KBC Tapered Roller Bearings

Single Row

KBC Tapered Roller Bearings

Single Row ◦ Standards ◦ Basic Designs ◦ Codes ◦ Alignment

Standards

Tapered roller bearings in metric dimensions — ISO 355 and KS B 2027

Basic Designs

Tapered roller bearings can transmit radial and axial forces, and since they are split type bearings, their inner and outer rings can be mounted separately. And tapered roller bearings in metric dimensions can be divided into three groups depending on contact angles; Normal contact angles(Smaller than contact angle of 17°, no codes), medium contact angles(About 20°, Code C), and large contact angles(About 28°, code D).

Codes

There are two codes for tapered roller bearings in metric dimensions listed in the Dimension Tables. The codes listed by dimensions are shown on Page 58, and the ones by contact angles are shown below.

Tapered roller bearings in inch dimensions according to AFBMA Specifications are shown on Page 60.

Information on the availability of special tapered roller bearings in both metric and inch dimensions, with or without roller and cage assembly on inner ring, and others, can be supplied on request.

Alignment

The modified line contact between the tapered rollers and the raceways eliminates edge stressing and allows the tapered roller bearings to align.

For single row tapered roller bearings, a maximum angular alignment of 4 angular minutes is admissible at a load ratio P/C≦0.2. If higher loads or greater misalignments have to be accommodated, please contact KBC.

▼ Tapered Roller Bearing Codes by Contact Angles

Examples: T 2 F B 020

- T 2 — Codes for Tapered Roller Bearings
- 020 — Bearing Bore (mm)
- 2 — Contact Angle Range
- F — Ratio of Outside Diameter to Bore
- B — Ratio of Bearing Width to Cross Section Height

Contact Angle Range

Angle Series	Contact Angle Range over	To
1	Reserved	
2	10°	13°52′
3	13°52′	15°59′
4	15°59′	18°55′
5	18°55′	23°
6	23°	27°
7	27°	30°

Ratio of Outside Diameter to Bore

Diameter Series $\frac{D}{d^{0.77}}$

	Over	To
A	Reserved	
B	3.40	3.80
C	3.80	4.40
D	4.40	4.70
E	4.70	5.00
F	5.00	5.60
G	5.60	7.00

Ratio of Bearing Width to Cross Section Height

Width Series $\frac{T}{(D-d)^{0.95}}$

	Over	To
A	Reserved	
B	0.50	0.68
C	0.68	0.80
D	0.80	0.88
E	0.88	1.00

KBC Tapered Roller Bearings

Single Row ◦ Tolerances ◦ Bearing Clearances ◦ Speeds Suitability ◦ Heat Treatment ◦ Cages ◦ Equivalent Loads ◦ Axial Loads

Tolerances

Tapered roller bearings of the basic designs in metric dimensions have a normal tolerance, and the inch series tapered roller bearings have the tolerances of AFBMA Class 4.

The bearings with an increased precision can be supplied on request.

Tolerances: Refer to Table 7-3 Tolerances of Tapered Roller Bearings in Metric Dimensions on Page 74.
Refer to Table 7-4 Tolerances of Tapered Roller Bearings in inch Dimensions on Page 78.

Bearing Clearances

The axial clearance of tapered roller bearings is set on mounting by adjusting it against another bearing.

Speed Suitability

The permissible speeds for both grease and oil lubrication are shown on the Dimension Tables. In case of oil lubrication, the permissible speeds shown on the Dimension Tables are the values assuming oil sump lubrication.

Depending on various lubricating methods, they can be operated at a higher speed.

Heat Treatment

KBC tapered roller bearings are heat-treated in such a way that they can be used at operating temperatures of up to 120℃. For the bearings required to be used above that temperature, please contact KBC.

Cages

KBC tapered roller bearings have pressed steel cages. The cages in some bearings slightly project laterally; this must be taken into account for mounting(Refer to abutment dimensions in the Dimension Tables.)

Equivalent Dynamic Load

$$P \quad F_r \qquad : \text{for } \frac{F_a}{F_r} \leqq e$$

$$P \quad 0.4 \cdot F_r + Y \cdot F_a \qquad : \text{for } \frac{F_a}{F_r} > e$$

If single row tapered roller bearings are used, the axial reaction forces have to be taken into account(Refer to the Table on Page 35). Y and e are indicated in the Dimension Tables.

Equivalent Static Load

$$P_0 \quad F_r \qquad : \text{for } \frac{F_a}{F_r} \leqq \frac{1}{2 \cdot Y_0}$$

$$P_0 \quad 0.5 \cdot F_r + Y_0 \cdot F_a \qquad : \text{for } \frac{F_a}{F_r} > \frac{1}{2 \cdot Y_0}$$

If single row tapered roller bearings are used, the axial reaction forces have to be taken into account(Refer to the Table on Page 35). Y_0 is indicated in the Dimension Tables.

Determining the Axial Loads Acting on a Single Bearing

Due to the inclination of the raceways, a radial load induces axial reaction forces in tapered roller bearings, which have to be taken into account in the determination of the equivalent load.

For details, refer to Page 34 on load calculation of angular contact ball bearings and tapered roller bearings.

KBC Tapered Roller Bearings

Single Row ◦ Abutment Dimensions ◦ Prefixes ◦ Suffixes

Abutment Dimensions

The cups and cones should closely fit the shaft or housing shoulder; they must not be allowed to foul the shoulder fillet radius. Consequently, the maximum fillet radius of the mating part must be smaller than the minimum corner of the tapered roller bearing.

The shoulder of the mating parts must be so high that even with maximum bearing corner, there is an adequate abutment surface area.

The abutment shoulder diameters are indicated in the Dimension Tables.

The cages in some bearings slightly project laterally; this must be taken into account for mounting. The abutment dimensions, a_1 and a_2, are indicated in the Dimension Tables.

Prefixes

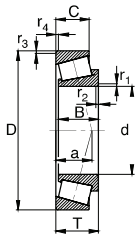
TR	Changed basic dimensions(Bore, outer diameter, width) from standards.

