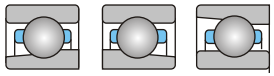
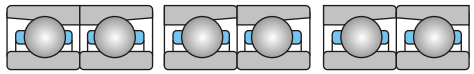
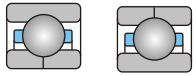
Angular Contact Ball Bearings


263
Angular Contact Ball Bearings


279
Paired Mounting Angular Contact Ball Bearings


293
Four-Point Contact Ball Bearings

Angular Contact Ball Bearing

LYC's angular ball bearings are also called angular contact radial thrust ball bearings. This type of bearing is particularly suitable for carrying combined loads (radial and axial load) as well as pure axial loads and can be operated at relatively high speeds.

The axial load carrying capacity of angular contact ball bearings changes along with dimensions of contact angle. The larger the contact angle, the better the axial load carrying capacity is.

The contact angle α is defined as the angle between the line joining the contact points of the ball and the raceways in the radial plane, along which the load is transmitted from one raceway to another, and a line perpendicular to the bearing axis.

The allowable angle error of a single row contact ball bearing is limited. The angle errors of inner ring and outer ring are dependent on radial clearance, bearing dimension, internal structure, and the force or moment acting on bearings. The relationship of those factors is so complicated that an accurate value can't be provided at present.

When the clearance of paired mounting angular contact ball bearings (or double-row angular contact ball bearing), especially of those arranged back to back, is respectively small, once angular errors are made between the inner ring and outer ring, balls and cages would carry more additional load, and the bearing life would also be shortened. Any angular error would cause noise.

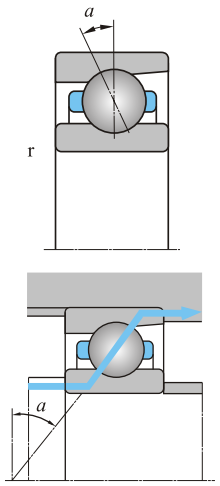


Fig. 1

Single Row Angular Contact Ball Bearings Single Mounting

When single row angular contact ball bearings can carry pure radial loads only, an axial thrust load caused by the radial load imposed on the bearing must be counteracted by an equal force. Two single row angular contact ball bearings are usually mounted face to face (See Fig.2).

The single row angular contact ball can only carry axial load in single direction. They are mainly used in the arrangement where there is only one bearing in each support.

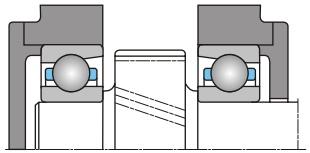


Fig. 2

LYC's standard single row angular contact ball bearings have separated and non-separate designs. Contact angles of separated bearings are 15º, contact angles of non-separated bearings are 15º, 25ºor 40º respectively. Separated angular contact ball bearings can be divided into removable inner ring and removable outer ring according to the internal structures.

Angular contact ball bearing with an angle 40º(see Fig.2) can bear comparably heavy axial loads. The structure of this kind of bearing is non-separated. In order to fill more balls and increase load carrying capacity, the shoulder height of each side of inner ring and outer ring is different.

Paired Mounting

In many situations, single row angular contact ball bearings are supplied to customers in pairs or multi-arrangement.

LYC' s paired mounting angular contact ball bearing arranged in pairs are specially processed. When bearings are installed abutting each other, any kind of arrangement can help to achieve predetermined inner clearance, preload and equally distributed load. No adjustment is need again.

Angular contact ball bearings in pairs are used in these applications when single angular contact ball bearing load carrying capacity is not enough, when carrying axial (radial) combined load, and when carrying axial load in more than two directions.

There are three ways to arrange angular contact ball bearings: in tandem, back to back and face to face.

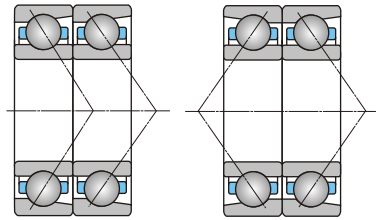


Fig. 3a)

Fig. 3b)

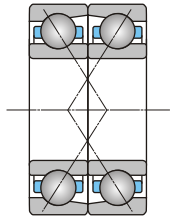


Fig. 3c)

When arranged in tandem, the load lines are in parallel. The radial and axial loads are evenly divided between the bearings. The bearing in tandem are only able to carry axial load in one direction (See Fig.3a).

The load lines of bearings mounted back-to-back diverge at both sides of bearings and intersect with the bearing axis. Axial loads acting in both directions can be carried, but only by one bearing in each direction. Bearings mounted back-to-back provide a relatively stiff arrangement which can also bearing titling moments(See Fig.3b).

The loads lines of bearings mounted face to face are crossed, then they intersect with axis. Face to face arranged bearings could carry the axial load in both directions, but, only by one bearing in each direction. Their rigidity is lower than the bearings mounted back to back, which cannot bear titling moments (See Fig.3c).

Three (Four) Points Contact Ball Bearings

Three (four) points contact ball bearing is a single row angular contact ball bearing with one split inner ring or one split outer ring. It can carry axial load and can limit the axial displacement in both directions. It takes up less axial space than a double-row bearing. The split inner ring permits the incorporation of a large number of balls and, as a consequence the load carrying capacity is high. The bearing is separable, so that the inner ring and the outer ring with ball and cage assembly can be mounted individually.

Double-Row Angular Contact Ball Bearings

The design of double-row angular contact ball bearings is almost the same with that of single row angular contact ball bearing, but, the axial dimension is comparably smaller. Double-ow angular contact ball bearings correspond in function to two single row bearings arranged back-to-back. The double-row bearings can also accommodate axial loads in both directions as well as titling moments.

The double-row angular contact ball bearing has an outer ring and an inner ring (or two inner rings). Angular contact ball bearings with other structures can also be supplied by LYC, e.g. angular contact ball bearing with seals (shields) or snap groove on outer ring, etc. All types can't be listed in this catalogue.If customers need, please consult LYC technical department.

Cage

Cages of angular contact ball bearings supplied by LYC are pressed steel cages, machined solid cages, special glass fiber reinforced polyamide 66 cages, etc. Machined solid cages are mainly made of brass, bronze, various light alloys and phenolic resin. Angular contact ball bearings are used as high speed spindle bearings, cages are usually made of phenolic resin. Cages of different material are identified by suffix. Further details will be found in LYC catalogue "Bearing Material".

Load Carrying Capacity of Bearings Mounted in Pairs

Basic load ratings in the product table are only suitable for mounting single bearing. Basic load ratings for single bearings arranged in pairs can be obtained from

Basic dynamic load ratings:

In tandem: $C_1=2C$

Back to back or face to face or other arrangement: $C_1=1.62C$

Basic static load rating: $C_{02}=2C_0$

- C – Basic dynamic load rating of a single angular contact ball bearing.
- C_1 – Basic dynamic load rating of angular contact ball bearings arranged in tandem, face to face or back to back.
- C_0 – Basic static load rating of a single angular contact ball bearing.
- C_{02} – Basic static load rating of angular contact ball bearings arranged in tandem, face to face or back to back.

The speed of two single bearings mounted in pairs:

The limiting speeds of bearings in product table are only suitable for single bearings. The limiting speed of two single bearings arranged in pairs is 0.8 times that of a single bearing.

Minimum Load

In order to keep bearings working in a good condition, a minimum load must be imposed on bearings, particularly on bearings working at high speeds, high accelerations, or with the load direction changing frequently, because under these working conditions, inertial force of balls and cage and lubricant friction will have bad influence on the rotation of bearings, and detrimental sliding movement may be caused.

The minimum load of a single angular contact ball bearing can be obtained from

$$F_{rmin}=ka\frac{C_o}{1000}\left(\frac{nd_m}{100000}\right)$$

For the bearings arranged face-to-face or back-to-back.

$$F_{amin}=kr\left(\frac{vn}{1000}\right)^{\frac{2}{3}}\left(\frac{d_m}{100}\right)^2$$

where

F_{rmin} — Minimum radial load, N
F_{amin} — Minimum radial load, N
C_o — Static load rating, N
v — Oil viscosity at operating temperature, mm2/s
n — Speed, r/min
d_m — Mean diameter of bearing d_m=0.5(d+D), mm
ka — Minimum axial load factor (see Table 1)
kr — Minimum radial load factor (see Table 1)

Table 1

Bearing Series	ka	kr
72	1. 4	95
73	1. 6	
Qj2	1	100
Qj3	1. 1	

When bearings are started at low ambient temperatures or in the condition that the viscosity of lubricant is very high, a larger minimum load is need. Usually, the weight of bearing supporting parts plus the load on the bearing should be over the minimum load. If the weight can not be up to the minimum load, then extra radial load must be imposed on this type of bearing in order to meet the requirement of minimum load.

For single-row angular contact ball bearing and angular contact ball bearing arranged in tandem, the requirement can be met through adjusting the axial relative position of inner ring and outer ring, or preloading in axial with springs.

Dimension, Tolerance, Clearance

The boundary dimension of the LYC's standard angular contact ball bearing comply with GB/273.3 <Rolling Bearing, Radial Bearing, and Boundary Dimension General Specification >, GB/T292 <Rolling Bearing, Angular Contact Ball Bearing, and Boundary Dimension>, GB/T294 <Rolling Bearing, Three and Four Points Angular Contact Ball Bearing, and Boundary Dimension>, GB/T296 <Rolling Bearing, Double-Row Angular Contact Ball Bearing, and Boundary Dimension>.

The tolerance of the LYC's standard angular contact ball bearing comply with GB/T307.1 <Rolling Bearing, Radial Bearing, and Tolerance>.

The clearance of the LYC's angular contact ball bearing is controlled by LYC's internal standards.

The dimensional tolerance of the LYC's standard angular contact ball bearing is the normal grade P0. If customers have other special requirements on dimension, tolerance, and clearance, then LYC have the ability to supply the corresponding products, including non-standard products.

Equivalent Dynamic Load

Depending on different structures and contact angels, the equivalent dynamic loads of angular contact ball bearings can be obtained from Table 2.

