

Single Row Tapered Roller Bearings



The single row tapered roller bearings have one row of tapered rollers resting on the guiding rib of the inner ring with their functional faces. Due to the great number of

tapered rollers, these bearings have a high load rating capacity in the radial as well as axial directions. The axial load carrying capacity depends on the contact angle magnitude. The arrangement with single row tapered roller bearings is usually formed by a bearing pair. A single bearing can carry the axial load only in one direction. The bearings are separable. The inner ring (cone) with tapered rollers and a cage is one assembly unit. The outer ring (cup) is the other assembly unit. The single row tapered roller bearings are manufactured in metric dimensions as well as in inch dimensions.

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Dimensions							Bearing designation	Basic load ratings		Fatigue load limit	Limiting speed for lubrication with		Mass
								dynamic	static		grease	oil	
d	D	B	C	T	r _{1s}	r _{2s}		C _r	C _{or}	C _u			
mm								kN			min ⁻¹		
15	35	11	10	11.75	0.6	0.6	30202	16.6	41774	1.9	10000	14000	0.053
15	42	13	11	14.25	0.6	0.6	30302	20.7	21.5	2.6	9 500	12 000	0.094
17	40	12	11	13.25	1.0	1.0	30203	20.7	21.9	2.7	10 000	14 000	0.079
17	47	14	12	15.25	1.0	1.0	30303	28.3	27.2	3.3	9 200	12 000	0.133
20	42	15	12	15.00	0.6	0.6	32004X	25.0	28.2	3.4	9 400	13 000	0.095
20	47	14	12	15.25	1.0	1.0	30204	28.2	30.6	3.7	8 700	12 000	0.127
20	47	18	15	19.25	1.0	1.0	32204	32.5	34.8	4.2	8 700	12 000	0.156
20	52	15	13	16.25	1.5	1.5	30304	33.1	33.2	4.0	8 300	11 000	0.179
20	52	21	18	22.25	1.5	1.5	32304	42.8	44.2	5.3	7 500	9 500	0.230
25	47	15	11.5	15.00	0.6	0.6	32005X	28.0	34.0	4.1	8 000	11 000	0.110
25	52	15	13	16.25	1.0	1.0	30205	32.2	37.0	4.5	7 500	10 000	0.153
25	52	18	16	19.25	1.0	1.0	32205	39.8	44.8	5.5	7 900	11 000	0.188
25	52	22	18	22.00	1.0	1.0	33205	47.1	55.8	6.8	7 300	9 800	0.217
25	62	17	15	18.25	1.5	1.5	30305	46.9	48.1	5.9	6 700	9 000	0.263
25	62	17	13	18.25	1.5	1.5	31305	40.7	46.1	5.7	5 600	7 500	0.260
25	62	24	20	25.25	1.5	1.5	32305	62.0	69.0	8.4	6 000	8 000	0.365
30	55	17	13	17.00	1.0	1.0	32006X	35.8	46.8	5.7	6 700	9 000	0.173
30	62	16	14	17.25	1.0	1.0	30206	43.3	50.5	6.1	6 300	8 500	0.231
30	62	20	17	21.25	1.0	1.0	32206	51.8	63.7	7.8	6 300	8 400	0.286