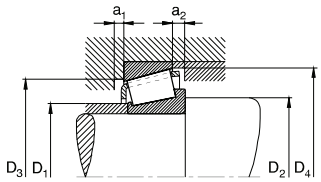
Suffixes

A	Changed internal design from standards
C	Medium contact angles(About 17~24°)
D	Increased contact angles(About 24~32°)
DX	Inner ring width and mounting width differ from those of a bearing with contact angle D.
g	Bearing made of carburized steel
HL	Special heat-treatment for long life
J	Designs adapted to ISO standards
F	Changed bore diameter from standards
F2	Changed outer diameter from standards
h	Changed width from standards

KBC Tapered Roller Bearings

Single Row



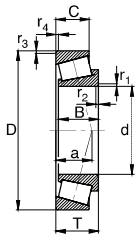


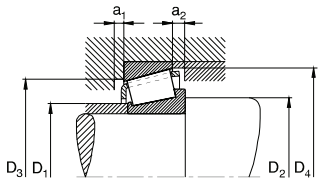
Shaft	Dimensions							Distance of Application Points	Abutment Dimensions							Load Rating - Factor							Permissible Speed		Standards		Weight
	d	D	B	C	T	r_1, r_2 min	r_3, r_4 min	a ≈	D_1 max	D_2 min	D_3 min	D_3 max	D_4 min	a_1 min	a_2 min	Dynamic C		e	Y	Static C_0		Y_0	Grease Lubrication	Oil Lubrication	Bearings	ISO 355 KS B 2027	≈
	mm															N	kgf			N	kgf		min^{-1}		KBC		kg
17	17	40	12	11	13.25	1	1	9.8	23	23	34	34	38	2	2	20700	2110	0.35	1.7	20600	2100	0.96	9500	13000	**30203J**	**T2DB017**	0.079
20	20	42	15	12	15	0.6	0.6	10.6	24	28	35	37	40	2	3	25800	2630	0.37	1.6	28300	2890	0.88	9000	12000	**32004XJ**	**T3CC020**	0.097
	20	47	14	12	15.25	1	1	11.2	27	29	40	41	44	2	3	29000	2960	0.35	1.7	29800	3040	0.96	8000	11000	**30204J**	**T2DB020**	0.127
	20	47	18	15	19.25	1	1	12.4	26	29	38	41	44	2	4	37000	3770	0.35	1.7	40000	4080	0.95	8500	11000	**32204**		0.16
	20	47	18	15	19.25	1	1	12.4	26	29	38	41	44	2	4	37000	3770	0.33	1.8	40000	4080	1	8500	11000	**32204J**	**T2DD020**	0.16
	20	52	15	13	16.25	1.5	1.5	11.4	27	31	44	44	48	2	3	36000	3670	0.3	2.	34500	3520	1.1	7500	10000	**30304J**	**T2FB020**	0.171
	20	52	16	12	16.25	1.5	1.5	13.7	27	32	42	44	50	2	3	32500	3310	0.55	1.1	32000	3260	1.1	7500	10000	**30304C**		0.167
	20	52	21	18	22.25	1.5	1.5	13.9	26	33	43	48	42	3	4	45000	4590	0.3	2	48000	4890	1.1	8000	11000	**32304J**	**T2FD020**	0.24
24	24	41	11.2	8.6	12.5	0.6	0.6	10.8	27	31	35	36	40	2	4	13000	1330	0.5	1.2	15000	1530	0.66	8000	11000	**TR244113**		0.11
25	25	47	15	11.5	15	0.6	0.6	11.8	30	33	40	42	45	3	3.5	27500	2800	0.43	1.4	34200	3490	0.77	8000	11000	**32005XJ**	**T4CC025**	0.116
	25	47	17	14	17	0.6	0.6	10.9	29	33	41	42	45	3	3	31500	3210	0.29	2.1	40500	4130	1.1	8000	11000	**33005J**	**T2CE025**	0.131
	25	52	15	13	16.25	1	1	12.7	31	34	44	46	49	2	3	32000	3260	0.38	1.6	35000	3570	0.88	7100	10000	**30205J**	**T3CC025**	0.156
	25	52	18	15	19.25	1	1	13.7	30	34	42	46	49	2	4	38000	3870	0.39	1.5	44000	4490	0.85	7500	10000	**32205**		0.186
	25	52	18	15	19.25	1	1	15.8	30	34	40	46	50	2	4	35000	3570	0.53	1.1	42000	4280	0.62	7100	9500	**32205C**		0.189
	25	52	22	18	22	1	1	14.1	29	34	43	46	50	4	4	47000	4790	0.39	1.7	57000	5810	0.94	7500	10000	**33205J**	**T2DE025**	0.221
	25	62	17	15	18.25	1.5	1.5	19.8	34	36	54	54	58	2	3	47500	4840	0.3	2	46500	4740	1.1	6300	8500	**30305J**	**T2FD025**	0.269
	25	62	17	14	18.25	1.5	1.5	16.4	35	36	49	53	59	3	4	42500	4330	0.55	1.1	45000	4590	0.6	6000	8500	**30305C**		0.275
	25	62	17	13	18.25	1.5	1.5	19.8	33	39	46	53	59	3	5	38000	3870	0.81	0.74	41500	4230	0.41	6000	8000	**30305D**		0.254
	25	62	18.45	13	19.7	1.5	1.5	19.8	33	39	46	53	59	3	5	39000	3980	0.81	0.74	41500	4230	0.41	6000	8000	**30305DX**		0.262
	25	62	24	20	25.25	1.5	1.5	15.9	32	38	51	53	58	3	5	60000	6120	0.3	2	64500	6580	1.1	6300	8500	**32305J**	**T2FD025**	0.375
28	28	50.292	18.724	10.668	14.224	3.6	1.8	10.8	33	37	44	44	48	3	4	27400	2790	0.37	1.6	34600	3530	0.89	7100	9500	**TR285014**		0.122
	28	52	16	12	16	1	1	12.5	33	37	44	46	50	3	4	33000	3360	0.43	1.4	40500	4130	0.77	7100	9500	**320/28XJ**	**T4CC028**	0.146
	28	52	18.5	12	16	3.6	1.8	12.5	33	37	44	46	50	3	4	33900	3460	0.43	1.4	40600	4140	0.77	7100	9500	**TR285216**		0.149
	28	57	17	13	17	1.5	1.5	13.7	34	38	49	50	55	3	3	42000	4280	0.43	1.4	48800	4980	0.77	6300	8500	**TR285717**		0.202
	28	58	16	12	17.25	1	1	16.9	34	37	48	52	55	2	3	36500	3720	0.64	0.94	41000	4180	0.52	6300	8500	**302/28C**		0.199
	28	58	19	16	20.25	1	1	14	34	37	49	52	56	2	4	44500	4540	0.37	1.6	52000	5300	0.89	6300	9000	**322/28**		0.242
	28	62	18	14	18	1	1	15	40	44	54	56	60	4	4	42500	4330	0.45	1.3	56000	5710	0.73	6000	8000	**32007XJF1**		0.274
	28	62	18	15.75	19.75	1	1	15.5	36	42	51	54	59	4	6	48600	4960	0.49	1.3	56600	5770	0.68	6000	8000	**TR286220**		0.282
	28	63	21.25	17.7	22.25	1.5	1.5	15.4	36	40	53	54	60	3	4	59800	6100	0.33	1.8	65700	6700	0.99	6000	8000	**TR286322**		0.295
	28	63	22.25	17.7	22.25	1.5	1.5	15.3	36	40	53	54	60	3	4	59800	6100	0.33	1.8	65700	6700	0.99	6000	8000	**TR286322h**		0.299
	28	68	18	14	19.75	1.5	1.5	17.4	38	39	57	59	64	2	4.5	52500	5350	0.52	1.2	53500	5460	0.64	5600	7500	**303/28C**		0.335
	28	68	18	16	19.75	2	2	14.7	39	41	57	59	63	2	3	53000	5400	0.32	1.9	53500	5460	1	5600	7500	**TR286819**		0.336
30	30	55	17	13	17	1	1	13.5	35	39	47	49	53	3	4	35500	3620	0.43	1.4	44500	4540	0.77	6700	9000	**32006XJ**	**T4CC030**	0.172

Bearings of different designs can be custom-made on request.

