.8	438.048	152.4	153.984	4.8	1.5	1450	3400	147857	346698	280	0.42	1.61	2.39	1.57	**EE129120X/EE129172DF**	TDO	71.000
305	510	200	200	5.0	5.0	1650	6000	168251	611820	480	0.74	0.91	1.36	0.89	**N1326**	TDI	163.000
305.08	500	200	200	5.0	4.0	2228	4692	227189	478443	377	0.87	0.78	1.16	0.76	**N1021**	TDI	154.600
305.08	500	200	200	5.0	5.0	2375	5095	242158	519496	409	0.87	0.78	1.16	0.76	**N1021M**	TDI	154.600
320	620	250	282.75	6.0	2.5	3759	6431	383315	655810	493	0.73	0.92	1.38	0.90	**N1051**	TDI	400.000
333.375	469.9	109.5	152.4	6.4	1.5	2320	5500	236570	560835	442	0.33	2.05	3.05	2.00	**HM261049/HM261010D**	TDO	97.000
340	460	159	128	4.0	1.0	1700	4190	173349	427254	337	0.36	1.88	2.79	1.83	**2097968**	TDO	71.000
340	580	241	170	1.8	5.0	3200	6080	326304	619978	469	0.42	1.61	2.39	1.57	**1097768**	TDO	235.000
360	480	159	128	4.0	1.0	1760	4380	179467	446629	347	0.32	2.11	3.14	2.06	**2097972**	TDO	73.700
379	681.5	307	307	6.0	6.0	6450	14300	657707	1458171	1057	0.40	1.69	2.51	1.65	**N1208**	TDI	522.550

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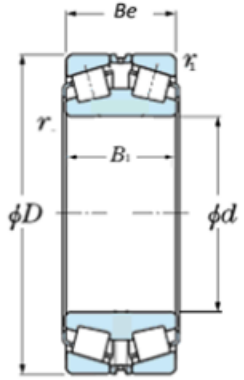
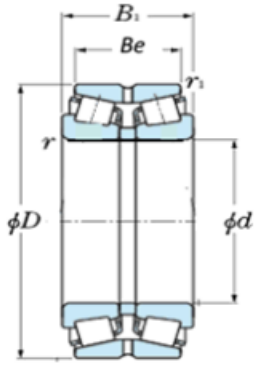
Double Row Taper Roller Bearing



TDI (X-Arrangement)



TDO (O-Arrangement))

Equivalent radial load
dynamic

$P_r = XF_r + YF_a$

$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	Y_1	0.67	Y_2

static

$P_{or} = F_r + Y_o F_a$

For values of e, Y_2 and Y_o see the table below.

Boundary Dimension						Basic Load Rating				Fatigue Load Limit	Constant	Axial Load Factor			Bearing Number	Type	Mass Kg. (Apporox.)
						Dynamic	Static	Dynamic	Static								
mm						KN		Kgf		KN	e	Y_1	Y_2	Y_o			
d	D	Bi	Be	r	r_1	Cr	Cor	Cr	Cor	Cu							
380	620	240	170	6.0	2.5	3100	6850	316107	698495	516	0.46	1.47	2.18	1.43	**1097776**	TDO	250.000
384.18	546.1	222.25	177.8	6.4	1.6	3703	8207	377595	836868	631	0.33	2.05	3.05	2.00	**HM266449/HM266410D**	TDO	165.000
390	590	200	200	2.5	7.0	2677	6821	272974	695537	520	0.73	0.92	1.38	0.90	**JM966747DW/JM966718W**	TDI	190.157
440	650	211	152	6.0	2.5	2860	6900	291634	703593	506	0.46	1.47	2.18	1.43	**97188**	TDO	212.000
457.2	596.9	165.1	120.65	9.7	1.5	2080	5462	212098	556960	405	0.40	1.69	2.51	1.65	**EE244180/244236D**	TDO	109.000
480	650	179	130	6.0	2.5	2251	5510	229524	561855	400	0.42	1.61	2.39	1.57	**1097996**	TDO	151.000
482.6	615.95	184.15	146.05	6.4	1.5	2850	8150	290615	831056	596	0.33	2.05	3.05	2.00	**LM272249/LM272210D**	TDO	129.000
488.95	634.873	180.975	136.525	6.4	1.5	2700	7800	275319	795366	567	0.47	1.44	2.14	1.40	**LM772748/LM772710D**	TDO	135.000
488.95	660.4	206.38	158.75	6.4	1.5	3500	9100	356895	927927	657	0.31	2.18	3.24	2.13	**EE640192/EE640261D**	TDO	200.000
510	800	285	285	6.0	6.0	6644	12679	677489	1292878	876	0.87	0.78	1.16	0.76	**N1219**	TDI	518.335
530	710	190	136	5.0	1.5	2780	6720	283477	685238	468	0.40	1.69	2.51	1.65	**10979/530**	TDO	182.000
558.8	736.6	225.425	177.8	6.4	1.5	4120	11380	420116	1160419	792	0.40	1.69	2.51	1.65	**LM377449/LM377410CD**	TDO	239.000
558.8	736.6	225.425	177.8	6.4	1.5	4120	11380	420116	1160419	792	0.35	1.93	2.87	1.89	**LM377449/LM377410D**	TDO	248.00
558.8	736.5	165.1	114.3	6.4	3.3	2300	6220	234531	634253	433	0.51	1.32	1.97	1.29	**EE542220/542291D**	TDO	171.000