Dimensions							Bearing designation	Basic load ratings		Fatigue load limit	Limiting speed for lubrication with		Mass
								dynamic	static		grease	oil	
d	D	B	C	T	r _{1s}	r _{2s}		C _r	C _{or}	C _u			
mm								kN			min ⁻¹		kg
30	62	25	19.5	25.00	1.0	1.0	33206	63.8	75.4	9.1	5 600	7 500	0.347
30	72	19	16	20.75	1.5	1.5	30306	59.0	63.1	7.7	5 600	7 500	0.387
30	72	19	14	20.75	1.5	1.5	31306	52.5	60.4	7.4	5 000	6 700	0.389
30	72	27	23	28.75	1.5	1.5	32306	81.0	96.0	11.2	5 300	7 000	0.562
35	62	18	14	18.00	1.0	1.0	32007X	48.2	57.9	7.1	6 000	8 000	0.224
35	72	17	15	18.25	1.5	1.5	30207	54.2	63.5	7.7	5 300	7 000	0.332
35	72	23	19	24.25	1.5	1.5	32207	70.6	89.5	10.9	5 300	7 000	0.447
35	72	28	22	28.00	1.5	1.5	33207	82.6	101.7	12.0	5 500	7 400	0.515
35	80	21	18	22.75	2.0	1.5	30307	75.3	82.6	10.1	5 000	6 700	0.515
35	80	21	15	22.75	2.0	1.5	31307	65.1	76.8	9.4	4 500	6 000	0.508
35	80	31	25	32.75	2.0	1.5	32307	99.0	119.0	14.0	4 800	6 300	0.752
40	68	19	14.5	19.00	1.0	1.0	32008X	51.9	71.1	8.6	5 300	7 100	0.268
40	80	18	16	19.75	1.5	1.5	30208	63.0	74.0	9.0	4 800	6 300	0.422
40	80	23	19	24.75	1.5	1.5	32208	77.9	97.2	11.4	4 800	6.300	0.531
40	80	32	25	32.00	1.5	1.5	33208	105.8	135.5	16.2	4 300	5 600	0.715
40	90	23	20	25.25	2.0	1.5	30308	90.9	107.8	12.7	4 500	6 000	0.748
40	90	23	17	25.25	2.0	1.5	31308	81.4	96.4	11.2	4 000	5 300	0.727
40	90	33	27	35.25	2.0	1.5	32308	115.7	147.8	17.8	4 400	5 900	1.040
45	75	20	16	20.00	1.0	1.0	32009X	58.4	81.4	9.9	4 800	6 400	0.337
45	80	26	20	26.00	1.5	1.5	33109	87.1	117.2	14.4	4 600	6 200	0.535
45	85	19	16	20.75	1.5	1.5	30209	67.9	83.6	10.1	4 500	6 000	0.474
45	85	23	19	24.75	1.5	1.5	32209	80.7	104.0	12.6	4 500	6 000	0.573
45	85	32	25	32.00	1.5	1.5	33209	109.5	145.1	18.0	4 000	5 300	0.771
45	100	25	22	27.25	2.0	1.5	30309	108.9	129.8	15.4	4 000	5 300	0.983
45	100	25	18	27.25	2.0	1.5	31309	95.6	113.8	14.2	3 400	4 500	0.950
45	100	36	30	38.25	2.0	1.5	32309	145.3	189.4	23.0	4 000	5 300	1.400
50	80	20	15.5	20.00	1.0	1.0	32010X	61.1	89.0	11.1	4 400	5 800	0.365
50	80	24	19	24.00	1.0	1.0	33010	76.8	110.9	13.5	4 500	5 600	0.433
50	85	26	20	26.00	1.5	1.5	33110	89.3	124.1	14.6	4 300	5 300	0.572
50	90	20	17	21.75	1.5	1.5	30210	73.3	92.0	11.5	4 300	5 600	0.529
50	90	23	19	24.75	1.5	1.5	32210	82.0	107.0	12.6	4 300	5 600	0.626
50	90	32	24.5	32.00	1.5	1.5	33210	112.9	154.6	19.0	4 300	5 700	0.825
50	110	27	23	29.25	2.0	1.5	30310	130.0	157.0	18.9	3 600	4 800	1.280