KBC Tapered Roller Bearings

Single Row



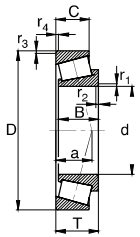


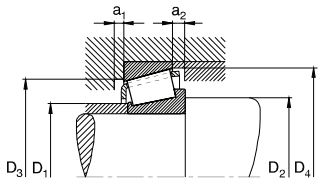
Shaft	Dimensions							Distance of Application Points	Abutment Dimensions							Load Rating · Factor							Permissible Speed		Standards		Weight
																Dynamic				Static			Grease Lubrication	Oil Lubrication	Bearings		≈
	d	D	B	C	T	r_1, r_2	r_3, r_4	a	D_1	D_2	D_3	D_3	D_4	a_1	a_2	C		e	Y	C_0		Y_0				ISO 355	
	mm					min	min	≈	max	min	min	max	min	min	min	N	kgf			N	kgf		min^{-1}		KBC	KS B 2027	kg
30	30	62	16	14	17.25	1	1	13.8	37	39	52	56	58	2	3	43000	4380	0.38	1.6	47500	4840	0.88	6000	8000	**30206J**	**T3DB030**	0.237
	30	62	17	14	17.25	1.5	1.5	13.2	37	40	53	54	59	3	3	45500	4640	0.36	1.7	32000	3260	0.92	6000	8000	**TR306217**		0.237
	30	62	17.7	13.3	17.7	1	1	16.2	37	43	50	52	59	4	3	42500	4330	0.55	1.1	32000	3260	0.6	6000	8000	**TR306217C**		0.225
	30	62	20	17	21.25	1	1	15.4	36	39	51	56	59	2	4	55500	5660	0.37	1.6	65500	6680	0.88	6000	8500	**32206J**	**T3DC030**	0.296
	30	62	20	16	21.25	1	1	18.1	35	39	48	56	59	2	5	50500	5150	0.55	1.1	59000	6020	0.6	5600	7500	**32206C**		0.293
	30	72	19	16	20.75	1.5	1.5	15.3	40	41	62	63	67	3	4.5	60000	6120	0.32	1.9	61000	6220	1	5300	7500	**30306J**	**T2FB030**	0.402
	30	72	18.923	15.875	19	1.5	1.5	15.3	40	41	62	63	67	3	3	59000	6020	0.32	1.9	61000	6220	1	5300	7500	**30306Jh**		0.385
	30	72	19	14	20.75	1.5	1.5	18.3	38	41	59	63	68	3	6.5	57500	5860	0.55	1.1	56500	5760	0.6	5300	7100	**30306C**		0.382
	30	72	19	14	20.75	1.5	1.5	23.3	39	39	56	63	68	3	6.5	52000	5300	0.83	0.73	56500	5760	0.4	5000	7100	**30306DJ**	**T7FB030**	0.398
	30	72	27	23	28.75	1.5	1.5	19.3	38	43	59	62	67	3	5.5	75500	7700	0.32	1.9	84000	8570	1	5600	7500	**32306J**	**T2FD030**	0.569
32	32	65	17	15	18.25	1	1	14.7	39	41	56	59	61	3	3	47500	4840	0.37	1.6	54000	5510	0.88	5600	8000	**302/32**		0.276
	32	65	21	18	22.25	1	1	15.8	38	41	54	59	61	3	4	55000	5610	0.37	1.6	65500	6680	0.88	6000	8000	**322/32**		0.335
35	35	62	18	14	18	1	1	15	40	44	54	56	60	4	4	42500	4330	0.45	1.3	56000	5710	0.73	5600	8000	**32007XJ**	**T4CC035**	0.229
	35	72	17	15	18.25	1.5	1.5	15	43	46	62	63	68	3	3	55000	5610	0.37	1.6	61000	6220	0.88	5300	7100	**30207J**	**T3DB035**	0.339
	35	72	23	18	24.25	1.5	1.5	20.6	42	46	58	63	69	3	6	59500	6070	0.55	1.1	71500	7290	0.6	5000	6700	**32207C**		0.441
	35	72	23	19	24.25	1.5	1.5	17.9	42	46	61	63	68	3	5	70500	7190	0.38	1.6	84000	8570	0.88	5300	7100	**32207J**	**T3DC035**	0.455
	35	80	21	18	22.75	2	1.5	16.7	45	49	68	73	75	2	6.5	77000	7850	0.32	1.9	80000	8160	1	4800	6300	**30307J**	**T2FB035**	0.52
	35	80	21	18	22.75	2	1.5	16.8	46	50	69	72	76	3	6.5	67800	6910	0.67	0.9	68100	6940	0.49	4800	6300	**30307**		0.52
	35	80	21	16	22.75	2	1.5	20.3	47	44	65	71	75	3	6.5	68500	6980	0.55	1.1	71500	7290	0.6	4800	6300	**30307C**		0.517
	35	80	21	15	22.75	2	1.5	25.8	51	44	62	71	77	3	7.5	63000	6420	0.83	0.73	69500	7090	0.4	4300	6000	**30307DJ**	**T7FB035**	0.517
	35	80	31	25	32.75	2	1.5	21.1	49	43	66	71	75	3	7.5	96500	9840	0.32	1.9	111000	11300	1	5000	6700	**32307J**	**T2FE035**	0.763
	35	80	31	24	32.75	2	1.5	23.7	49	44	61	71	75	3	8.5	87500	8920	0.47	1.3	110000	11200	0.7	4800	6300	**32307C**		0.782
40	40	68	19	14.5	19	1	1	17.4	45	49	60	62	66	4	4.5	51500	5250	0.38	1.6	67000	6830	0.87	5300	7100	**32008XJ**	**T3CD040**	0.279
	40	68	19	14.5	19	1	1	17.4	47	51	58	60	66	2	5	50500	5150	0.38	1.6	67000	6830	0.87	5300	7100	**32008XJh**		0.334
	40	72	15	11.5	15.5	1	1	14.1	46	50	63	64	68	3	3.5	48000	4890	0.4	1.5	54000	5510	0.82	5000	6800	**TR407215**		0.252
	40	75	26	20.5	26	1.5	1.5	18.4	49	54	64	66	77	2.5	6	80000	8160	0.35	1.7	104000	10600	0.93	5000	6800	**33108**		0.507
	40	80	18	16	19.75	1.5	1.5	16.9	48	51	69	71	75	3	3.5	64000	6530	0.38	1.6	71000	7240	0.88	4800	6300	**30208J**	**T3DB040**	0.436
	40	80	23	19	24.75	1.5	1.5	19	48	51	68	71	76	3	5.5	76500	7800	0.38	1.6	91500	9330	0.88	4800	6300	**32208J**	**T3DC040**	0.547
	40	90	23	20	25.25	2	1.5	19.4	52	52	76	81	84	3	5	96000	9790	0.35	1.7	109000	11100	0.96	4300	5600	**30308J**	**T2FB040**	0.756
	40	90	23	17	25.25	2	2	28.9	48	57	70	79	87	3	8	81500	8310	0.81	0.74	92000	9380	0.41	3800	5300	**30308D**		0.712
	40	90	23	17	25.25	2	1.5	29.8	50	56	70	81	88	3	8	81500	8310	0.83	0.73	92000	9380	0.4	3800	5300	**30308DJ**	**T7FB040**	0.726
	40	90	33	27	35.25	2	1.5	23.4	50	54	73	81	84	3	8	118000	12000	0.35	1.7	147000	15000	0.96	4300	6000	**32308J**	**T2FD040**	1.05
45	45	75	20	15.5	20	1	1	16.4	51	54	67	69	73	4	4.5	57000	5810	0.39	1.5	78000	7950	0.84	4500	6300	**32009XJ**	**T3CC045**	0.353
	45	85	19	16	20.75	1.5	1.5	18.2	53	56	74	76	81	3	4.5	70500	7190	0.41	1.5	82500	8410	0.81	4300	6000	**30209J**	**T3DB045**	0.487
	45	85	23	19	24.75	1.5	1.5	20.1	53	56	73	76	81	3	5.5	79000	8090	0.41	1.5	95500	9740	0.81	4300	6000	**32209J**	**T3DC045**	0.601
	45	95	35	30	36	2.5	2.5	23.8	56	63	78	80	90	4	5.5	138000	14100	0.32	1.8	172000	17500	1	4000	5600	**TR459536**		1.217