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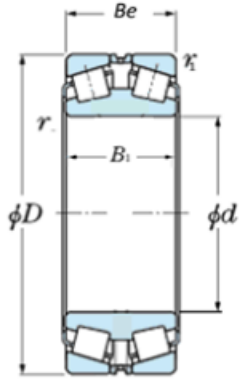
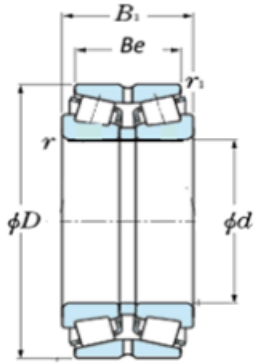
Double Row Taper Roller Bearing



TDI (X-Arrangement)



TDO (O-Arrangement))

Equivalent radial load
dynamic

$P_r = XF_r + YF_a$

$\frac{F_a}{F_r} \leqq e$		$\frac{F_a}{F_r} > e$	
X	Y	X	Y
1	Y_1	0.67	Y_2

static

$P_{or} = F_r + Y_o F_a$

For values of e, Y_2 and Y_o see the table below.

Boundary Dimension						Basic Load Rating				Fatigue Load Limit	Constant	Axial Load Factor			Bearing Number	Type	Mass Kg. (Apporox.)
						Dynamic	Static	Dynamic	Static								
mm						KN		Kgf		KN	e	Y_1	Y_2	Y_o			
d	D	Bi	Be	r	r_1	Cr	Cor	Cr	Cor	Cu							
560	750	213	156	6.0	2.5	3163	8060	322501	821858	561	0.34	1.99	2.96	1.94	**10979/560**	TDO	235.000
560	820	242	242	8.0	11.0	4390	11557	447648	1178467	789	0.83	0.81	1.21	0.80	**8471/560**	TDI	427.000
600	800	210	160	6.0	2.5	3462	9846	353020	1004017	670	0.37	1.82	2.72	1.78	**10979/600**	TDO	242.000
710	950	240	175	6.0	2.5	4110	11000	419097	1121670	712	0.46	1.47	2.18	1.43	**10979/710**	TDO	440.000
850	1120	268	188	6.0	2.5	6860	18700	699514	1906839	1148	0.46	1.47	2.18	1.43	**10979/850**	TDO	647.000

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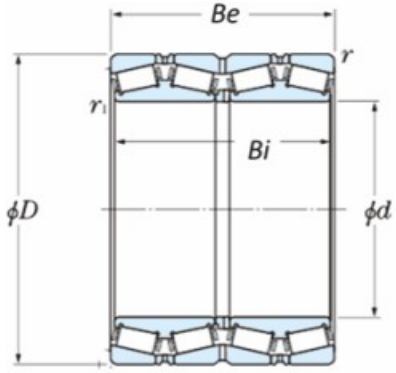
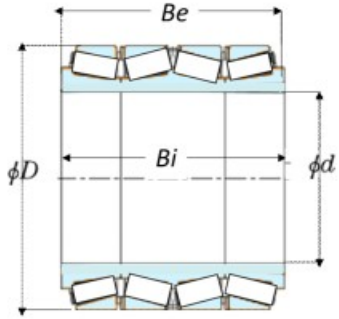
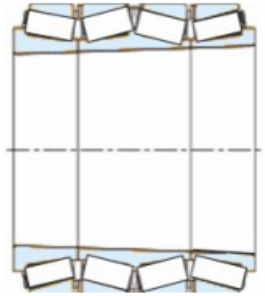
Four Row Taper Roller Bearing