50	110	27	19	29.25	2.0	1.5	31310	108.0	128.5	15.8	3 200	4 300	1.214
50	110	40	33	42.25	2.0	1.5	32310	177.5	236.1	28.4	3 600	4 800	1.890

Dimensions							Bearing designation	Basic load ratings		Fatigue load limit	Limiting speed for lubrication with		Mass
								dynamic	static		grease	oil	
d	D	B	C	T	r _{1s}	r _{2s}		C _r	C _{or}	C _u			
mm								kN			min ⁻¹		kg
55	90	23	17.5	23.00	1.5	1.5	32011X	80.2	117.2	14.1	4 000	5 400	0.551
55	90	27	21	27.00	1.5	1.5	33011	94.9	144.7	17.4	4 000	5 000	0.651
55	100	21	18	22.75	2.0	1.5	30211	90.8	113.7	14.2	3 800	5 000	0.713
55	100	25	21	26.75	2.0	1.5	32211	108.0	142.3	17.8	3 800	5 000	0.854
55	100	35	27	35.00	2.0	1.5	33211	143.1	196.7	23.7	3 400	4 500	1.153
55	120	29	25	31.50	2.5	2.0	30311	153.3	187.6	23.2	3 200	4 300	1.630
55	120	29	21	31.50	2.5	2.0	31311	130.0	158.0	19.7	2 800	3 800	1.560
55	120	43	35	45.50	2.5	2.0	32311	203.0	271.4	32.8	3 300	4 400	2.377
60	95	23	17.5	23.00	1.5	1.5	32012X	81.7	122.2	15.4	3 700	4 900	0.584
60	95	27	21	27.00	1.5	1.5	33012	96.7	151.1	18.3	3 700	4 900	0.684
60	100	30	23	30.00	1.5	1.5	33112	117.1	173.2	20.9	3 600	4 500	0.895
60	110	22	19	23.75	1.5	1.5	30212	103.3	130.0	15.5	3 400	4 500	0.905
60	110	28	24	29.75	1.5	1.5	32212	133.0	179.0	22.1	3 000	4 500	1.170
60	110	38	29	38.00	2.0	1.5	33212	165.8	231.4	28.9	3 600	4 700	1.570
60	130	31	26	33.50	2.0	1.5	30312	171.4	210.0	25.7	3 000	4 000	1.990
60	130	31	22	33.50	2.0	1.5	31312	145.4	176.8	21.3	2 700	3 700	1.900
60	130	46	37	48.50	2.0	1.5	32312	226.7	303.0	37.2	3 000	4 000	2.900
65	100	23	17.5	23.00	1.5	1.5	32013X	82.8	127.3	15.5	3 400	4 600	0.621
65	100	27	21	27.00	1.5	1.5	33013	98.1	157.7	19.3	3 600	4 800	0.732
65	110	34	26.5	34.00	1.5	1.5	33113	142.8	220.4	26.5	3 400	4 300	1.300
65	120	23	20	24.75	2.0	1.5	30213	120.0	152.0	19.0	3 100	4 200	1.130
65	120	31	27	32.75	2.0	1.5	32213	160.9	221.7	26.6	3 000	4 200	1.544
65	120	41	32	41.00	2.0	1.5	33213	202.2	281.6	34.8	3 100	4 200	1.980
65	140	33	28	36.00	3.0	2.5	30313	195.9	241.7	29.6	2 600	3 600	2.440
65	140	33	23	36.00	3.0	2.5	31313	165.7	202.6	25.0	2 200	3 200	2.370
65	140	48	39	51.00	3.0	2.5	32313	259.6	349.8	42.1	2 800	3 700	3.514
70	110	25	19	25.00	1.5	1.5	32014X	104.0	160.0	19.6	3 200	4 200	0.830
70	110	31	25.5	31.00	1.5	1.5	33014	134.4	220.4	27.5	3 400	4 300	1.070
70	120	37	29	37.00	2.0	1.5	33114	172.1	267.0	32.6	3 200	4 000	1.700