Bearings of different designs can be custom-made on request.

KBC Tapered Roller Bearings

Single Row



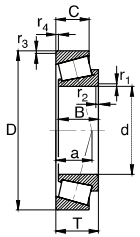


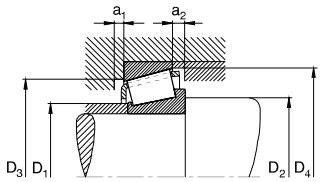
Shaft	Dimensions							Distance of Application Points	Abutment Dimensions							Load Rating · Factor							Permissible Speed		Standards		Weight
	d	D	B	C	T	r_1, r_2 min	r_3, r_4 min	a ≈	D_1 max	D_2 min	D_3 min	D_3 max	D_4 min	a_1 min	a_2 min	Dynamic C		e	Y	Static C_0		Y_0	Grease Lubrication	Oil Lubrication	Bearings	ISO 355 KS B 2027	≈
	mm															N	kgf			N	kgf		min^{-1}		KBC		kg
45	45	100	25	22	27.25	2	1.5	21.1	58	57	86	91	94	3	5	110000	11200	0.35	1.7	129000	13200	0.96	3800	5300	**30309J**	**T2FB045**	1.01
	45	100	25	18	27.25	2	1.5	31.8	55	60	78	91	96	3	9	81500	8310	0.81	0.74	90000	9180	0.41	3400	4800	**30309D**		0.95
	45	100	25	18	27.25	2	1.5	31.5	57	61	79	91	97	3	9	92000	9380	0.83	0.73	106000	10800	0.4	3400	4800	**30309DJ**	**T7FB045**	0.955
	45	100	36	30	38.25	2	1.5	25	56	59	82	91	95	3	8	140000	14300	0.35	1.7	174000	17700	0.96	3800	5300	**32309J**	**T2FD045**	1.41
50	50	80	20	15.5	20	1	1	17.6	56	59	71	74	78	4	4.5	62000	6320	0.42	1.4	89500	9130	0.78	4300	6000	**32010XJ**	**T3CC050**	0.379
	50	90	20	17	21.75	1.5	1.5	19.6	58	61	79	81	87	3	4.5	77000	7850	0.42	1.4	92500	9430	0.79	4000	5300	**30210J**	**T3DB050**	0.56
	50	90	23	19	24.75	1.5	1.5	21	57	61	78	81	87	3	5.5	88000	8970	0.42	1.4	110000	11200	0.79	4000	5300	**32210J**	**T3DC050**	0.642
	50	110	27	23	29.25	2.5	2	23	65	65	95	100	104	3	6	127000	12900	0.35	1.7	147000	15000	0.96	3400	4800	**30310J**	**T2FB050**	1.28
	50	110	27	19	29.25	2.5	2	34.4	62	70	87	100	106	3	10	103000	10500	0.81	0.74	117000	11900	0.41	3200	4300	**30310D**		1.25
	50	110	27	19	29.25	2.5	2	34.2	62	70	87	100	106	3	10	110000	11200	0.83	0.73	130000	13300	0.4	3200	4300	**30310DJ**	**T7FB050**	1.25
	50	110	40	33	42.25	2.5	2	27.9	62	68	91	100	104	3	9	185000	18900	0.35	1.7	235000	24000	0.96	3600	4800	**32310J**	**T2FD050**	1.88
	50	114.3	44.45	34.925	44.45	3.5	3.3	32.1	62	75	88	94	108	3	9	189000	19300	0.44	1.4	235000	24000	0.76	3600	4800	**TR5011444**		2.244
55	55	90	23	17.5	23	1.5	1.5	19.7	62	66	80	81	88	4	5.5	79500	8110	0.41	1.5	119000	12100	0.81	3800	5300	**32011XJ**	**T3CC055**	0.567
	55	100	21	18	22.75	2	1.5	21.2	64	67	89	91	96	4	4.5	96000	9790	0.41	1.5	115000	11700	0.81	3600	5000	**30211J**	**T3DB055**	0.733
	55	100	25	21	26.75	2	1.5	22.7	63	67	87	91	97	4	5.5	108000	11000	0.41	1.5	138000	14100	0.81	3600	5000	**32211J**	**T3DC055**	0.857
	55	100	31	24.5	32	2	2	24.9	65	72	85	90	97	4	8	125000	12700	0.41	1.5	163000	16600	0.81	3600	5000	**TR5510032**		1.052
	55	120	29	25	31.5	2.5	2	25.1	71	70	104	110	113	4	6.5	146000	14900	0.35	1.7	170000	17300	0.96	3200	4300	**30311J**	**T2FB055**	1.62
	55	120	29	21	31.5	2.5	2	38.1	67	75	94	110	115	4	10.5	129000	13200	0.83	0.73	153000	15600	0.4	2800	4000	**30311DJ**	**T7FB055**	1.57
	55	120	43	35	45.5	2.5	2	30.9	67	73	99	110	113	4	10.5	200000	20400	0.35	1.7	257000	26200	0.96	3200	4300	**32311J**	**T2FD055**	2.39
60	60	95	23	17.5	23	1.5	1.5	20.9	66	71	85	86	93	4	5.5	84500	8620	0.43	1.4	128000	13100	0.77	3600	5000	**32012XJ**	**T4CC060**	0.607
	60	95	27	21	27	1.5	1.5	20	66	71	85	86	93	5	6	98500	10000	0.33	1.8	159000	16200	1	3600	5000	**33012J**	**T2CE060**	0.713
	60	110	22	19	23.75	2	1.5	22	69	72	96	101	105	4	4.5	105000	10700	0.41	1.5	125000	12700	0.81	3400	4500	**30212J**	**T3EB060**	0.927
	60	110	28	24	29.75	2	1.5	24.6	68	72	95	101	106	4	5.5	129000	13200	0.41	1.5	167000	17000	0.81	3400	4500	**32212J**	**T3EC060**	1.18
	60	130	31	26	33.5	3	2.5	27.1	77	78	112	118	122	4	7.5	172000	17500	0.35	1.7	204000	20800	0.96	3000	4000	**30312J**	**T2FB060**	2.03
	60	130	31	22	33.5	3	2.5	40.7	74	84	103	118	125	4	11.5	147000	15000	0.83	0.73	175000	17800	0.4	2600	3800	**30312DJ**	**T7FB060**	1.98
	60	130	46	37	48.5	3	2.5	32.7	74	81	107	118	122	4	11.5	230000	23500	0.35	1.7	299000	30500	0.96	3000	4000	**32312J**	**T2FD060**	2.96
65	65	100	26	21	26	1.5	1.5	21.8	72	74	89	91	96	5	6	89500	9130	0.34	1.8	140000	14300	0.97	3400	4500	**33013**		0.732
	65	120	23	20	24.75	2	1.5	24.4	78	77	106	111	115	4	4.5	123000	12500	0.41	1.5	154000	15700	0.81	3000	4000	**30213J**	**T3EB065**	1.18
	65	120	31	27	32.75	2	1.5	27.3	75	77	104	111	117	4	5.5	133000	13600	0.4	1.5	168000	17100	0.82	3000	4000	**32213**		1.58
	65	120	31	27	32.75	2	1.5	27.2	75	77	104	111	117	4	5.5	154000	15700	0.41	1.5	198000	20200	0.81	3000	4000	**32213J**	**T3EC065**	1.55
	65	130	48	39	51	3.5	3.5	34.2	77	90	106	111	120	4	11.5	251000	25600	0.35	1.7	219000	22300	0.94	2800	3800	**TR6513051**		3.036
	65	140	33	28	36	3	2.5	29.4	83	83	121	128	132	4	8	203000	20700	0.35	1.7	238000	24300	0.96	2600	3600	**30313J**	**T2GB065**	2.5
	65	140	33	23	36	3	2.5	43.6	80	89	111	128	134	4	13	170000	17300	0.83	0.73	203000	20700	0.4	2400	3400	**30313DJ**	**T7GB065**	2.42
	65	140	48	39	51	3	2.5	34.4	80	86	116	128	132	4	12	259000	26400	0.35	1.7	335000	34200	0.96	2800	3800	**32313J**	**T2GD065**	3.6