Contact Angles or Structures	Arrangement Mode	Equivalent Dynamic Load
15°	single bearings arranged in tandem	Fa/Fr≤e P=Fr Fa/Fr>e P=0.44Fr+YFa
	back-to-back arrangement face-to-face arrangement	Fa/Fr≤e P=Fr+Y_1Fa Fa/Fr>e P=0.72Fr+Y_2Fa
25°	single bearings arranged in tandem	Fa/Fr≤0.68 P=Fr Fa/Fr>0.68 P=0.41Fr+0.87Fa
	back-to-back arrangement face-to-face arrangement	Fa/Fr≤0.68 P=Fr+0.92Fa Fa/Fr>0.68 P=0.67Fr+1.41Fa
40°	single bearings arranged in tandem	Fa/Fr≤1.14 P=Fr Fa/Fr>1.14 P=0.35Fr+0.57Fa
	back-to-back arrangement face-to-face arrangement	Fa/Fr≤1.14 P=Fr+0.55Fa Fa/Fr>1.14 P=0.55Fr+0.93Fa
Four-Point Contact Ball Bearing		Fa/Fr≤0.95 P=Fr+0.66Fa Fa/Fr>0.95 P=0.6Fr+1.07Fa
Double-Row Angular Contact Ball Bearing		Fa/Fr≤0.8 P=Fr+0.78Fa Fa/Fr>0.8 P=0.63Fr+1.24Fa

Values of e, Y, Y_1, Y_2 in the above table should be chosen from Table 3.

Table 3

Fa/C_0	e	Y	Y_1	Y_2
0.015	0.38	1.47	1.65	2.39
0.029	0.4	1.4	1.57	2.28
0.058	0.43	1.3	1.46	2.11
0.087	0.46	1.23	1.38	2
0.12	0.47	1.19	1.34	1.93
0.17	0.5	1.12	1.26	1.82
0.29	0.55	1.02	1.14	1.66
0.44	0.56	1	1.12	1.63
0.58	0.56	1	1.12	1.63

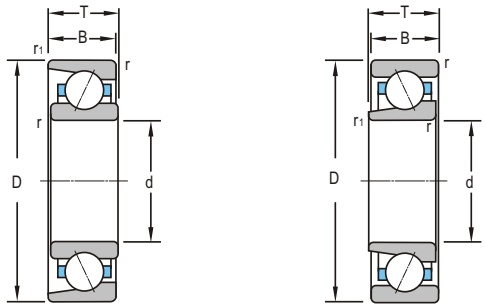
Note: C_0 is the basic static load rating for a single bearing.

Equivalent Static Load

Depending on different structures and contact angles, the equivalent static loads of angular contact ball bearings can be obtained from Table 4.

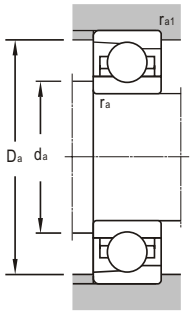
Table 4

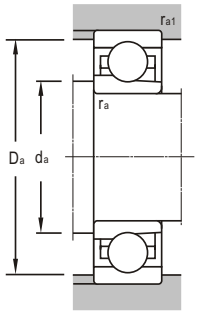
Contact Angles or Structures	Arrangement Mode	Equivalent Static Load
15°	single bearings arranged in tandem	normal P_0=0.5Fr+0.46Fa P_0>Fr P_0=Fr
	back-to-back arrangement face-to-face arrangement	P_0=Fr+0.92Fa
25°	single bearing arranged in tandem	normal P_0=0.5Fr+0.38Fa P_0<Fr P_0=Fr
	back-to-back arrangement face-to-face arrangement	P_0=Fr+0.76Fa
40°	single bearings arranged in tandem	normal P_0=0.5Fr+0.26Fa P_0<Fr P_0=Fr
	back-to-back arrangement face-to-face arrangement	P_0=Fr+0.52Fa
Four-Point Contact Ball Bearing		P_0=Fr+0.58Fa
Double-Row Angular Contact Ball Bearing		P_0=Fr+0.66Fa



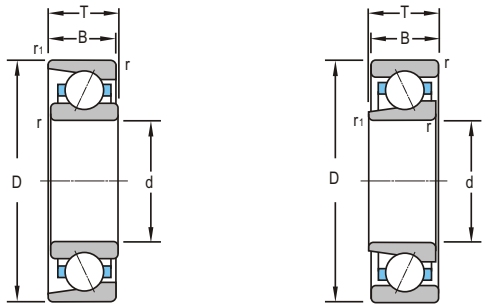
d 5～25mm

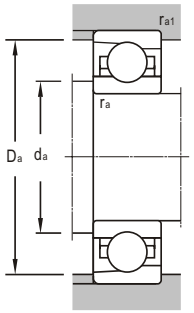
Boundary Dimensions							Basic Load Ratings		Limiting Speeds	
							Dynamic	Static	Grease	Oil
d	*D*	*B*	T_{max}	T_{min}	r_{min}	r_{1min}	*C*	C_0		
mm							kN		r/min	
5	37	18.23	18.23	18.03	0.3	0.15	6.61	4.05		
10	26	8	8	7.8	0.3	0.15	4.92	2.21	19000	28000
	26	8	8	7.8	0.3	0.15	4.75	2.14	19000	28000
	30	9	9	8.8	0.6	0.15	5.81	2.93	18000	26000
	30	9	9	8.8	0.6	0.15	5.59	2.85	18000	26000
12	28	8	8	7.7	0.3	0.15	5.41	2.6	18000	26000
	28	8	8	7.7	0.3	0.15	5.21	2.53	18000	26000
	28	8	8	7.7	0.3	0.2	5.41	2.6	18000	26000
	32	10	10	9.7	0.6	0.15	7.33	3.43	17000	24000
	32	10	10	9.7	0.6	0.15	7.09	3.33	17000	24000
15	32	9	9	8.7	0.3	0.15	6.24	3.39	17000	24000
	32	9	9	8.7	0.3	0.15	5.97	3.24	17000	24000
	32	9	9	8.7	0.3	0.2	6.24	3.39	16000	22000
	35	11	11	10.7	0.6	0.15	8.68	4.57	16000	22000
	35	11	11	10.7	0.6	0.15	8.35	4.39	16000	22000
17	35	10	10	9.7	0.3	0.15	6.61	3.81	16000	22000
	35	10	10	9.7	0.3	0.15	8.23	4.53	16000	22000
	35	10	10	9.7	0.3	0.15	6.3	3.65	16000	22000
	35	10	10	9.7	0.3	0.2	6.61	3.81	16000	22000
	40	12	12	11.7	0.6	0.3	10.8	6.13	15000	20000
	40	12	12	11.7	0.6	0.3	10.5	5.65	15000	20000
	40	12	12	11.7	0.6	0.3	10.8	6.13	15000	20000
20	42	12	12	11.7	0.6	0.15	10.5	6.02	14000	19000
	42	12	12	11.7	0.6	0.15	10	5.74	14000	19000
	42	12	12	11.7	0.6	0.2	10.5	6.02	14000	19000
	47	14	14	13.7	1	0.3	15.5	8.91	13000	18000
	47	14	14	13.7	1	0.3	15	8.54	13000	18000
	47	14	14	13.7	1	0.3	14.1	7.81	13000	18000
	47	14	14	13.9	1	0.6	11.7	22.6	12000	16000
	52	15	15	14.6	1.1	0.6	16.2	8.71	12000	17000
25	47	12	12	11.7	0.6	0.15	12.9	8.58	12000	17000
	47	12	12	11.7	0.6	0.15	11.1	7.08	12000	17000
	47	12	12	11.7	0.6	0.2	12.9	8.58	12000	17000
	52	15	15	14.7	1	0.3	16.6	9.18	11000	16000
	52	15	15	14.7	1	0.3	15.9	9.81	11000	16000

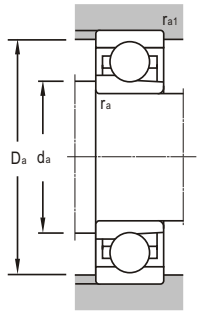




Bearing Designations		Mounting Dimensions				Mass
Present	Original	d_a	D_a	r_a	r_{a1}	
		mm				kg
71904AC/P4YA			31	0.3	0.15	0.0879
7000C	36100	12.4	23.6	0.3	0.15	0.018
7000AC	46100	12.4	23.6	0.3	0.15	0.018
7200C	36200	15	25	0.6	0.15	0.03
7200AC	46200	15	25	0.6	0.15	0.03
7001C	36101	14.4	25.6	0.3	0.15	0.02
7001AC	46101	14.4	25.6	0.3	0.15	0.02
B7001C	136101	14.4	25.6	0.3	0.2	0.0205
7201C	36201	17	27	0.6	0.15	0.035
7201AC	46201	17	27	0.6	0.15	0.035
7002C	36102	17.4	29.6	0.3	0.15	0.028
7002AC	46102	17.4	29.6	0.3	0.15	0.028
B7002C	136102	17.4	29.6	0.3	0.2	0.0296
7202C	36202	20	30	0.6	0.15	0.043
7202AC	46202	20	30	0.6	0.15	0.043
7003C	36103	19.4	32.6	0.3	0.15	0.036
SN7003	106103	19.4	32.6	0.3	0.15	0.0452
7003AC	46103	19.4	32.6	0.3	0.15	0.036
B7003C	136103	19.4	32.6	0.3	0.2	0.0402
7203C	36203	22	35	0.6	0.3	0.0636
7203AC	46203	22	35	0.6	0.3	0.0636
B7203C	136203	22	35	0.6	0.3	0.0537
7004C	36104	25	37	0.6	0.15	0.064
7004AC	46104	25	37	0.6	0.15	0.064
B7004C	136104	25	37	0.6	0.2	0.0712
7204C	36204	26	42	1	0.3	0.1
7204AC	46204	26	42	1	0.3	0.1
7204B	66204	26	42	1	0.3	0.11
760204 TN1/P4		26	44	1	0.6	0.177
7304B	66304	27	47	1	0.6	0.177
7005C	36105	30	42	0.6	0.15	0.074
7005AC	46105	30	42	0.6	0.15	0.074
B7005C	136105	30	42	0.6	0.2	0.077
7205C	36205	36	46	1	0.3	0.122
7205AC	46205	36	46	1	0.3	0.122