70	125	24	21	26.25	2.0	1.5	30214	132.3	173.6	21.7	2 900	3 900	1.259
70	125	31	27	33.25	2.0	1.5	32214	168.5	237.1	29.2	2 900	3 800	1.640
70	125	41	32	41.00	2.0	1.5	33214	208.6	298.3	36.3	3 000	3 800	2.100
70	150	35	30	38.00	3.0	2.5	30314	219.0	271.7	32.4	2 400	3 400	2.985
70	150	35	25	38.00	3.0	2.5	31314	187.0	231.0	27.2	2 000	3 000	2.867
70	150	51	42	54.00	3.0	2.5	32314	298.9	408.5	48.0	2 600	3 500	4.342

Dimensions							Bearing designation	Basic load ratings		Fatigue load limit	Limiting speed for lubrication with		Mass
								dynamic	static		grease	oil	
d	D	B	C	T	r _{1s}	r _{2s}		C _r	C _{or}	C _u			
mm								kN			min ⁻¹		kg
75	115	25	19	25.00	1.5	1.5	32015X	104.0	160.0	19.0	3 000	4 000	0.877
75	115	31	25.5	31.00	1.5	1.5	33015	133.1	221.2	27.5	3 200	4 000	1.120
75	125	37	29	37.00	2.0	1.5	33115	176.1	280.0	34.4	2 900	3 900	1.800
75	130	25	22	27.25	2.0	1.5	30215	138.4	185.4	22.5	2 700	3 600	1.361
75	130	31	27	33.25	2.0	1.5	32215	170.3	242.1	29.8	2 700	3 600	1.740
75	130	41	31	41.00	2.0	1.5	33215	207.1	299.7	36.1	2 900	3 900	2.167
75	160	37	31	40.00	3.0	2.5	30315	252.8	318.8	36.6	2 000	3 200	3.570
75	160	37	26	40.00	3.0	2.5	31315	208.5	258.9	30.1	2 100	2 900	3.470
75	160	55	45	58.00	3.0	2.5	32315	347.4	483.1	56.2	2 400	3 200	5.373
80	125	29	22	29.00	1.5	1.5	32016X	141.0	220.0	26.5	2 800	3 700	1.270
80	125	36	29.5	36.00	1.5	1.5	33016	181.9	304.3	36.7	3 000	3 800	1.630
80	130	37	29	37.00	2.0	1.5	33116	179.6	292.3	35.1	2 800	3 800	1.930
80	140	26	22	28.25	2.5	2.0	30216	160.4	212.8	25.0	2 500	3 400	1.670
80	140	33	28	25.25	2.5	2.0	32216	198.1	279.0	33.3	2 500	3 400	2.130
80	140	46	35	46.00	2.5	2.0	33216	245.7	361.8	43.1	2 600	3 400	2.830
80	170	39	33	42.50	3.0	2.0	30316	278.8	352.5	40.9	1 900	3 000	4.175
80	170	39	27	42.50	3.0	2.0	31316	229.8	287.1	33.2	2 000	2 800	4.120
80	170	58	48	61.50	3.0	2.0	32316	388.0	502.0	58.9	2 200	3 000	6.380
85	130	29	22	29.00	1.5	1.5	32017X	139.8	220.3	26.6	2 600	3 500	1.316
85	130	36	29.5	36.00	1.5	1.5	33017	180.4	305.5	36.4	2 800	3 600	1.690
85	140	41	32	41.00	2.5	2.0	33117	216.0	354.0	41.4	2 600	3 500	2.427
85	150	28	24	30.50	2.5	2.0	30217	177.6	236.8	27.4	2 400	3 200	2.060
85	150	36	30	38.50	2.5	2.0	32217	226.7	324.0	37.9	2 400	3 200	2.680
85	150	49	37	49.00	2.5	2.0	33217	281.7	415.7	48.7	2 400	3 200	3.520
85	180	41	34	44.50	4.0	3.0	30317	304.9	388.2	42.6	1 900	2 800	4.966