TQO(X- Arrangement)



TQIT (O- Arrangement with Straight bore)



TQIT (O- Arrangement with tapered bore)

Boundary Dimension mm							Basic Load Rating Dynamic KN Cr	Basic Load Rating Static KN Cor	Basic Load Rating Dynamic Kgf Cr	Basic Load Rating Static Kgf Cor	Fatigue Load Limit KN Cu	Constant e	Axial Load Factor Y_1	Axial Load Factor Y_2	Axial Load Factor Y_0	Bearing Number	Type*	Mass Kg. (Apporox.)
d	D	C	Be	Bi	r_1	r												
60.325	100	106.362	106.362	106.362	0.8	3.3	286	559	29163	57001	68	0.43	1.57	2.34	1.53	**28985D/28921/29921D**	TQO	3.30
127	182.526	158.75	158.75	158.75	3.3	3.3	660	1730	67300	176408	185	0.31	2.18	3.24	2.13	**48290DGW/20/20D**	TQO	13.800
136.525	190.5	161.925	161.925	161.925	1.6	3.3	807	1890	82290	192723	199	0.32	2.11	3.14	2.06	**48393DW/20/20D**	TQO	14.000
177.8	247.65	192.088	192.088	192.088	1.5	3.2	1372	2768	139903	282284	270	0.44	1.53	2.28	1.50	**67790DW/20/21D**	TQO	28.130
180.843	284.162	101.6	239.715	239.715	3.3	1.5	1473	3663	150222	373486	341	0.33	2.05	3.05	2.00	**M240631T/44TD/47T/44D**	TQIT	60.000
187.325	269.875	211.138	211.138	211.138	3.3	1.5	1240	3400	126443	346698	324	0.33	2.05	3.05	2.00	**M238849D/10/10D**	TQO	41.800
190.5	266.7	188.912	187.325	187.325	1.5	3.3	1313	3185	133887	324774	303	0.48	1.41	2.09	1.38	**67885DW/20/20D**	TQO	33.400
200	340	305	305	305	4.0	4.0	2522	5761	257185	587429	518	0.35	1.93	2.87	1.89	**2077144**	TQO	104.000
206.375	282.575	190.5	190.5	190.5	3.3	3.3	1066	3151	108741	321318	294	0.51	1.32	1.97	1.29	**67985DW/20/21D**	TQO	36.500
215.9	288.925	177.8	177.8	177.8	0.8	3.3	1400	3600	142758	367092	334	0.43	1.57	2.34	1.53	**LM742749DW/14/14D**	TQO	32.000
220.663	314.325	239.713	239.713	239.713	1.5	3.3	2100	5100	214137	520047	463	0.33	2.05	3.05	2.00	**M244249D/10/10D**	TQO	60.400
241.478	349.18	228.6	228.6	228.6	1.5	3.3	2080	4920	212098	501692	434	0.36	1.88	2.79	1.83	**EE127097D/135/136D**	TQO	71.000
244.475	327.025	193.675	193.675	193.675	1.5	3.3	1569	4309	159991	439389	384	0.32	2.11	3.14	2.06	**LM247748DGW/10/10D**	TQO	43.590
246.327	381	301.625	301.625	301.625	6.4	1.5	2470	6850	251866	698495	593	0.33	2.05	3.05	2.00	**M252330T/45TD/49T/10DM**	TQIT	111.000