Bearings of different designs can be custom-made on request.

KBC Tapered Roller Bearings

Single Row



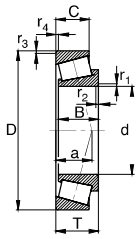


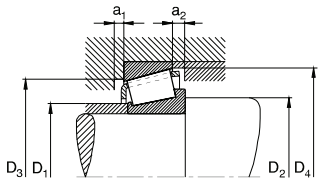
Shaft	Dimensions							Distance of Application Points	Abutment Dimensions							Load Rating · Factor							Permissible Speed		Standards		Weight
	d	D	B	C	T	r_1, r_2 min	r_3, r_4 min	a ≈	D_1 max	D_2 min	D_3 min	D_3 max	D_4 min	a_1 min	a_2 min	Dynamic C		e	Y	Static C_0		Y_0	Grease Lubrication	Oil Lubrication	Bearings	ISO 355 KS B 2027	≈
	mm															N	kgf			N	kgf		min^{-1}		KBC		kg
70	70	125	24	21	26.25	2	1.5	25.6	81	82	110	116	120	4	5	130000	13300	0.42	1.4	160000	16300	0.79	2800	4000	**30214J**	**T3EB070**	1.3
	70	125	31	27	33.25	2	1.5	28.6	80	82	108	116	121	4	6	153000	15600	0.42	1.4	203000	20700	0.79	2800	4000	**32214J**	**T3EC070**	1.64
	70	150	35	30	38	3	2.5	30.8	89	88	132	138	142	4	8	225000	22900	0.35	1.7	272000	27700	0.96	2400	3400	**30314J**	**T2GB070**	3.03
	70	150	51	42	54	3	2.5	21	86	91	124	138	142	4	12	299000	30500	0.35	1.7	385000	39300	0.96	2600	3400	**32314J**	**T2GD070**	4.34
75	75	130	31	27	33.25	2	1.5	29.8	84	87	113	121	127	4	6	163000	16600	0.44	1.4	216000	22000	0.76	2800	3800	**32215J**	**T4DC075**	1.72
85	85	150	28	24	30.5	2.5	2	30.3	97	100	133	140	143	5	6.5	184000	18800	0.42	1.4	233000	23800	0.79	2400	3200	**30217J**	**T3EB085**	2.12
	85	150	36	30	38.5	2.5	2	33.7	96	100	131	140	144	5	8.5	222000	22600	0.42	1.4	305000	31100	0.79	2400	3200	**32217J**	**T3EC085**	2.63
90	90	140	32	24	32	2	1.5	29.8	99	102	124	131	136	6	8	173000	17600	0.42	1.4	273000	27800	0.78	2400	3200	**32018XJ**	**T3CC090**	1.78
	90	150	36	30	38.5	2.5	2	34.5	103	113	130	132	145	4	8	203000	20700	0.42	1.4	288000	29400	0.79	2400	3200	**TR9015038**		2.549
	90	160	40	34	42.5	2.5	2	36.1	102	114	135	145	153	4	6.5	265000	27000	0.42	1.4	366000	37300	0.78	2400	3200	**32218J**	**T3FC090**	3.312
95	95	160	40	34	42.5	4	2.5	36.4	110	120	137	139	155	4	10	247000	25200	0.42	1.4	363000	37000	0.79	2400	3200	**TR9516042**		3.309
	95	170	43	37	45.5	3	2.5	39.3	108	113	147	158	163	5	8.5	286000	29200	0.42	1.4	395000	40300	0.79	2200	2800	**32219J**	**T3FC095**	4.21

Bearings of different designs can be custom-made on request.