85	180	41	28	44.50	4.0	3.0	31317	253.9	319.1	37.0	1 900	2 600	4.708
85	180	60	49	63.50	4.0	3.0	32317	422.0	572.0	65.2	2 000	2 800	7.310
90	140	32	24	32.00	2.0	1.5	32018X	171.3	271.0	31.8	2 500	3 300	1.720
90	140	39	32.5	39.00	2.0	1.5	33018	232.6	388.6	45.2	2 500	3 300	2.180
90	150	45	35	45.00	2.5	2.0	33118	252.1	414.7	47.4	2 600	3 400	3.131
90	160	30	26	32.50	2.5	2.0	30218	200.1	269.6	31.2	2 200	3 000	2.539
90	160	40	34	42.50	2.5	2.0	32218	269.0	395.0	44.5	2 200	3 000	3.440
90	160	55	42	55.00	2.5	2.0	33218	330.6	499.7	58.1	2 200	3 000	4.550
90	190	43	36	46.50	4.0	3.0	30318	342.1	440.9	48.1	1 800	2 700	5.800
90	190	43	30	46.50	4.0	3.0	31318	281.7	357.1	40.2	1 700	2 400	5.474

Dimensions							Bearing designation	Basic load ratings		Fatigue load limit	Limiting speed for lubrication with		Mass
								dynamic	static		grease	oil	
d	D	B	C	T	r _{1s}	r _{2s}		C _r	C _{or}	C _u			
mm								kN			min ⁻¹		kg
90	190	64	53	67.50	4.0	3.0	32318	478.0	652.0	71.7	1 900	2 600	8.810
95	145	32	24	32.00	2.0	1.5	32019X	174.6	281.3	32.0	2 300	3 100	1.794
95	145	39	32.5	39.00	2.0	1.5	33019	231.0	389.9	44.5	2 300	3 100	2.270
95	170	32	27	34.50	3.0	2.5	30219	226.6	309.0	34.1	2 100	2 800	3.040
95	170	43	37	45.50	3.0	2.5	32219	302.5	448.4	50.3	2 100	2 800	4.236
95	170	58	44	58.00	3.0	2.5	33219	377.4	568.4	65.7	2 000	2 800	5.480
95	200	45	38	49.50	4.0	3.0	30319	370.0	478.8	52.5	1 700	2 600	6.809
95	200	45	32	49.50	4.0	3.0	31319	311.4	400.0	43.0	1 700	2 400	6.460
95	200	67	55	71.50	4.0	3.0	32319	515.0	708.0	77.4	1 800	2 400	10.10
100	150	32	24	32.00	2.0	1.5	32020X	173.1	281.7	32.4	2 200	3 000	1.850
100	150	39	32.5	39.00	2.0	1.5	33020	229.5	391.2	45.0	2 200	3 000	2.330
100	180	34	29	37.00	3.0	2.5	30220	253.9	350.3	38.5	2 000	2 700	3.714
100	180	46	39	49.00	3.0	2.5	32220	341.0	512.0	56.9	2 000	2 700	5.110
100	180	63	48	63.00	3.0	2.5	33220	436.5	666.2	76.6	2 000	2 700	6.725
100	215	47	39	51.50	4.0	3.0	30320	387.0	482.2	51.2	1 600	2 500	8.164
100	215	51	35	56.50	4.0	3.0	31320	372.9	488.2	52.4	1 600	2 200	8.614
100	215	73	60	77.50	4.0	3.0	32320	600.0	842.0	99.0	1 600	2 000	13.00
105	160	35	26	35.00	2.5	2.0	32021X	205.0	335.0	37.8	2 100	2 800	2.400
105	160	43	34	43.00	2.5	2.0	33021	257.4	437.4	49.1	2 200	3 000	2.967
105	190	36	30	39.00	3.0	2.5	30221	285.3	398.6	43.3	1 900	2 500	4.383
105	190	50	43	53.00	3.0	2.5	32221	381.0	579.2	63.0	1 900	2 500	6.276