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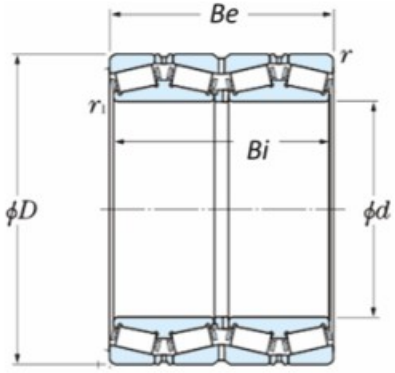
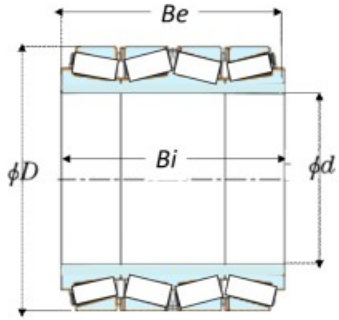
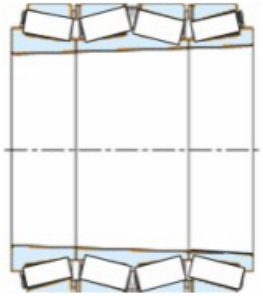
Four Row Taper Roller Bearing



TQO(X- Arrangement)



TQIT (O- Arrangement with Straight bore)



TQIT (O- Arrangement with tapered bore)

Boundary Dimension mm							Basic Load Rating Dynamic KN	Basic Load Rating Static KN	Basic Load Rating Dynamic Kgf	Basic Load Rating Static Kgf	Fatigue Load Limit KN	Constant	Axial Load Factor			Bearing Number	Type*	Mass Kg. (Apporox.)
d	D	C	Be	Bi	r_1	r	Cr	Cor	Cr	Cor	Cu	e	Y_1	Y_2	Y_0			
254	358.775	269.875	269.875	269.875	3.3	3.3	3200	7100	326304	723987	619	0.33	2.05	3.05	2.00	**M249748D/10/10D**	TQO	86.000
260	440	128	330	330	5.0	1.5	3300	7772	336501	792511	647	0.30	2.25	3.35	2.20	**477752**	TQIT	196.000
266.7	355.6	228.6	230.19	230.19	1.6	3.2	1858	5405	189501	551148	469	0.36	1.88	2.79	1.83	**LM451349DW/10/10D**	TQO	65.500
269.875	381	282.575	282.575	282.575	4.0	4.0	2572	7077	262236	721662	606	0.33	2.05	3.05	2.00	**M252349D/10/10D**	TQO	96.590
279.4	393.7	269.875	269.875	269.875	1.5	6.4	2340	6560	238610	668923	556	0.38	1.78	2.64	1.74	**EE135111DW/55/56D**	TQO	103.000
279.578	380.9	244.48	244.48	244.48	1.5	3.2	1973	6020	201197	613890	513	0.43	1.57	2.34	1.53	**LM654644DW/10/10D**	TQO	81.670
280	460	324	324	324	3.0	6.0	3350	8350	341600	851450	685	0.46	1.47	2.18	1.43	**1077756**	TQO	220.000
280.27	379.89	244.48	244.48	244.48	1.5	3.2	2631	5900	268283	601623	503	0.43	1.57	2.34	1.53	**N1028**	TQO	79.200
285.75	380.9	244.48	244.48	244.48	1.5	3.2	1973	6020	201197	613890	513	0.43	1.57	2.34	1.53	**LM654648DW/10/10D**	TQO	76.420
288.925	406.4	298.45	298.45	298.45	3.3	3.3	3133	8954	319441	913019	752	0.33	2.05	3.05	2.00	**M255449D/10/10D**	TQO	125.000
300	460	390	390	390	5.0	5.0	4300	10550	438471	1075784	865	0.31	2.18	3.24	2.13	**2077160**	TQO	238.000
317.5	422.275	269.875	269.875	269.875	1.5	3.3	3360	8150	342619	831056	671	0.32	2.11	3.14	2.06	**LM258648DGW/10/10D**	TQO	105.000
317.5	447.675	327.025	327.025	327.025	3.3	3.3	4298	10676	438267	1088632	871	0.33	2.05	3.05	2.00	**HM259049DGW/10/10D**	TQO	166.000
343.05	457.1	254	254	254	1.6	3.2	2416	6752	246319	688471	544	0.47	1.44	2.14	1.40	**LM761649DW/10/10D**	TQO	110.000