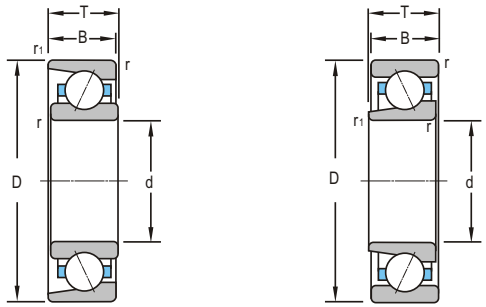


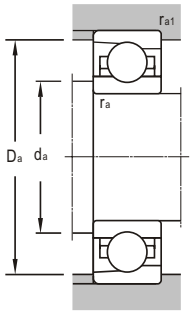


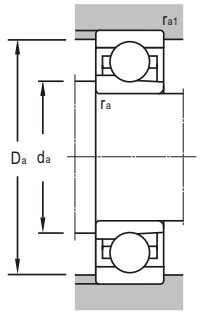
d 25～45mm

Boundary Dimensions							Basic Load Ratings		Limiting Speeds	
							Dynamic	Static	Grease	Oil
d	*D*	*B*	T_{max}	T_{min}	r_{min}	r_{1min}	*C*	C_0		
mm							kN		r/min	
25	52	15	15	14.7	1	0.3	15.8	9.37	11000	16000
	62	15	15	14.9	1	0.6	9.3	6.7	8000	12000
	62	17	17	16.6	1.1	0.6	29.9	17.2	9500	14000
	62	17	17	16.6	1.1	0.6	28.9	16.7	9500	14000
30	55	13	13	12.7	1	0.3	15.1	10.3	9500	14000
	55	13	13	12.7	1	0.3	14.4	9.83	9500	14000
	55	13	13	12.7	1	0.3	15.1	10.3	9500	14000
	62	16	16	15.7	1	0.3	23	14.7	9000	13000
	62	16	16	15.7	1	0.3	22.1	14.1	9000	13000
	62	16	16	15.7	1	0.3	21.9	12.5	9000	13000
	62	16	16	15.7	1	0.3	23	14.7	9500	14000
	72	19	19	18.6	1.1	0.6	35.9	22.3	8500	12000
	72	19	19	18.6	1.1	0.6	34.6	21.4	8500	12000
	72	19	19	18.6	1.1	0.6	31.1	19.3	8500	12000
35	62	14	14	13.7	1	0.3	16.3	12.1	8500	12000
	62	14	14	13.7	1	0.3	15.5	11.5	8500	12000
	62	14	14	13.7	1	0.3	16.3	12.1	8500	12000
	72	17	17	16.7	1.1	0.6	32.1	22	8000	11000
	72	17	17	16.7	1.1	0.6	30.7	20.7	9000	12000
	72	17	17	16.7	1.1	0.6	27.1	18.4	8000	11000
	80	21	21	20.6	1.5	0.6	44.1	28	7500	10000
	80	21	21	20.6	1.5	0.6	42.5	27	7500	10000
	80	21	21	20.6	1.5	0.6	38.1	24.2	7500	10000
	100	25	25	24.6	1.5	0.6	70	42.2	6300	8500
40	62	21.1	21.1	20.9	0.6	0.3	13.7	11.1	9000	12000
	68	15	15	14.7	1	0.3	20.1	15.2	8000	11000
	68	15	15	14.7	1	0.3	19	14.4	8000	11000
	68	15	15	14.7	1	0.3	18.4	14.3	8000	11000
	80	18	18	17.7	1.1	0.6	36.9	25.6	7500	10000
	80	18	18	17.7	1.1	0.6	35.2	24.4	7500	10000
	80	18	18	17.7	1.1	0.6	32.6	23.4	7500	10000
	90	23	23	22.6	1.5	0.6	53.8	35	6700	9000
	90	23	23	22.6	1.5	0.6	51.8	33.8	6700	9000
	90	23	23	22.6	1.5	0.6	46.4	30.3	6700	9000
	110	27	27	26.6	2	1	73.6	49.7	6000	8000
	110	27	27	26.6	2	1	57.2	45.3	6000	8000
45	75	16	16	15.7	1	0.3	25.9	20.4	7500	10000

Bearing Designations		Mounting Dimensions				Mass
Present	Original	d_a	D_a	r_a	r_{a1}	
		mm				kg
7205B	66205	36	46	1	0.3	0.13
760305 X2TN1/P4		31	56	1	0.6	0.236
7305C	36305	37	57	1	0.6	0.23
7305AC	46305	37	57	1	0.6	0.23
7006C	36106	36	49	1	0.3	0.11
7006AC	46106	36	49	1	0.3	0.11
B7006C	136106	36	49	1	0.3	0.117
7206C	36206	36	56	1	0.3	0.198
7206AC	46206	36	56	1	0.3	0.198
7206B	66206	36	56	1	0.3	0.21
B7206C	136206	36	56	1	0.3	0.2
7306C	36306	37	65	1	0.6	0.35
7306AC	46306	37	65	1	0.6	0.35
7306B	66306	37	65	1	0.6	0.37
7007C	36107	41	56	1	0.3	0.15
7007AC	46107	41	56	1	0.3	0.15
B7007C	136107	41	56	1	0.3	0.144
7207C	36207	42	65	1.1	0.6	0.305
7207AC	46207	42	65	1.1	0.6	0.305
7207B	66207	42	65	1.1	0.6	0.3
7307C	36307	44	71	1.5	0.6	0.47
7307AC	46307	44	71	1.5	0.6	0.47
7307B	66307	44	7	1.5	0.6	0.51
7407AC	46407	44	91	1.5	0.6	0.933
71908AC/P4YA		46	66	0.6	0.3	0.17
7008C	36108	46	62	1	0.3	0.18
7008AC	46108	46		1	0.3	0.18
B7008C	136108	46		1	0.3	0.208
7208C	36208	47	73	1	0.6	0.369
7208AC	46208	47	73	1	0.6	0.369
7208B	66208	47	73	1	0.6	0.39
7308C	36308	49	81	1.5	0.6	0.673
7308AC	46308	49	81	1.5	0.6	0.629
7308B	66308	49	81	1.5	0.6	0.67
7408AC	46408	50	100	2	1	1.41
7408B	66408	50	100	2	1	1.4
7009C	36109	51	69	1	0.3	0.23



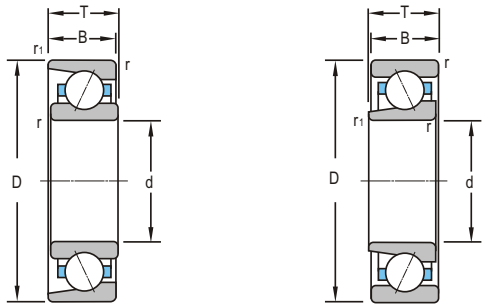


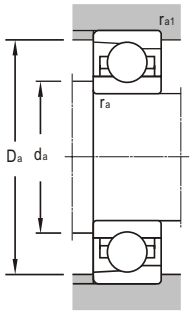


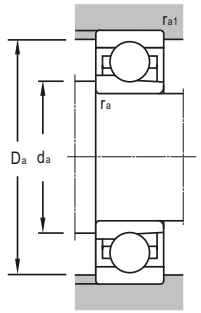
d 45～60mm

Boundary Dimensions							Basic Load Ratings		Limiting Speeds	
							Dynamic	Static	Grease	Oil
d	*D*	*B*	T_{max}	T_{min}	r_{min}	r_{1min}	*C*	C_0		
mm							kN		r/min	
45	75	16	16	15.7	1	0.3	24.5	19.3	7500	10000
	75	16	16	15.7	1	0.3	25.9	20.4	7500	10000
	85	19	19	18.7	1.1	0.6	38.6	29	12000	17000
	85	19	19	18.7	1.1	0.6	36.9	27.1	6700	9000
	85	19	19	18.7	1.1	0.6	36	26.3	6700	9000
	100	25	25	24.6	1.5	0.6	66.8	45.8	6000	8000
	100	25	25	24.6	1.5	0.6	66.4	44	6000	8000
	100	25	25	24.6	1.5	0.6	59.7	39.7	6000	8000
	120	29	29	28.6	2	1	87	55	5300	7000
50	80	16	16	15.7	1	0.3	26.6	21.9	6700	9000
	80	16	16	15.7	1	0.3	25.2	21.4	6700	9000
	80	16	16	15.7	1	0.3	26.6	21.9	6700	9000
	90	20	20	19.7	1.1	0.6	42.8	32	7600	10000
	90	20	20	19.7	1.1	0.6	40.8	30.3	6300	8500
	90	20	20	19.7	1.1	0.6	37.4	29	6300	8500
	110	27	27	26.6	2	1	79.5	55.9	7000	8700
	110	27	27	26.6	2	1	76.5	53.8	5600	7500
	110	27	27	26.6	2	1	68.2	48	5600	7500
55	90	18	18	17.7	1.1	0.6	37.2	28.6	6000	8000
	90	18	18	17.7	1.1	0.6	35.2	27.2	1000	12000
	100	21	21	20.6	1.5	0.6	53	40	8000	10000
	100	21	21	20.6	1.5	0.6	50.5	38.2	7100	10000
	100	21	21	20.6	1.5	0.6	46.3	36.1	5600	7500
	120	29	29	28.5	2	1	91.8	65.6	7000	8700
	120	29	29	28.5	2	1	88.3	63.2	5000	6700
	120	29	29	28.5	2	1	78.7	56.4	5000	6700
	120	29	29	28.5	2	2	127	108	7000	8700
60	95	18	18	17.7	1.1	0.6	38.2	32.6	5600	7500
	95	18	18	17.7	1.1	0.6	36.2	31.6	5600	7500
	110	22	22	21.6	1.5	0.6	61	48.3	5300	7000
	110	22	22	21.6	1.5	0.6	58.2	46	5300	7000
	110	22	22	21.6	1.5	0.6	56.1	44.4	5300	7000
	130	31	31	30.5	2.1	1.1	105	76.3	4800	6300
	130	31	31	30.5	2.1	1.1	101	73.4	4800	6300
	130	31	31	30.5	2.1	1.1	101	73.5	4800	6300
	130	31	31	30.5	2.1	1.1	90	65.5	4800	6300
	150	35	35	34.4	2.1	1.1	132	95.3	4300	5600
	150	35	35	34.4	2.1	1.1	118	86.3	4300	5600