105	225	49	41	53.50	4.0	3.0	30321	432.0	562.0	65.1	1 500	2 400	9.380
105	225	53	36	58.00	4.0	3.0	31321	398.0	525.0	56.5	1 500	2 000	9.580
105	225	77	63	81.50	4.0	3.0	32321	648.0	915.0	104.2	1 500	1 900	14.80
110	170	38	29	38.00	2.5	2.0	32022X	245.7	403.4	44.5	2 000	2 700	3.017
110	170	47	37	47.00	2.5	2.0	33022	288.7	502.7	55.1	2 100	2 800	3.810
110	200	38	32	41.00	3.0	2.5	30222	314.9	443.6	47.4	1 800	2 400	5.203
110	200	53	46	56.00	3.0	2.5	32222	431.7	666.3	70.9	1 800	2 400	7.412
110	240	50	42	54.50	4.0	3.0	30322	472.0	585.0	67.2	1 400	2 300	11.00
110	240	57	38	63.00	4.0	3.0	31322	458.0	581.0	66.8	1 400	1 800	12.10
110	240	80	65	84.50	4.0	3.0	32322	725.0	1006.0	118.4	1 400	1 800	17.80
120	180	38	29	38.00	2.5	2.0	32024X	242.1	404.4	43.3	1 800	2 500	3.180
120	215	40	34	43.50	3.0	2.5	30224	337.4	483.3	50.3	1 600	2 300	6.192
120	215	58	50	61.50	3.0	2.5	32224	477.7	758.1	79.8	1 700	2 200	9.267
120	260	55	46	59.50	4.0	3.0	30324	562.0	715.0	78.6	1 300	2 200	14.20

Dimensions							Bearing designation	Basic load ratings		Fatigue load limit	Limiting speed for lubrication with		Mass
								dynamic	static		grease	oil	
d	D	B	C	T	r _{1s}	r _{2s}		C _r	C _{or}	C _u	kg		
mm								kN			min ⁻¹		
120	260	62	42	68.00	4.0	3.0	31324	535.0	695.0	77.2	1 300	1 700	15.30
120	260	86	69	90.50	4.0	3.0	32324	825.0	1130.0	119.0	1 300	1 700	22.10
130	200	45	34	45.00	2.5	2.0	32026X	335.0	558.0	58.7	1 700	2 300	4.940
130	230	40	34	43.75	4.0	3.0	30226	366.0	521.4	53.2	1 500	2 200	6.954
130	230	64	54	67.75	4.0	3.0	32226	552.0	888.0	96.4	1 600	2 000	11.40
130	280	58	49	67.75	5.0	4.0	30326	620.0	755.0	83.0	1 200	2 100	17.30
130	280	66	44	72.00	5.0	4.0	31326	592.0	805.0	88.5	1 100	1 500	18.40
140	210	45	34	45.00	2.5	2.0	32028X	330.0	568.0	58.8	1 600	2 200	5.150
140	250	42	36	45.75	4.0	3.0	30228	409.2	584.7	58.5	1 400	2 000	8.748
140	250	68	58	71.75	4.0	3.0	32228	645.0	1050.0	110.4	1 500	1 800	14.40
140	300	62	53	67.75	5.0	4.0	30328	722.0	975.0	103.7	1 100	2 000	21.40
140	300	70	47	77.00	5.0	4.0	31328	678.0	928.0	97.7	1 000	1 400	22.80
150	225	48	36	48.00	3.0	2.5	32030X	368.0	635.0	65.1	1 500	2 000	6.250
150	270	45	38	49.00	4.0	3.0	30230	451.2	645.9	63.1	1 300	1 800	10.818
150	270	73	60	77.00	4.0	3.0	32230	720.0	1182.0	130.0	1 100	1 500	18.20
160	240	51	38	51	3.0	42492	32032X	419.6	734.5	71.6	1400	1900	7.653
160	290	80	67	84.00	4.0	3.0	32232	857.0	1436.5	136.6	1050	1 800	23.170