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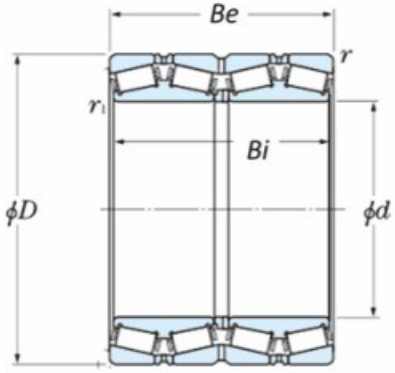
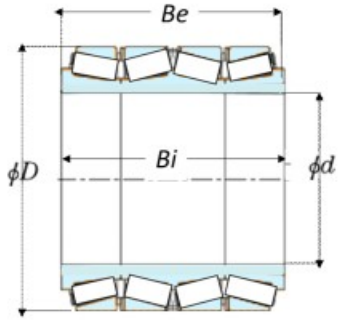
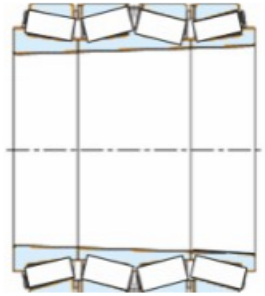
Four Row Taper Roller Bearing



TQO(X- Arrangement)



TQIT (O- Arrangement with Straight bore)



TQIT (O- Arrangement with tapered bore)

Boundary Dimension mm							Basic Load Rating Dynamic KN	Basic Load Rating Static KN	Basic Load Rating Dynamic Kgf	Basic Load Rating Static Kgf	Fatigue Load Limit KN	Constant	Axial Load Factor			Bearing Number	Type*	Mass Kg. (Apporox.)
d	D	C	Be	Bi	r_1	r	Cr	Cor	Cr	Cor	Cu	e	Y_1	Y_2	Y_0			
355.6	482.6	269.875	265.112	265.112	1.5	3.3	2790	7650	284496	780071	607	0.47	1.44	2.14	1.40	LM763449DW/10/10D	TQO	134.000
355.6	488.95	317.5	317.5	317.5	1.5	3.3	3500	10500	356895	1070685	831	0.33	2.05	3.05	2.00	M263349DW/10/10D	TQO	177.000
368.3	523.875	382.588	382.588	382.588	3.3	6.4	4800	14000	489456	1427580	1090	0.33	2.05	3.05	2.00	HM265049DW/10/10D	TQO	267.000
380	620	418.5	420	420	6.0	6.0	6320	15000	644450	1529550	1130	0.46	1.47	2.18	1.43	1077776	TQO	480.000
384.175	546.1	400.05	400.05	400.05	3.3	6.4	7100	15800	723987	1611126	1216	0.33	2.05	3.05	2.00	HM266449DW/10/10D	TQO	305.000
385.762	514.35	317.5	317.5	317.5	3.3	3.3	4248	12029	433169	1226597	934	0.42	1.61	2.39	1.57	LM665949DW10/10D	TQO	188.000
400	530	370	370	370	3.0	5.0	4350	13650	443570	1391891	1050	0.40	1.69	2.51	1.65	N1325	SET/TDI	213.000
406.4	546.1	288.93	288.93	288.93	1.5	6.4	3200	10200	326304	1040094	779	0.48	1.41	2.09	1.38	LM767749DW/10/10D	TQO	185.000
431.8	571.5	336.55	336.55	336.55	1.5	6.4	4050	12900	412979	1315413	970	0.47	1.44	2.14	1.40	LM769349DW/10/10D	TQO	230.000
450	595	368	368	368	3.0	6.0	5078	16506	517834	1683117	1226	0.33	2.05	3.05	2.00	M270449DGW/10/10D	TQO	284.000
460	730	438.5	438.5	438.5	5.0	10.0	8438	18000	860423	1835460	1282	0.73	0.92	1.38	0.90	777792	TQO	728.000
460	625	421	421	421	9.5	8.0	8200	19850	836154	2024105	1454	0.33	2.05	3.05	2.00	M271149D/10/10D	TQO	377.150
475	620	380	380	380	3.0	5.0	5858	18014	597371	1836837	1319	0.31	2.18	3.24	2.13	JM171649DGW/10/10D	TQO	293.800
480	700	77	420	420	6.0	2.5	8543	18500	871130	1886445	1315	0.37	1.82	2.72	1.78	577796	TQO	537.000