Bearing Designations		Mounting Dimensions				Mass
Present	Original	d_a	D_a	r_a	r_{a1}	
		mm				kg
7009AC	46109	51	69	1	0.3	0.23
B7009C	136109	51	69	1	0.3	0.238
7209C	36209	52	78	1	0.6	0.407
7209AC	46209	52	78	1	0.6	0.41
7209B	66209	52	78	1	0.6	0.44
7309C	36309	54	91	1.5	0.6	0.86
7309AC	46309	54	91	1.5	0.6	0.86
7309B	66309	54	91	1.5	0.6	0.9
7409AC	46409	55	110	2	1	1.77
7010C	36110	56	74	1	0.3	0.25
7010AC	46110	56	74	1	0.3	0.257
B7010C	136110	56	74	1	0.3	0.26
7210C	36210	57	83	1	0.6	0.454
7210AC	46210	57	83	1	0.6	0.46
7210B	66210	57	83	1	0.6	0.49
7310C	36310	60	100	2	1	1.08
7310AC	46310	60	100	2	1	1.32
7310B	66310	60	100	2	1	1.15
7011C	36111	62	83	1	0.6	0.38
7011AC	46111	62	83	1	0.6	0.381
7211C	36211	64	91	1.5	0.6	0.61
7211AC	46211	64	91	1.5	0.6	0.61
7211B	66211	64	91	1.5	0.6	0.65
7311C	36311	65	110	2	1	1.71
7311AC	46311	65	110	2	1	1.42
7311B	66311	65	110	2	1	1.45
QJ311M		65	110	2	2	1.73
7012C	36112	67	88	1	0.6	0.4
7012AC	46112	67	88	1	0.6	0.4
7212C	36212	69	101	1.5	0.6	0.8
7212AC	46212	69	101	1.5	0.6	0.8
7212B	66212	69	101	1.5	0.6	0.84
7312C	36312	72	118	2.1	1	1.7
7312AC	46312	72	118	2.1	1	2.06
7312ACJ		72	118	2.1	1.1	1.77
7312B	66312	72	118	2.1	1	1.85
7412AC	46412	72	118	2.1	1	3.55
7412B	66412	72	118	2.1	1	3.56



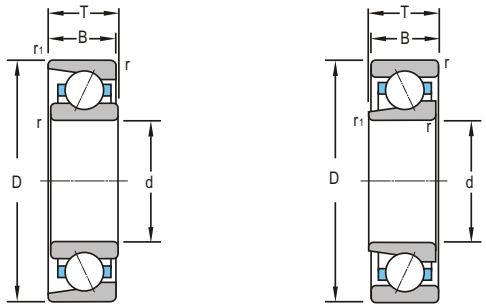


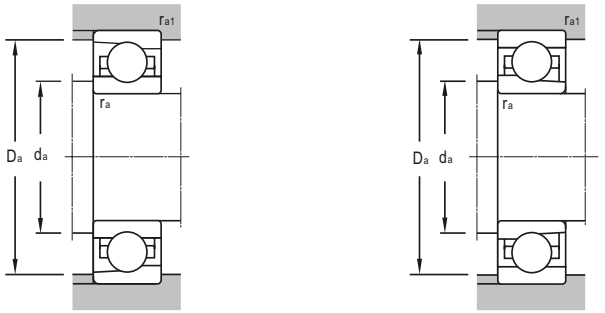


d 65～80mm

Boundary Dimensions							Basic Load Ratings		Limiting Speeds	
							Dynamic	Static	Grease	Oil
d	*D*	*B*	T_{max}	T_{min}	r_{min}	r_{1min}	*C*	C_0		
mm							kN		r/min	
65	100	18	18	17.7	1.1	0.6	40.1	35.4	5300	7000
	100	18	18	17.7	1.1	0.6	38	34.1	5300	7000
	120	23	23	22.6	1.5	0.6	70	54.8	4800	6300
	120	23	23	22.6	1.5	0.6	66.6	52.3	4800	6300
	120	23	23	22.6	1.5	0.6	63.4	46	4800	6300
	140	33	33	32.5	2.1	1.1	121	88.9	4300	5600
	140	33	33	32.5	2.1	1.1	116	85.5	4300	5600
	140	33	33	32.5	2.1	1.1	103	76.3	4300	5600
		23	23	22.6			66.6	52.3	4800	6300
70	110	20	20	19.7	1.1	0.6	48.3	43.2	500	6700
	110	20	20	19.7	1.1	0.6	45.7	42.7	5000	6700
	110	20	20	19.7	1.1	0.7	45.7	42.7	5000	6700
	125	24	24	23.6	1.5	0.6	72.9	65	4500	6200
	125	24	24	23.6	1.5	0.6	75.8	62	4500	6200
	125	24	24	23.6	1.5	0.6	61.6	54	4500	6200
	150	35	35	34.5	2.1	1.1	134	100	4000	5300
	150	35	35	34.5	2.1	1.1	129	96.3	4000	5300
	150	35	35	34.5	2.1	1.1	114	86	4000	5300
	180	42	42	41.4	3	1.1	150	131	3600	4800
75	115	20	20	19.7	1.1	0.6	49.5	48	4800	6300
	115	20	20	19.7	1.1	0.6	46.8	45.5	4800	6300
	130	25	25	24.6	1.5	0.6	79.2	63.7	4300	5600
	130	25	25	24.6	1.5	0.6	78.8	67	4300	5600
	130	25	25	24.6	1.5	0.6	72.8	61.6	4300	5600
	160	37	37	36.5	2.1	1.1	145	113	3800	5000
	160	37	37	36.5	2.1	1.1	139	109	3800	5000
	160	37	37	36.5	2.1	1.1	124	97.2	3800	5000
80	125	22	22	21.7	1.1	0.6	58.5	56.8	4500	6000
	125	22	22	21.7	1.1	0.6	55.4	55.1	4500	6000
	140	26	26	25.6	2	1	92.8	83	4000	5300
	140	26	26	25.6	2	1	88.4	79	4000	5300
	140	26	26	25.6	2	1	80.5	69.2	4000	5300
	140	21	26.5		2	1	75.2	64.6	3600	4800
	170	39	39	38.5	2.1	1.1	158	128	3600	4800
	170	39	39	38.5	2.1	1.1	152	122	3600	4800
	170	39	39	38.5	2.1	1.1	135	109	3600	4800
	200	48	48	47.4	3	1.1	182	170	3200	4300

Bearing Designations		Mounting Dimensions				Mass
Present	Original	d_a	D_a	r_a	r_{a1}	
		mm				kg
7013C	36113	72	93	1	0.6	0.43
7013AC	46113	72	93	1	0.6	0.43
7213C	36213	74	111	1.5	0.6	1
7213AC	46213	74	111	1.5	0.6	1
7213B	66213	74	111	1.5	0.6	1.05
7313C	36313	77	118	2.1	1	2.23
7313AC	46313	77	118	2.1	1	2.23
7313B	66313	77	118	2.1	1	2.25
7213ACN2						1.12
7014C	36114	77	103	1	0.6	0.6
7014AC	46114	77	103	1	0.6	0.6
B7014AC	146114	77	103	1	0.7	0.587
7214C	36214	79	114	1.5	0.6	1.1
7214AC	46214	79	114	1.5	0.6	1.1
7214B	66214	79	114	1.5	0.6	1.15
7314C	36314	82	138	2.1	1	2.67
7314AC	46314	82	138	2.1	1	3.06
7314B	66314	82	138	2.1	1	2.75
7414AC	46414	84	166	2.5	1	5.22
7015C	36115	82	108	1	0.6	0.63
7015AC	46115	82	108	1	0.6	0.671
7215C	36215	84	121	1.5	0.6	1.29
7215AC	46215	84	121	1.5	0.6	1.2
7215B	66215	84	121	1.5	0.6	1.3
7315C	36315	87	148	2.1	1.1	3.56
7315AC	46315	87	148	2.1	1.1	3.56
7315B	66315	87	148	2.1	1.1	3.3
7016C	36116	87	118	1	0.6	0.85
7016AC	46116	87	118	1	0.6	0.85
7216C	36216	90	130	2	1	1.45
7216AC	46216	90	130	2	1	1.43
7216B	66216	90	130	2	1	1.55
S7216X2WB1J						1.33
7316C	36316	92	158	2.1	1	3.59
7316AC	46316	92	158	2.1	1	3.59
7316B	66316	92	158	2.1	1	3.9
7416AC	46416	94	186	2.5	1	8.72