KBC Tapered Roller Bearings

Single Row · Inch Dimensions



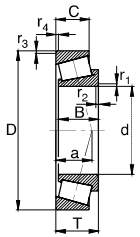


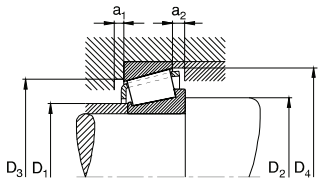
Shaft	Dimensions							Distance of Application Points	Abutment Dimensions						Load Rating · Factor							Permissible Speed		Standards	Weight
	d	D	B	C	T	r_1, r_2 min	r_3, r_4 min	a ≈	D_1 max	D_2 min	D_3 min	D_4 min	a_1 min	a_2 min	Dynamic C		e	Y	Static C_0		Y_0	Grease Lubrication	Oil Lubrication	Bearings	≈
	mm														N	kgf			N	kgf		min^{-1}		KBC	kg
17.462	17.462	39.878	14.605	10.668	13.843	1.3	1.3	8.7	21.5	23	34	37	2	3	22500	2290	0.29	2.1	22500	2290	1.2	10000	13000	**LM11749/LM11710**	0.083
19.05	19.05	45.237	16.637	12.065	15.494	1.3	1.3	9.5	23.5	25	39.5	41.5	2	4	28500	2910	0.30	2	28900	2950	1.1	9000	12000	**LM11949/LM11910**	0.125
21.43	21.43	50.005	18.288	13.970	17.526	1.3	1.3	11.1	25.5	27.5	44	46	2	4	39000	3980	0.28	2.2	40500	4130	1.2	8000	11000	**LM12649/LM12610**	0.174
21.986	21.986	45.237	16.637	12.065	15.494	1.3	1.3	10.3	26	27.5	39.5	42	2	4	29600	3020	0.31	2	34000	3470	1.1	8000	11000	**LM12749/LM12710**	0.122
25.4	25.4	57.15	17.462	13.495	17.462	1.3	1.5	12.6	30.5	32.5	51	53	2	3.5	39500	4030	0.35	1.7	45500	4640	0.95	6700	9000	**15578/15520**	0.221
26.988	26.988	50.292	14.732	10.668	14.224	3.5	1.3	10.9	31	37.5	44.5	47	2.5	4	27300	2780	0.37	1.6	31500	3210	0.88	7100	10000	**L44649/L44610**	0.12
27	27	61.973	17	13.6	16.7	0.3	0.5	14.3	41	46	54	62	3.5	2	32300	3290	0.44	1.4	44000	4490	0.74	6200	8000	**LM78349TF1/LM78310A**	0.253
27.487	27.487	57.175	19.355	15.875	19.845	2.5	1.5	14.2	33	37	53	54	2	6	45600	4650	0.35	1.7	49300	5030	0.95	6300	8500	**TR275720**	0.245
28.575	28.575	64.292	21.433	16.67	21.433	1.5	1.5	18.1	37	45	50	71	2.5	5	52400	5340	0.55	1.1	65900	6720	0.6	5300	7100	**M86647/M86610**	0.287
	28.575	73.025	22.225	17.462	22.225	0.8	3.3	26	37	37.5	62	63	2	5	55000	5610	0.45	1.3	65500	6680	0.73	5300	7100	**02872/02820**	0.481
29	29	50.292	14.732	10.668	14.224	3.5	1.3	10.8	33	39.5	44.5	48	3.5	3.5	27500	2800	0.37	1.6	34500	3520	0.89	7100	9500	**L45449/L45410**	0.115
30.162	30.162	64.292	21.433	16.67	21.433	1.5	1.5	18.2	38	41	54	61	2.5	5.5	51500	5250	0.55	1.1	66000	6730	0.6	5600	8000	**M86649/M86610**	0.339
	30.162	68.262	22.225	17.462	22.225	2.3	1.5	19.5	39.5	43.5	58	65	2	5	55500	5660	0.55	1.1	70500	7190	0.6	5300	7500	**M88043/M88010**	0.409
31.75	31.75	59.131	16.764	11.811	15.875	3.6	1.3	12.6	38	42	51	56	4	4	34900	3560	0.41	1.5	41700	4250	0.8	6300	8500	**LM67048/LM67010**	0.189
	31.75	62	19.05	14.288	18.161	4.8	1.3	13.1	36.5	42.5	55	58	4.5	3.5	43500	4440	0.35	1.7	50500	5150	0.94	6000	8000	**15123/15245**	0.246
33.338	33.338	68.262	22.225	17.462	22.225	0.8	1.5	19.5	41	49	53	65	0.55	1.1	55400	5650	0.55	1.1	70700	7210	0.6	5300	7500	**M88048/M88010**	0.325
34.925	34.925	65.088	18.288	13.97	18.034	4.8	1.3	14.5	40	46	58	61	3	4	46500	4740	0.38	1.6	57500	5860	0.88	5600	7500	**LM48548/LM48510**	0.269
	34.925	65.088	18.288	17.018	21.082	4.8	1.5	17.6	40	46	58	61	2	5.5	46500	4740	0.38	1.6	57500	5860	0.88	5600	7500	**LM48548/LM48511**	0.28
	34.925	68.262	20.638	15.875	20.638	3.5	2.3	15.2	40	46	59	63	3	4	48000	4890	0.36	1.7	57500	5860	0.91	5600	7500	**14585/14525**	0.296
	34.925	69.012	19.583	15.875	19.845	3.5	1.3	15.7	40	46	60	63	3	4.5	46500	4740	0.38	1.6	57500	5860	0.86	5600	7500	**14138A/14276**	0.329
	34.925	72.233	25.4	19.842	25.4	2.3	2.3	20.9	42.5	48.5	60	69	3.5	4.5	65500	6680	0.55	1.1	86000	8770	0.6	5000	7100	**HM88649/HM88610**	0.495
	34.925	73.025	24.608	19.05	23.812	1.5	0.8	15.8	40.5	43	65	68	3.5	6	70000	7140	0.29	2.1	86000	8770	1.1	5300	7100	**25877/25821**	0.473
	34.925	76.2	28.575	23.02	29.37	3.5	3.3	23.9	44.5	53	62	73	2	5.5	78500	8000	0.55	1.1	106000	10800	0.6	4800	6700	**HM89446/HM89410**	0.657
	34.925	76.2	28.575	23.812	29.37	1.5	3.3	21.8	43.5	46	64	72	2	6	81500	8310	0.4	1.5	98000	9990	0.82	5000	6700	**31594/31520**	0.639
34.988	34.988	59.131	16.764	11.938	15.875	1.5	1.3	13.4	39	45.5	52	56	3	4.5	34000	3470	0.42	1.4	46000	4690	0.79	6000	8000	**L68149/L68110**	0.173
	34.988	59.974	16.764	11.938	15.875	1.1	1.3	13.4	39	45.5	52	57	3	4.5	34000	3470	0.42	1.4	46000	4690	0.79	6000	8000	**L68149/L68111**	0.211

Bearings of different designs can be custom-made on request.