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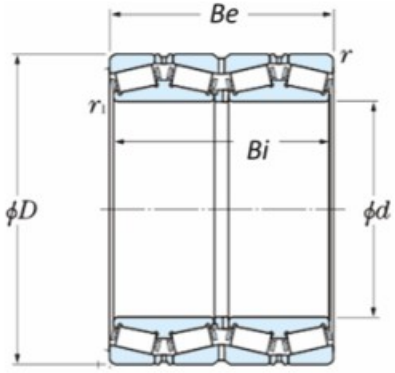
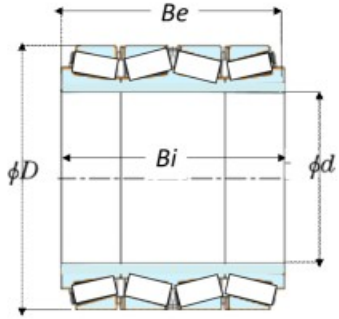
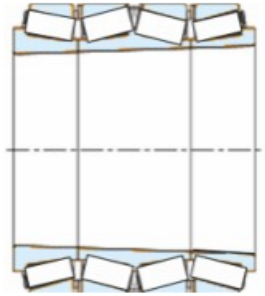
Four Row Taper Roller Bearing



TQO(X- Arrangement)



TQIT (O- Arrangement with Straight bore)



TQIT (O- Arrangement with tapered bore)

Boundary Dimension mm							Basic Load Rating Dynamic KN	Basic Load Rating Static KN	Basic Load Rating Dynamic Kgf	Basic Load Rating Static Kgf	Fatigue Load Limit KN	Constant	Axial Load Factor			Bearing Number	Type*	Mass Kg. (Apporox.)
d	D	C	Be	Bi	r_1	r	Cr	Cor	Cr	Cor	Cu	e	Y_1	Y_2	Y_0			
482.6	647.7	417.512	417.512	417.512	3.3	6.4	6050	19000	616919	1937430	1378	0.33	2.05	3.05	2.00	**M272647DW/10/10D**	TQO	398.000
488.95	660.4	361.95	365.125	365.125	8.0	6.4	5350	16100	545540	1641717	1179	0.31	2.18	3.24	2.13	**EE640193DW/60/61D**	TQO	358.800
489.026	634.873	320.675	320.68	320.68	3.3	3.3	4349	14155	443457	1443365	1029	0.34	1.99	2.96	1.94	**EE243193DW/250/251D**	TQO	270.000
500	720	420	420	420	8.0	8.0	6761	18275	689419	1863502	1298	0.33	2.05	3.05	2.00	**771/500**	TQO	560.000
500	830	570	570	570	10.0	10.0	1099	26625	112099	2714921	1839	0.38	1.78	2.64	1.74	**10777/500**	TQO	1250.000
558.8	736.6	322.26	322.26	322.26	3.3	6.4	6225	16088	634763	1640504	1120	0.34	1.99	2.96	1.94	**EE843221D/90/91D**	TQO	375.000
571.5	812.8	593.725	593.725	593.725	3.3	6.4	11800	33800	1203246	3446586	2305	0.33	2.05	3.05	2.00	**M278749DGW/10/10D**	TQO	1012.000
600	800	365	365	365	5.0	5.0	5945	19692	606181	2008034	1341	0.37	1.82	2.72	1.78	**779/600**	TQO	531.000
630	920	515	515	515	10.0	10.0	9900	27582	1009534	2812567	1822	0.42	1.61	2.39	1.57	**771/630**	TQO	1160.000
649.924	914.898	674	672	672	3.6	6.0	13900	44600	1417383	4547862	2934	0.33	2.05	3.05	2.00	**M281349D/10/10D**	TQO	144.000
660.4	812.8	365.13	365.13	365.13	3.2	6.4	7716	20973	786801	2138617	1406	0.48	1.41	2.09	1.38	**L281149D/10/10D**	TQO	420.000
710	900	610	610	610	1.6	6.6	6882	24867	701758	2535688	1622	0.46	1.47	2.18	1.43	**N1217**	SET/TDI	771.000

*Type
TQO = One double cup, two single cups, with two cup spacers, two double cones with one cone spacer
TQIT = Two double cups with one cup spacer, one tapered bore double cone & two tapered bore single cone without cone spacer
TQI = Two double cups with one cup spacer, one double cone & two single cone

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