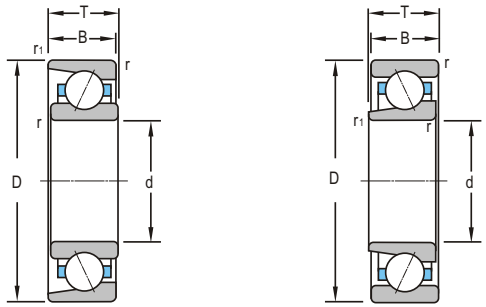


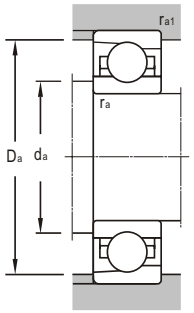


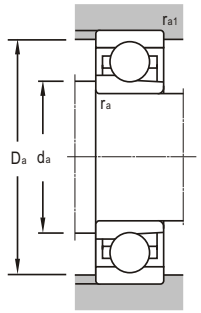
d 85～105mm

Boundary Dimensions							Basic Load Ratings		Limiting Speeds	
							Dynamic	Static	Grease	Oil
d	*D*	*B*	T_{max}	T_{min}	r_{min}	r_{1min}	*C*	C_0		
mm							kN		r/min	
85	130	22	22	21.5	1.1	0.6	62.5	61.7	4300	5600
	130	22	22	21.5	1.1	0.6	59.2	59.2	4300	5600
	150	28	28	27.5	2	1	99.7	90	3800	5000
	150	28	28	27.5	2	1	94.9	86	3800	5000
	150	28	28	27.5	2	1	93.1	81	3800	5000
	180	41	41	40.2	3	1.1	172	141	3400	4500
	180	41	41	40.2	3	1.1	165	137	3400	4500
	180	41	41	40.2	3	1.1	148	122	3400	4500
90	140	24	24	23.5	1.5	0.6	71.4	71.7	4000	5300
	140	24	24	23.5	1.5	0.6	67.6	68.6	4000	5300
	160	30	30	29.5	2	1	123	105	3600	4800
	160	30	30	29.5	2	1	117	100	3600	4800
	160	30	30	29.5	2	1	106	93.8	3600	4800
	160	30	30	29.5	2	1	113	96.8	3600	4800
	190	43	43	42.2	3	1.1	185	160	3200	4300
	190	43	43	42.2	3	1.1	178	154	3200	4300
	190	43	43	42.2	3	1.1	158	137	3200	4300
	225	54	54	53.4	4	1.5	233	214	2600	3600
95	145	24	24	23.5	1.5	0.6	73.6	77.1	3800	5000
	145	24	24	23.5	1.5	0.6	69.5	71	3800	5000
	170	32	32	31.5	2.1	1.1	135	120	3400	4500
	170	32	32	31.5	2.1	1.1	128	114	3400	4500
	170	32	32	31.5	2.1	1.1	121	108	3400	4500
	200	45	45	44.2	3	1.1	201	180	3000	4000
	200	45	45	44.2	3	1.1	193	173	3000	4000
	200	45	45	44.2	3	1.1	172	154	3000	4000
97	120	13.5	13.5	13.2	1	0.3	19	22.1	4000	5200
100	150	24	24	23.5	1.5	0.6	79.4	81.3	3800	5000
	150	24	24	23.5	1.5	0.6	75.1	77	3800	5000
	180	34	34	33.5	2.1	1.1	149	136	3200	4300
	180	34	34	33.5	2.1	1.1	142	130	3200	4300
	180	34	34	33.5	2.1	1.1	130	114	3200	4300
	215	47	47	46.2	3	1.1	222	207	2600	3600
	215	47	47	46.2	3	1.1	214	199	2600	3600
	215	47	47	46.2	3	1.1	190	177	2600	3600
105	160	26			2	2	124	156		

Bearing Designations		Mounting Dimensions				Mass
Present	Original	d_a	D_a	r_a	r_{a1}	
		mm				kg
7017C	36117	92	123	1	0.6	0.89
7017AC	46117	92	123	1	0.6	0.89
7217C	36217	95	140	2	1	1.8
7217AC	46217	95	140	2	1	1.8
7217B	66217	95	140	2	1	1.95
7317C	36317	99	166	2.5	1	4.38
7317AC	46317	99	166	2.5	1	4.38
7317B	66317	99	166	2.5	1	4.6
7018C	36118	99	131	1.5	0.6	1.15
7018AC	46118	99	131	1.5	0.6	1.15
7218C	36218	100	150	2	1	2.18
7218AC	46218	100	150	2	1	2.19
7218B	66218	100	150	2	1	2.4
7218AC/YB		100	150	2	1	2.71
7318C	36318	104	176	2.5	1	4.87
7318AC	46318	104	176	2.5	1	5.06
7318B	66318	104	176	2.5	1	5.4
7418AC	46418	108	207	3	1.5	12.2
7019C	36119	104	136	1.5	0.6	1.2
7019AC	46119	104	136	1.5	0.6	1.2
7219C	36219	107	158	2.1	1	2.7
7219AC	46219	107	158	2.1	1	2.7
7219B	66219	107	158	2.1	1	2.9
7319C	36319	109	186	2.5	1	5.98
7319AC	46319	109	186	2.5	1	5.98
7319B	66319	109	186	2.5	1	6.25
LY-7040		104	114	1	0.3	0.278
7020C	36120	109	141	1.5	0.6	1.25
7020AC	46120	109	141	1.5	0.6	1.25
7220C	36220	112	168	2.1	1	3.28
7220AC	46220	112	168	2.1	1	3.25
7220B	66220	112	168	2.1	1	3.45
7320C	36320	114	201	2.5	1	7.2
7320AC	46320	114	201	2.5	1	8.47
7320B	66320	114	201	2.5	1	7.75
QJ 1021 MA/P5 YB		115	150	2	2	2.01



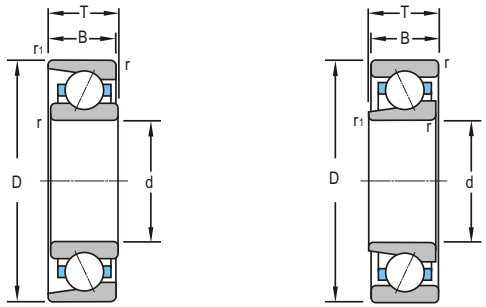


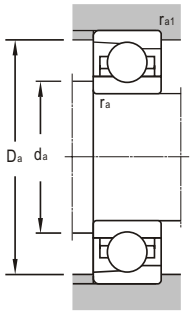


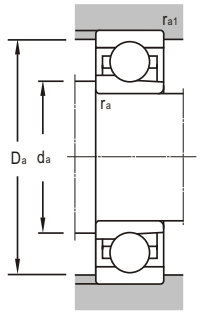
d 110～270mm

Boundary Dimensions							Basic Load Ratings		Limiting Speeds	
							Dynamic	Static	Grease	Oil
d	*D*	*B*	T_{max}	T_{min}	r_{min}	r_{1min}	*C*	C_0		
mm							kN		r/min	
110	170	28	28	27.5	2	1	104	104	2800	3800
	200	38	38	37.5	2.1	1.1	176	171	2800	3800
	200	38	38	37.5	2.1	1.1	176	164	2800	3800
	200	38	38	37.5	2.1	1.1	165	161	2800	3800
	240	50	50	49.2	3	1.1	253	252	2200	3200
	240	50	50	49.2	3	1.1	226	225	2200	3200
120	165	22	22	21.5	1.1	0.6	51.2	52.2	2200	3200
	215	40	40	39.5	2.1	1.1	190	179	2400	3400
	215	40	40	39.5	2.1	1.1	181	184	2400	3400
	215	40	40	39.5	2.1	1.1	193	262	2400	3400
	260	55	55	54.2	3	1.1	279	288	2200	3200
	260	55	55	54.2	3	1.1	268	277	2200	3200
130	230	40	40	39.5	2.1	1.1	180	200	2500	3200
140	210	33	33	32.5	2	1	140	150	2600	3300
	300	62	62	61.2	4	1.5	290	334	2000	2500
150	320	65	65	64.2	4	1.5	340	429	2000	2800
159	191	16.5	16.5	16.2	1.1	0.6	42.6	59.8	1800	3000
160	290	48	48	47.2	3	1.1	256	295	1600	2200
	290	48			3	3	391	550		
180	320	52	52	51.2	4	1.5	302	399	1500	2000
185	215	15	15	14.5	1.1	0.3	25.8	40.3	2000	3000
190	260	33	33	32.5	2	1.1	139	177	1800	2200
220	400	65	65	64.2	4	1.5	358	605	1100	1600
	300	38	38	37.5	2.1	1.1	143	201	1500	2000
240	500	95	95	94	5	2	515	801	800	1100
260	360	46	46	45.2	2.1	1.1	212	302	1300	1600
	320	28	28	27.5	2	1	104	166	1400	1900
270	330	30	30	29.5	2.1	1.1	90.8	114	1300	1700

Bearing Designations		Mounting Dimensions				Mass
Present	Original	d_a	D_a	r_a	r_{a1}	
		mm				kg
7022AC	46122	120	160	2	1	2.46
7222C	36222	122	188	2.1	1	4.55
7222AC	46222	122	188	2.1	1	4.55
7222B	66222	122	188	2.1	1	4.8
7322AC	46322	124	226	2.5	1	10.7
7322B	66322	124	226	2.5	1	10.7
71924C	1036924	127	158	1	0.6	1.51
7224C	36224	132	203	2.1	1	5.4
7224AC	46224	132	203	2.1	1	5.4
7224B	66224	132	203	2.1	1	6.13
7324C	36324	134	246	2.5	1	14.8
7324AC	46324	134	246	2.5	1	14.8
7226AC	46226	142	218	2.1	1.1	7.46
7028AC	46128	150	200	2	1	3.77
7328B	66328	158	282	3	1.5	23
7330AC	46330	168	302	3	1.5	27
LY-7041		168	182	1.1	0.6	0.749
7232AC		174	276	2.5	1	14.6
QJ232N2MA/C3		174	276	2.5	2.5	15
7236AC		198	302	3	1.5	18.9
LY-7049		199	209	1.1	0.3	0.941
71938AC	1046938	180	250	2	1	4.45
7244AC	46244	238	382	3	1.5	38.5
71944C		232	288	2.1	1	7.35
7348B		262	478	4	2	
71952B	1066952	272	348	2.1	1	14.3
71852C		270	310	2	1	4.78
7654B	66754	282	318	2.1	1	5.75



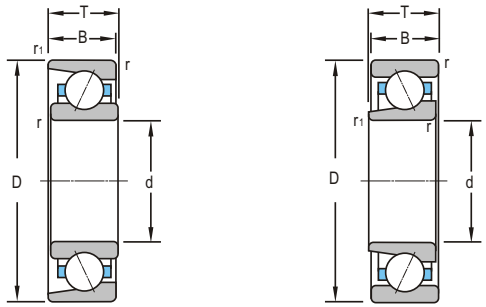


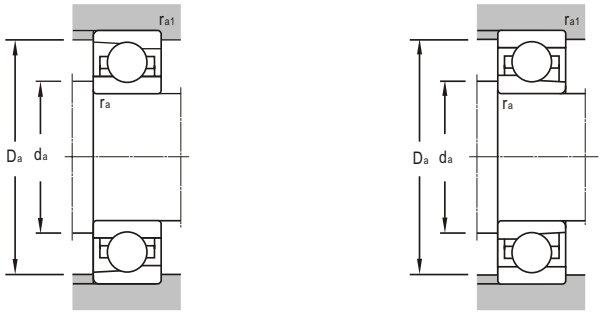


d 300～1000mm

Boundary Dimensions							Basic Load Ratings		Limiting Speeds	
							Dynamic	Static	Grease	Oil
d	*D*	*B*	T_{max}	T_{min}	r_{min}	r_{1min}	*C*	C_0		
mm							kN		r/min	
300	540	85	85	84.2	5	3	396	890	800	1000
340	460	56	56	55.2	3	1.1	306	503	800	1000
360	540	82	82	81.6	5	2	488	878	1300	1300
380	440	25	25	24.6	3	1	110	178	960	1200
	520	82	82	81.2	4	1.5	407	733	700	900
	560	82	82		5	5	813	1890	720	950
420	560	65	65	64.2	3	1.1	451	652	600	800
435	485.8	25.4	25.4	25.15	1.5	1.5	46.2	85.2	750	950
460	540	35	35		2.1	1.5	139	272	720	900
	580	56	56		3	2	303	559	670	830
	600	50	50	49	3	1.5	284	522	600	800
	620	74	74	73.2	4	1.5	439	865	550	750
530	710	82	82	81.2	5	2.1	541	1136	500	700
	760	100	100	99	6	3	737	1690	500	700
600	730	60	60	59.5	3	2	425	887	380	500
	730	60	60	59.5	3	1.1	425	887	380	500
622.3	725.487	46	46	44	4.5	2	304	652	400	550
630	850	100	100		6	2.1	855	2100	350	440
670	980	136	136	135	7.5	4	1120	2940	280	400
690	850	74	74		4	1.5	488	1140	370	500
750	920	78			5	2	619	1550	280	400
800	980	82	82		5	3	725	1876	250	300
850	1030	82	82		5	3	562	1473	220	280
	1120	90	90		6	3	854	2380	180	260
1000	1220	50	50		4.5	3	409	1178	120	150