KBC Tapered Roller Bearings

Single Row · Inch Dimensions



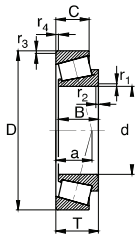


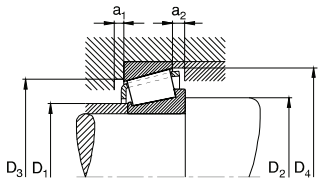
Shaft	Dimensions							Distance of Application Points	Abutment Dimensions						Load Rating · Factor							Permissible Speed		Standards	Weight
	d	D	B	C	T	r_1, r_2 min	r_3, r_4 min	a ≈	D_1 max	D_2 min	D_3 min	D_4 min	a_1 min	a_2 min	Dynamic C		e	Y	Static C_0		Y_0	Grease Lubrication	Oil Lubrication	Bearings	≈
	mm														N	kgf			N	kgf		min^{-1}		KBC	kg
36.512	36.512	76.2	28.575	23.02	29.37	3.5	3.3	23.9	44.5	54	62	73	2	5	78500	8000	0.55	1.1	106000	10800	0.6	4800	6700	**HM89449/HM89410**	0.637
	36.512	79.375	28.829	22.664	29.37	3.5	3.3	23.6	44	55	66	75	2.5	6	87000	8870	0.55	1.1	119000	12100	0.6	4800	6700	**HM89249/HM89210**	1.02
38	38	63	17	13.5	17	4.75	1.3	14.6	42.5	49	56	60	2.5	3.5	38000	3870	0.42	1.4	51500	5250	0.79	5600	7500	**JL69349/JL69310**	0.203
38.1	38.1	65.088	16.75	12.5	16.5	0.8	1.3	13	44	48	60	62	3	3	41500	4230	0.33	1.8	52000	5300	1	5300	7100	**TR386516**	0.216
	38.1	65.088	21.139	13.97	18.034	4.75	1.3	13.7	46	48	57	62	3.5	4	42500	4330	0.33	1.8	55600	5670	0.99	5300	7500	**38KW01Cg5**	0.241
	38.1	69.012	19.05	15.083	19.05	3.5	0.8	16.1	43	49.5	62	65	2	4.5	48000	4890	0.4	1.5	61500	6270	0.82	5300	7100	**13685/13620**	0.296
	38.1	69.012	19.05	15.083	19.05	2	2.3	16.1	43	46.5	61	65	2	4	48000	4890	0.4	1.5	61500	6270	0.82	5300	7100	**13687/13621**	0.297
	38.1	76.2	25.654	19.05	23.812	4.3	3.3	16.2	43.5	52	66	70	4	4	74000	7550	0.30	2	86000	8770	1.1	5300	7100	**2776/2720**	0.49
40.988	40.988	67.975	18	13.5	17.5	1.5	1.6	13.9	45	52	61	65	3.5	4	43000	4380	0.35	1.7	57500	5860	0.95	5300	7100	**LM300849/LM300811**	0.242
41.275	41.275	73.025	17.462	12.7	16.667	3.5	1.5	13.9	46	53	66	69	3.5	4	45500	4640	0.35	1.7	55000	5610	0.94	4800	6700	**18590/18520**	0.285
	41.275	73.431	19.812	14.732	19.558	3.5	0.8	16.3	46.5	53	67	70	3	5	55500	5660	0.4	1.5	69000	7040	0.83	4800	6700	**LM501349/LM501310**	0.334
	41.275	76.2	23.02	20.638	25.4	3.5	2.3	20.6	47	54	66	72	2	4	67000	6830	0.39	1.5	84000	8570	0.84	4800	6700	**24780/24721**	0.468
42.862	42.862	76.992	17.145	11.908	17.462	1.5	1.5	17.5	48.5	51	68	73	3.5	6.5	45000	4590	0.51	1.2	56100	5720	0.65	4600	6300	**12168/12303**	0.31
42.875	42.875	82.931	25.4	22.225	26.988	3.5	2.3	20.8	49	55	72	77	2	6	75500	7700	0.33	1.8	100000	10200	0.99	4500	6000	**25577/25523**	0.629
45.23	45.23	79.985	20.638	15.08	19.842	2.03	1.3	15.9	52	57	68	74	4	5	61000	6220	0.37	1.6	79500	8110	0.9	4500	6000	**17887/17831**	0.41
	45.23	80	19	16	20	1.5	1.5	18	53	58	71	77	2	6	53000	5400	0.43	1.4	39000	3980	0.77	4300	6000	**TR458020**	1.17
45.242	45.242	73.431	19.812	15.748	19.558	3.5	0.8	14.9	50	56	68	70	2.5	3.5	55000	5610	0.31	2	77000	7850	1.1	4800	6300	**LM102949/LM102910**	0.315
45.987	45.987	74.976	18	14	18	3.6	1.6	15.9	52	57	66	72	3	4.5	51800	5280	0.4	1.5	71300	7270	0.82	4500	6000	**LM503349/LM503310**	0.305
50	50	82	21.5	17	21.5	3	0.5	16.1	55	60	76	78	4	5	70500	7190	0.31	2	95500	9740	1.1	4300	5600	**JLM104948/JLM104910**	0.435
	50	93.264	30.302	23.812	30.162	3.6	3.2	22	53	59	82	88	2	6.5	104000	10600	0.34	1.8	138000	14100	0.97	4100	5200	**3780F1/3720**	0.576
52.388	52.388	85	20	15	20	1.5	1.5	17.7	59	64	79	82	3	5.5	61000	6220	0.4	1.5	78000	7950	0.82	3800	5300	**TR528520**	0.392
	52.388	92.075	25.4	19.845	24.608	3.5	0.8	20.4	58	65	83	87	2	4	82000	8360	0.38	1.6	112000	11400	0.87	4000	5300	**28584/28521**	0.682
57.15	57.15	87.312	18.258	14.288	18.258	1.5	1.5	17.3	62	65	79	83	4	3.5	58300	5940	0.39	1.5	94000	9580	0.85	4000	5300	**L507949/L507910**	0.38
	57.15	112.712	30.048	23.812	30.162	3.5	3.3	26	66	72	99	106	4.5	14	118000	12000	0.4	1.5	173000	17600	0.82	3200	4300	**3979/3920**	1.376
60	60	95	24	19	24	5	2.5	21	66	75	85	91	4	4	82500	8410	0.4	1.5	123000	12500	0.82	3600	5000	**JLM508748/JLM508710**	0.63
60.325	60.325	100	25.4	19.845	25.4	3.5	3.3	23.1	67	73	89	96	4.5	12.5	91000	9280	0.42	1.4	135000	13800	0.87	3400	4800	**28985/28921**	0.770
	60.325	101.6	25.4	19.845	25.4	3.5	3.3	23.1	67	73	90	97	2	5.5	85000	8670	0.42	1.4	135000	13800	0.87	3400	4800	**S28985/S28920**	0.776

Bearings of different designs can be custom-made on request.