Bearing Designations		Mounting Dimensions				Mass
Present	Original	d_a	D_a	r_a	r_{a1}	
		mm				kg
7260B	66260	322	518	4	2.5	72.9
71968B	1066968	354	446	2.5	1	27.5
7072 ACM		380	520	4	1.5	67.1
7676	6776	394	426	2.5	1	7.1
72976AC	2046976	398	502	3	1.5	48.9
QJ1076N2		419	527	4	4	73.1
71984	1046984K	434	546	2.5	1	52.5
LY-Q064		447	470	1	1	5.77
S7692	6792	472	528	2.1		15
S71892AC	1006892	474	566	2.5		36.4
7692AC	46792	474	586	2.5	1.5	37.9
71992B	1066992	478	602	3	1.5	64.1
719/530AC	10469/530	552	688	4	2.1	88.8
LY-7009		558	732	5	2.5	
SN718/600	11068/600	614	716	2.5		60.7
S718/600C		614	716	2.5		60.7
76/662.3RWB1	6169/622	644	702	4		29.58
719/630AC	10469/630	658	822	5	2.1	161
70/670ACM/P5		720	930	6	3	348
LY-7038		724	832	2.5	1.5	88.7
718/750AMB/P6		794	902	4	1.5	113
SN718/800	11068/800	822	958	4		132
SN718/850	11068/850	872	1008	4		146
719/850X2AMB/DT		878	1106	5	2.5	247
SN708/1000X2	1068/1000	1022	1198	4		140

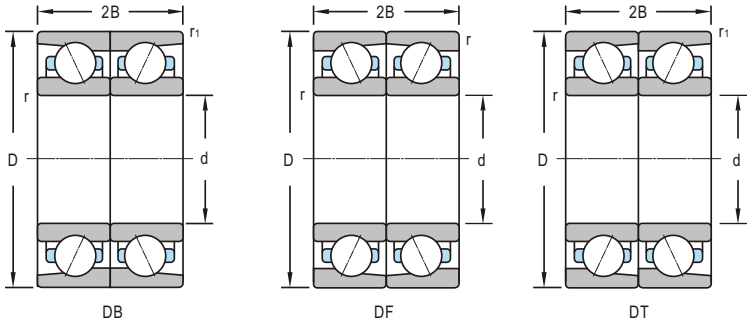


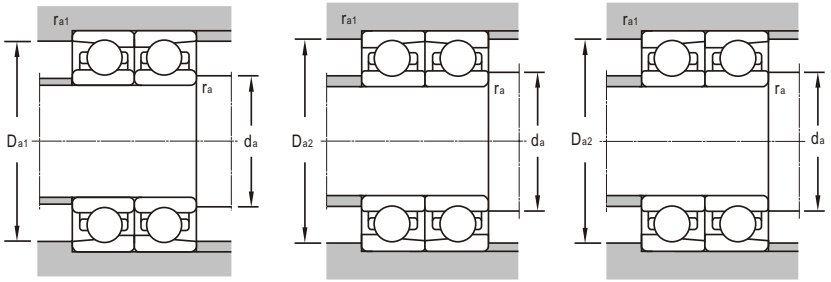


d 1000～1250mm

Boundary Dimensions							Basic Load Ratings		Limiting Speeds	
							Dynamic	Static	Grease	Oil
d	*D*	*B*	T_{max}	T_{min}	r_{min}	r_{1min}	*C*	C_0		
mm							kN		r/min	
1000	1220	50	50		4	2.1	409	1178	120	150
1060	1500	195			9.5	9.5	1386	4575	320	340
1180	1420	106	106		6	4	1100	3560	86	107
	1420	106	106		6	2.5	1100	3560	110	140
1250	1750	218			9.5	9.5	1751	6326	70	90

Bearing Designations		Mounting Dimensions				Mass
Present	Original	d_a	D_a	r_a	r_{a1}	
		mm				kg
78/1000X2AC	468/1000	1018	1202	3	2.1	155
SN 70/1060MA YA		1099	1461	8	8	1108
SN718/1180	11068/1180	1208	1392	5		332
S718/1180	10068/1180	1208	1392	5		307
70/1250 BMB		1299	1711	8	8	1690

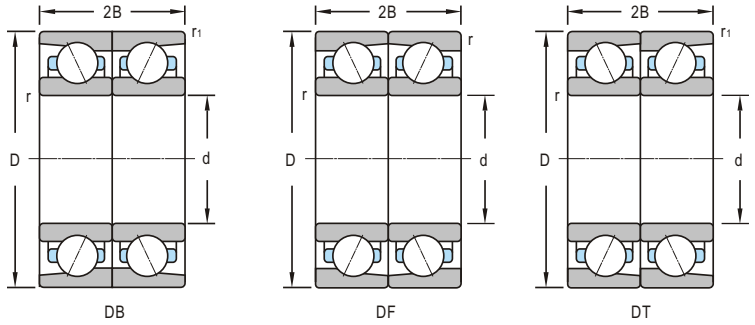


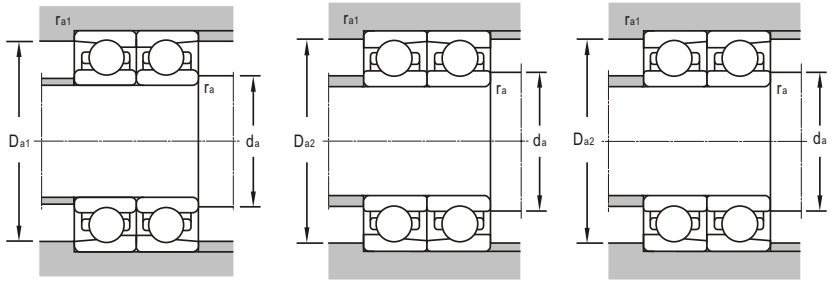


d 10～30mm

Boundary Dimensions					Basic Load Ratings		Limiting Speeds	
					Dynamic	Static	Grease	Oil
d	D	2B	r_{min}	r_{1min}	C	C_0		
mm					kN		r/min	
10	26	16	0.3	0.15	7.99	4.42	14000	20000
	26	16	0.3	0.15	7.72	4.28	14000	20000
	30	18	0.6	0.15	9.44	5.86	13000	18000
	30	18	0.6	0.15	9.08	5.7	13000	18000
12	28	16	0.3	0.15	8.8	5.28	13000	18000
	28	16	0.3	0.15	8.46	5.06	13000	18000
	32	20	0.6	0.15	11.9	6.86	12000	17000
	32	20	0.6	0.15	11.5	6.66	12000	17000
15	32	18	0.3	0.15	10.1	6.78	12000	17000
	32	18	0.3	0.15	9.7	6.48	12000	17000
	35	22	0.6	0.15	14.1	9.14	11000	15000
	35	22	0.6	0.15	13.6	8.78	11000	15000
17	35	20	0.3	0.15	10.7	7.62	11000	15000
	35	20	0.3	0.15	10.2	7.3	11000	15000
	40	24	0.6	0.3	17.5	12.3	10000	14000
	40	24	0.6	0.3	17.1	11.3	10000	14000
20	42	24	0.6	0.15	17.1	12	9500	13000
	42	24	0.6	0.15	16.2	11.5	9500	13000
	47	28	1	0.3	25.2	17.8	9000	12000
	47	28	1	0.3	24.4	17.1	9000	12000
	47	28	1	0.3	22.9	15.6	9000	12000
	47	28	1	0.6	19	45.2	8500	11000
	47	28	1	0.6	19	45.2	8500	11000
25	47	24	0.6	0.15	21	17.2	9000	12000
	47	24	0.6	0.15	18	14.2	9000	12000
	52	30	1	0.3	24	18.4	8000	11000
	52	30	1	0.3	25.8	19.6	8000	11000
	52	30	1	0.3	25.7	18.7	8000	11000
	62	34	1.1	0.6	48.6	34.4	6700	10000
	62	34	1.1	0.6	46.9	33.4	6700	10000
	62	34	1.1	0.6	42.6	30.2	6700	10000
30	62	48(3B)	1.1	1	36.9	110.7	6700	10000
	55	26	1	0.3	24.5	20.6	6700	10000
	55	26	1	0.3	23.4	19.7	6700	10000
	62	32	1	0.3	37.4	29.4	6300	9500

Bearing Designations						Mounting Dimensions					Mass
Present			Original								
tandem	back-to-back	face-to-face	tandem	back-to-back	face-to-face	d_a	D_{a1}	D_{a2}	r_a	r_{a1}	
						mm					kg
7000C/DT	7000C/DB	7000C/DF	436100	236100	336100	12.4	23.6	24.8	0.3	0.15	0.036
7000AC/DT	7000AC/DB	7000AC/DF	446100	246100	346100	12.4	23.6	24.8	0.3	0.15	0.036
7200C/DT	7200C/DB	7200C/DF	436200	236200	336200	15	25	28.8	0.6	0.15	0.06
7200AC/DT	7200AC/DB	7200AC/DF	446200	246200	346200	15	25	28.8	0.6	0.15	0.06
7001C/DT	7001C/DB	7001C/DF	436101	236101	336101	14.4	25.6	26.8	0.3	0.15	0.04
7001AC/DT	7001AC/DB	7001AC/DF	446101	246101	346101	14.4	25.6	26.8	0.3	0.15	0.04
7201C/DT	7201C/DB	7201C/DF	436201	236201	336201	17	27	30.8	0.6	0.15	0.07
7201AC/DT	7201AC/DB	7201AC/DF	446201	246201	346201	17	27	30.8	0.6	0.15	0.07
7002C/DT	7002C/DB	7002C/DF	436102	236102	336102	17.4	27	30.8	0.3	0.15	0.056
7002AC/DT	7002AC/DB	7002AC/DF	446102	246102	346102	17.4	27	30.8	0.3	0.15	0.056
7202C/DT	7202C/DB	7202C/DF	436202	236202	336202	20	30	33.8	0.6	0.15	0.086
7202AC/DT	7202AC/DB	7202AC/DF	446202	246202	346202	20	30	33.8	0.6	0.15	0.086
7003C/DT	7003C/DB	7003C/DF	436103	236103	336103	19.4	32.6	33.8	0.3	0.15	0.072
7003AC/DT	7003AC/DB	7003AC/DF	446103	246103	346103	19.4	32.6	33.8	0.3	0.15	0.072
7203C/DT	7203C/DB	7203C/DF	436203	236203	336203	22	35	37.6	0.6	0.3	0.127
7203AC/DT	7203AC/DB	7203AC/DF	446203	246203	346203	22	35	37.6	0.6	0.3	0.127
7004C/DT	7004C/DB	7004C/DF	436104	236104	336104	25	37	40.8	0.6	0.15	0.128
7004AC/DT	7004AC/DB	7004AC/DF	446104	246104	346104	25	37	40.8	0.6	0.15	0.128
7204C/DT	7204C/DB	7204C/DF	436204	236204	336204	26	41	44.6	1	0.3	0.2
7204AC/DT	7204AC/DB	7204AC/DF	446204	246204	346204	26	41	44.6	1	0.3	0.2
7204B/DT	7204B/DB	7204B/DF	466204	266204	366204	26	41	44.6	1	0.3	0.22
		760204 TN1/P4 DFB				26	42	44	1	0.6	0.246
	760204 TN1/P4 DBB					26	42	44	1	0.6	0.246
7005C/DT	7005C/DB	7005C/DF	436105	236105	336105	30	42	45.8	0.6	0.15	0.148
7005AC/DT	7005AC/DB	7005AC/DF	446105	246105	346105	30	42	45.8	0.6	0.15	0.148
7205C/DT	7205C/DB	7205C/DF	436205	236205	336205	31	46	49.6	1	0.3	0.244
7205AC/DT	7205AC/DB	7205AC/DF	446205	246205	346205	31	46	49.6	1	0.3	0.244
7205B/DT	7205B/DB	7205B/DF	466205	266205	366205	31	46	49.6	1	0.3	0.26
7305C/DT	7305C/DB	7305C/DF	436305	236305	336305	32	55	57	1	0.6	0.46
7305AC/DT	7305AC/DB	7305AC/DF	446305	246305	346305	32	55	57	1	0.6	0.46
7305B/DT	7305B/DB	7305B/DF	466305	266305	366305	32	55	57	1	0.6	0.5
7006C/DT						38	54	56	1	0.6	0.675
7006AC/DT	7006C/DB	7006C/DF	436106	236106	336106	36	49	52.6	1	0.3	0.22
7206C/DT	7006AC/DB	7006AC/DF	446106	246106	346106	36	49	52.6	1	0.3	0.22
B7206C/DT	7206C/DB	7206C/DF	436206	236206	336206	36	56	59.6	1	0.3	0.396

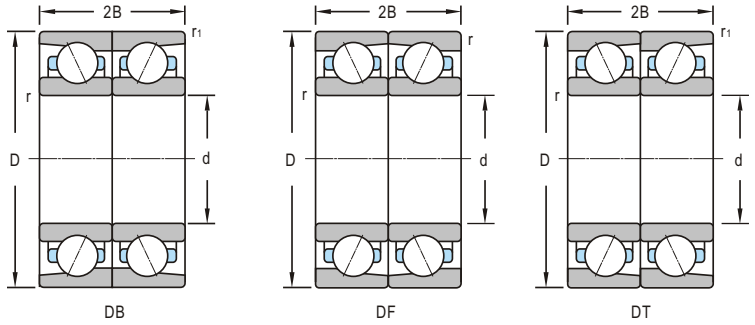


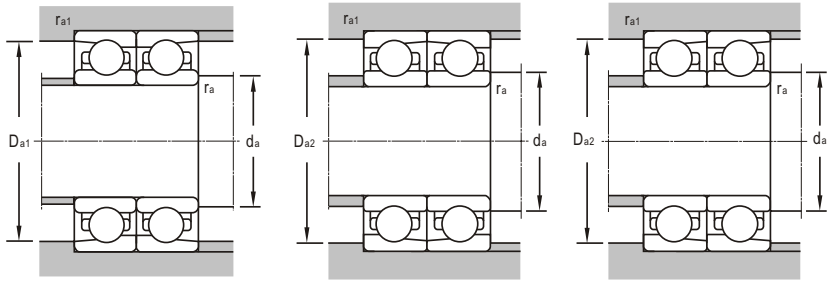


d 30～50mm

Boundary Dimensions					Basic Load Ratings		Limiting Speeds	
					Dynamic	Static	Grease	Oil
d	*D*	*2B*	r_{min}	r_{1min}	*C*	C_0		
mm					kN		r/min	
30	62	32	1	0.3	37.4	29.4	6300	9500
	62	32	1	0.3	35.9	28.2	6300	9000
	62	32	1	0.3	33.6	25	6300	9000
	72	38	1.1	0.6	58.3	44.6	6000	8500
	72	38	1.1	0.6	56.2	42.8	6000	8500
	72	38	1.1	0.6	50.5	38.6	6000	8500
35	62	28	1	0.3	26.5	24.2	6000	8500
	62	28	1	0.3	25.2	23	6000	8500
	72	34	1.1	0.6	52.1	43.4	5600	7500
	72	34	1.1	0.6	49.9	41.4	5600	7500
	72	34	1.1	0.6	44	38	5600	7500
	100	50	1.5	1.1	86	69	3200	4800
40	68	30	1	0.3	32.7	30.4	5600	7500
	68	30	1	0.3	30.9	28.8	5600	7500
	80	36	1.1	0.6	59.9	51.2	5300	7000
	80	36	1.1	0.6	57.2	48.8	5300	7000
	80	36	1.1	0.6	53	46.8	5300	7000
	90	46	1.5	0.6	87.4	70	4500	6300
	90	46	1.5	0.6	84.1	67.6	4500	6300
	90	46	1.5	0.6	75.4	60.6	4500	6300
	100	50	1.5	0.6	96.9	79.4	4000	5600
45	58	14	1	0.3	9.54	11.4	6000	7500
	75	32	1	0.3	42.1	40.8	5300	7000
	75	32	1	0.3	39.8	38.6	5300	7000
	75	32	1	0.3	42.1	40.8	5000	7000
	85	38	1.1	0.6	62.7	56.6	4500	6300
	85	38	1.1	0.6	59.9	54.2	4500	6300
	85	38	1.1	0.6	58.5	52.6	4500	6300
	100	50	1.5	0.6	109	91.6	4000	5600
	100	50	1.5	0.6	108	88	4000	5600
	100	50	1.5	0.6	97	79.4	4000	5600
50	80	32	1	0.3	43.2	43.8	4500	6300
	80	32	1	0.3	40.9	42.8	4500	6300
	80	32	1	0.3	43.2	43.8	4500	6500
	90	40	1.1	0.6	69.5	63.4	4300	6000
	90	40	1.1	0.6	66.3	60.6	4300	6000
	90	40	1.1	0.6	46.7	45.6	4300	6000

Bearing Designations						Mounting Dimensions					Mass
Present			Original								
tandem	back-to-back	face-to-face	tandem	back-to-back	face-to-face	d_a	D_{a1}	D_{a2}	r_a	r_{a1}	
						mm					kg
7206AC/DT			736206			36	56	59.6	1	0.3	0.234
7206B/DT	7206AC/DB	7206AC/DF	446206	246206	3462006	36	56	59.6	1	0.3	0.396
760206TN1/P4TBTB	7206B/DB	7206B/DF	466206	266206	336206	36	56	59.6	1	0.3	0.42
7306C/DT	7306C/DB	7306C/DF	436306	236306	336306	37	65	67	1	0.6	0.7
7306AC/DT	7306AC/DB	7306AC/DB	446306	246306	346306	37	65	67	1	0.6	0.7
7306B/DT	7306B/DB	7306B/DF	466306	266306	366306	37	65	67	1	0.6	0.74
7007C/DT	7007C/DB	7007C/DF	436107	236107	336107	41	56	59.6	1	0.3	0.3
7007AC/DT	7007AC/DB	7007AC/DF	446107	246107	346107	41	56	59.6	1	0.3	0.3
7207C/DT	7207C/DB	7207C/DF	436207	236207	336207	42	65	67	1	0.6	0.61
7207AC/DT	7207AC/DB	7207AC/DF	446207	246207	346207	42	65	67	1	0.6	0.61
7207B/DT	7207B/DB	7207B/DF	466207	266207	366207	42	65	67	1	0.6	0.6
7407AC/DB						44	91	93	1.5	1	1.87
7008C/DT	7008C/DB	7008C/DF	436108	236108	336108	46	62	65.6	1	0.3	0.36
7008AC/DT	7008AC/DB	7008AC/DF	446108	246108	346108	46	62	65.6	1	0.3	0.36
7208C/DT	7208C/DB	7208C/DF	436208	236208	336208	47	73	75	1	0.6	0.737
7208AC/DT	7208AC/DB	7208AC/DF	446208	246208	346208	47	73	75	1	0.6	0.74
7208B/DT	7208B/DB	7208B/DF	466208	266208	366208	47	73	75	1	0.6	0.78
7308C/DT	7308C/DB	7308C/DF	436308	236308	336308	49	81	85	1.5	0.6	1.69
7308AC/DT	7308AC/DB	7308AC/DF	446308	246308	346308	49	81	85	1.5	0.6	1.32
7308B/DT	7308B/DB	7308B/DF	466308	266308	366308	49	81	85	1.5	0.6	1.34
7309B/DFYA2						49	91	95	1.5	0.6	2.07
71809CM/P4DT						48	55.6	52	0.25	0.1	0.097
7009C/DT	7009C/DB	7009C/DF	436109	236109	336109	51	69	72.6	1	0.3	0.46
7009AC/DT	7009AC/DB	7009AC/DF	446109	246109	346109	51	69	72.6	1	0.3	0.46
B7009C/DT			736109			51	69	72.6	1	0.3	0.484
7209C/DT	7209C/DB	7209C/DF	436209	236209	336209	52	78	80	1	0.6	0.814
7209AC/DT	7209AC/DB	7209AC/DF	446209	246209	346209	52	78	80	1	0.6	0.82
7209B/DT	7209B/DB	7209B/DF	466209	266209	366209	52	78	80	1	0.6	0.88
7309C/DT	7309C/DB	7309C/DF	436309	236309	336309	54	91	95	1.5	0.6	1.72
7309AC/DT	7309AC/DB	7309AC/DF	446309	246309	346309	54	91	95	1.5	0.6	1.72
7309B/DT	7309B/DB	7309B/DF	466309	266309	366309	54	91	95	1.5	0.6	1.8
7010C/DT	7010C/DB	7010C/DF	436110	236110	336110	56	74	77.6	1	0.3	0.5
7010AC/DT	7010AC/DB	7010AC/DF	446110	246110	346110	56	74	77.6	1	0.3	0.5
B7010C/DT			736110			56	74	77.6	1	0.3	0.52
7210C/DT	7210C/DB	7210C/DF	436210	236210	336210	57	83	85	1	0.6	0.92
	7210ACN2/DB			246210K		57	83	85	1	0.6	0.964
	7210EBN2/DB			266210EK		57	83	85	1	0.6	0.997