KBC Tapered Roller Bearings

Single Row · Inch Dimensions





Shaft	Dimensions							Distance of Application Points	Abutment Dimensions						Load Rating · Factor							Permissible Speed		Standards	Weight ≈
	d	D	B	C	T	r_1, r_2 min	r_3, r_4 min	a ≈	D_1 max	D_2 min	D_3 min	D_4 min	a_1 min	a_2 min	Dynamic C		e	Y	Static C_0		Y_0	Grease Lubrication	Oil Lubrication	Bearings	
	mm														N	kgf			N	kgf		min^{-1}		KBC	kg
63.5	63.5	112.712	30.048	23.812	30.162	3.5	3.3	26	71	77	99	106	4.5	14	118000	12000	0.4	1.5	173000	17600	0.82	3200	4300	**3982/3920**	1.22
65	65	105	23	18.5	24	3	1	23.7	71	77	96	101	3.5	7	88500	9020	0.45	1.32	123000	12500	0.73	3200	4300	**JLM710949/JLM710910**	0.72
66.675	66.675	110	21.996	18.824	22	3.5	1.3	21.4	73	79	101	104	6.5	6.5	83500	8510	0.4	1.5	114000	11600	0.82	3200	4300	**395S/394A**	0.787
	66.675	112.712	30.048	23.812	30.162	3.5	3.3	26	74	80	99	106	4	6	118000	12000	0.4	1.5	173000	17600	0.82	3200	4300	**3984/3920**	1.166
	66.675	112.712	30.048	23.812	30.162	5.5	3.3	26	74	84	99	106	4.5	14	118000	12000	0.4	1.5	173000	17600	0.82	3200	4300	**3994/3920**	1.16
68.262	68.262	110	21.996	18.824	22	2.3	1.3	21.4	74	78	101	104	5	3	83500	8510	0.40	1.5	114000	11600	0.82	3200	4300	**399A/394A**	0.76
	68.262	136.525	41.275	31.75	41.275	3.5	3.3	30.7	82	86	121	129	9.5	18	229000	23400	0.36	1.7	298000	30400	0.92	2600	3600	**H414245/H414210**	2.746
69.85	69.85	146.05	39.688	25.4	41.275	3.5	3.3	45	82	95	124	138	4.5	13	198000	20200	0.78	0.77	235000	24000	0.42	2600	3400	**H913849/H913810**	2.85
82.55	82.55	133.35	33.338	26.195	33.338	3.5	3.3	29.4	90	97	119	128	6	7	154000	15700	0.4	1.5	238000	24300	0.82	2600	3600	**47686/47620**	1.69
	82.55	139.992	36.098	28.575	36.512	3.5	3.3	31.2	91	98	125	133	10.5	16	175000	17800	0.4	1.5	260000	26500	0.82	2600	3400	**580/572**	2.178
85.725	85.725	152.4	36.322	30.162	39.688	3.5	3.3	37.1	98	104	135	144	2	6.5	182000	18600	0.44	1.4	283000	28900	0.75	2200	3200	**596/592A**	2.91
88.9	88.9	152.4	36.322	30.162	39.688	6.4	3.3	37.1	98	104	135	144	4.5	18	182000	18600	0.44	1.4	283000	28900	0.75	2200	3200	**593A/592A**	2.79
92.075	92.075	152.4	38.5	30.162	39.688	6.4	3.3	35.3	101	113	135	144	4	9.5	201000	20500	0.44	1.4	314000	32000	0.75	2200	3200	**598AS/592A**	2.805

Bearings of different designs can be custom-made on request.

KBC Tapered Roller Bearings

Double Row

KBC Tapered Roller Bearings

Double Row · Basic Designs · Tolerances · Bearing Clearances · Speed Suitability · Heat Treatment · Cages · Equivalent Loads · Prefixes

Basic Designs

A double row tapered roller bearing is assembled with two inner ring parts of single row tapered roller bearing in back-to-back arrangement on the unitized outer ring. Since the inner clearance is set for the bearing itself by design, its operation as well as its mounting can be carried out uniformly without much adjustment, and this is why it is used for automotive hubs and others to maintain optimum performance considering their sizes and functions.

These bearings can be divided into two groups, one with seals and the other without seals.

Tolerances

Tapered roller bearings of the basic designs in metric dimensions have a normal tolerance, but the bearing precisions can be increased on request.

Bearing Clearances

Because axial clearances of double row tapered roller bearings vary depending on tight-fits of mating parts, shaft or housing, and temperature variation during operation, their values are determined precisely in advance to provide optimum operation.

Axial clearances for KBC double row tapered roller bearings are set accordingly in such a way that will provide optimum performances under such mounting and operating conditions, and the clearances can be adjusted on request.

Speed Suitability

The permissible speeds for both grease and oil lubrication are shown on the Dimension Tables. In case of oil lubrication, the permissible speeds shown on the Dimension Tables are the values assuming oil sump lubrication. Depending on various lubricating methods, they can be operated at a higher speed.

Heat Treatment

KBC double row separable tapered roller bearings without seals are heat-treated in such a way that they can be used at operating temperatures of up to 120℃ or above over extended periods. However, for those with seals, the operating temperatures are restricted by the temperature limit of used seal materials, and, for example, in case of contact seals made of NBR, it can be used at operating temperatures of up to 100 ℃. For the bearings required to be used at higher temperatures, please contact KBC.

Cages

KBC double row tapered roller bearings have glass-fiber reinforced polyamide 66 cages as a basic design, and some cages are made from pressed steel.

Equivalent Dynamic Load

$$P \quad F_r + Y_3 \cdot F_a \qquad : \text{for } \frac{F_a}{F_r} \leqq e$$

$$P \quad 0.67 \cdot F_r + Y_2 \cdot F_a \qquad : \text{for } \frac{F_a}{F_r} > e$$

The values of Y_2 and Y_3 are listed in the Dimension Tables.

Equivalent Static Load

$$P_0 \quad F_r + Y_0 \cdot F_a$$

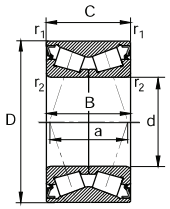
The values of Y_0 are listed in the Dimension Tables.

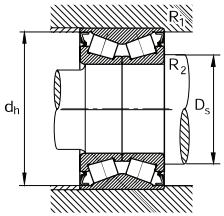
Prefixes

DT Double row tapered roller bearing

KBC Tapered Roller Bearings

Double Row





Shaft	Dimensions						Distance of Appliction Points	Abutment Dimensions				Load Rating · Factor								Pemissible Speed		Standards	Weight ≈
	d	D	B	C	r_1 min	r_2 min	a ≈	D_s min	d_h max	R_1 max	R_2 max	Dynamic C		e	Y_2	Y_3	Static C_0		Y_0	Grease Lubrication	Oil Lubrication	Bearing	
	mm											N	kgf				N	kgf		min^{-1}		KBC	kg
40	40	80	45	44	0.3	2.6	36.2	52	74	0.3	2.6	110000	11200	0.4	2.53	1.7	160000	16300	1.66	5000	7100	**DT408044**	1.01
42	42	76	39	39	0.5	3.8	40	55	72	0.5	3.8	98300	10000	0.58	1.75	1.17	139000	14200	1.15	4800	6300	**DT427639**	0.75
45	45	75	32	23	0.8	1.5	41.9	55	71	0.8	1.5	61300	6250	0.64	1.58	1.06	88000	8970	1.03	4500	6200	**DT457532**	0.5
49	49	84	48	48	0.5	2.3	43	61	78	0.5	2.3	107900	11200	0.46	2.19	1.47	171400	17500	1.44	4000	5600	**DT498448**	1.09