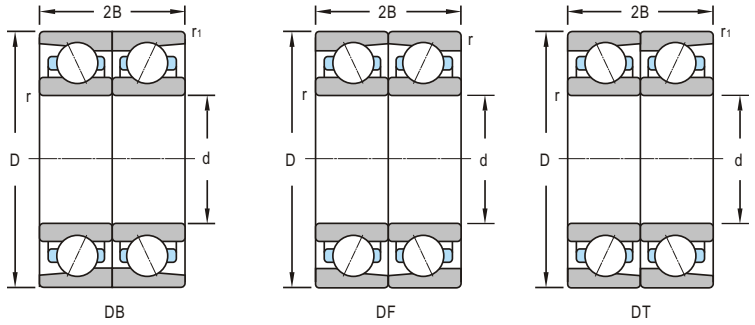


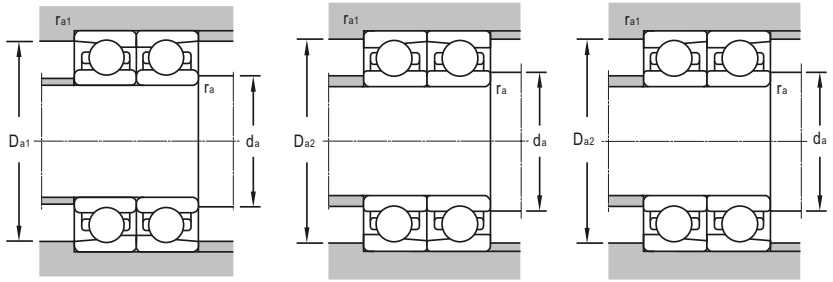


d 50～70mm

Boundary Dimensions					Basic Load Ratings		Limiting Speeds	
					Dynamic	Static	Grease	Oil
d	*D*	*2B*	r_{min}	r_{1min}	*C*	C_0		
mm					kN		r/min	
50	90	40	1.1	0.6	66.3	60.6	4300	6000
	90	40	1.1	0.6	60.8	57.2	4300	6000
	90	40	1.1	0.6	69.5	63.4	4300	6000
	110	54	2	1	129	112	3800	5300
	110	54	2	1	124	108	3800	5300
	110	54	2	1	111	96	3800	5300
55	90	36	1.1	0.6	60.4	57.2	4000	5600
	90	36	1.1	0.6	57.2	54.4	4000	5600
	90	36	1.1	0.6	57.2	54.4	4000	5600
	100	42	1.5	0.6	86.1	80.8	3800	5300
	100	42	1.5	0.6	82	76.4	3800	5300
	100	42	1.5	0.6	75.2	72.2	3800	5300
	120	58	2	1	149	131	3400	4800
	120	58	2	1	143	126	3400	4800
	120	58	2	1	128	113	3400	4800
60	95	36	1.1	0.6	62.1	65.2	3800	5300
	95	36	1.1	0.6	58.8	63.2	3800	5300
	110	44	1.5	0.6	91.1	96.6	3600	5000
	110	44	1.5	0.6	94.5	92	3600	5000
	110	44	1.5	0.6	99.1	88.8	3600	5000
	130	62	2.1	1.1	171	153	3400	4500
	130	62	2.1	1.1	164	147	3400	4500
	130	62	2.1	1.1	146	131	3400	4500
65	100	36	1.1	0.6	65.1	70.8	3600	5000
	100	36	1.1	0.6	61.7	68.2	3600	5000
	120	46	1.5	0.6	114	110	3400	4500
	120	46	1.5	0.6	108	117	3400	4500
	120	46	1.5	0.6	108	117	3400	4500
	120	46	1.5	0.6	76.2	78.6	3400	4500
	120	46	1.5	0.6	103	92	3400	4500
	140	58.7	2.1	2.1	145	115	3200	4300
	140	66	2.1	1.1	197	178	3000	4000
	140	66	2.1	1.1	188	171	3000	4000
	140	66	2.1	1.1	167	153	3000	4000
70	110	40	1.1	0.6	78.5	86	3400	4800
	110	40	1.1	0.6	74.2	85	3400	4800
	110	40	1.1	1	74.2	85.4	3500	5500

Bearing Designations						Mounting Dimensions					Mass
Present			Original								
tandem	back-to-back	face-to-face	tandem	back-to-back	face-to-face	d_a	D_{a1}	D_{a2}	r_a	r_{a1}	
						mm					kg
7210AC/DT	7210AC/DB	7210AC/DF	446210	246210	346210	57	83	85	1	0.6	0.92
7210B/DT	7210B/DB	7210EB/DF	466210	266210	366210	57	83	85	1	0.6	0.98
	7210C/DB/YA			3-642		57	83	85	1	0.6	1.95
7310C/DT	7310C/DB	7310C/DF	436310	236310	336310	60	100	104	2	1	2.16
7310AC/DT	7310AC/DB	7310AC/DF	446310	246310	346310	60	100	104	2	1	2.64
7310B/DT	7310B/DB	7310B/DF	466310	266310	366310	60	100	104	2	1	2.3
7011C/DT	7011C/DB	7011C/DF	436111	236111	336111	62	83	85	1	0.6	0.76
7011AC/DT	7011AC/DB	7011AC/DF	446111	246111	346111	62	83	85	1	0.6	0.76
	7011ACN2L1/DB			246111K		62	83	85	1	0.6	0.788
7211C/DT	7211C/DB	7211C/DF	436211	236211	336211	64	91	95	1.5	0.6	1.22
7211AC/DT	7211AC/DB	7211AC/DF	446211	246211	346211	64	91	95	1.5	0.6	1.22
7211B/DT	7211B/DB	7211B/DF	46621	266211	366211	64	91	95	1.5	0.6	1.3
7311C/DT	7311C/DB	7311C/DF	436311	236311	336311	65	110	114	2	1	3.42
7311AC/DT	7311AC/DB	7311AC/DF	446311	246311	346311	65	110	114	2	1	2.84
7311B/DT	7311B/DB	7311B/DF	466311	266311	366311	65	110	114	2	1	2.9
7012C/DT	7012C/DB	7012C/DF	436112	236112	336112	67	88	90	1	0.6	0.8
7012AC/DT	7012AC/DB	7012AC/DF	446112	246112	346112	67	88	90	1	0.6	0.8
7212C/DT	7212C/DB	7212C/DF	436212	236212	336212	69	101	105	1.5	0.6	1.6
7212AC/DT	7212AC/DB	7212AC/DF	446212	246212	346212	69	101	105	1.5	0.6	1.6
7212B/DT	7212B/DB	7212B/DF	466212	266212	366212	69	101	105	1.5	0.6	1.68
7312C/DT	7312C/DB	7312C/DF	436312	236312	336212	72	118	123	2.1	1	3.4
7312AC/DT	7312AC/DB	7312AC/DF	446312	246312	346312	72	118	123	2.1	1	4.12
7312B/DT	7312B/DB	7312B/DF	466312	266312	366312	72	118	123	2.1	1	3.7
7013C/DT	7013C/DB	7013C/DF	436113	236113	336113	72	93	95	1	0.6	0.86
7013AC/DT	7013AC/DB	7013AC/DF	446113	246113	346113	72	93	95	1	0.6	0.86
7213C/DT	7213C/DB	7213C/DF	436213	236213	336213	74	111	115	1.5	0.6	2
7213AC/DT	7213AC/DB	7213AC/DF	446213	246213	346213	74	111	115	1.5	0.6	2
	7213ACN2/DB			246213K		74	111	115	1.5	0.6	2.03
	7213EBN2/DB			D266213EK		74	111	115	1.5	0.6	2.17
7213B/DT	7213B/DB	7213B/DF	466213	266213	366213	74	111	115	1.5	0.6	2.1
3313 YA/P6						77	128	133	2.1	2.1	3.8
7313C/DT	7313C/DB	7313C/DF	436313	236313	336313	77	128	133	2.1	1	4.46
7313AC/DT		7313AC/DF	446313	246313	346313	77	128	133	2.1	1	4.46
7313B/DT		7313B/DF	466313	266313	366313	77	128	133	2.1	1	4.5
7014C/DT	7014C/DB	7014C/DF	436114	226114	336114	77	103	105	1	0.6	1.2
7014AC/DT	7014AC/DB	7014AC/DF	446114	246114	346114	77	103	105	1	0.6	1.2
B7014AC/DT			746114			77	103	104	1	1	1.18

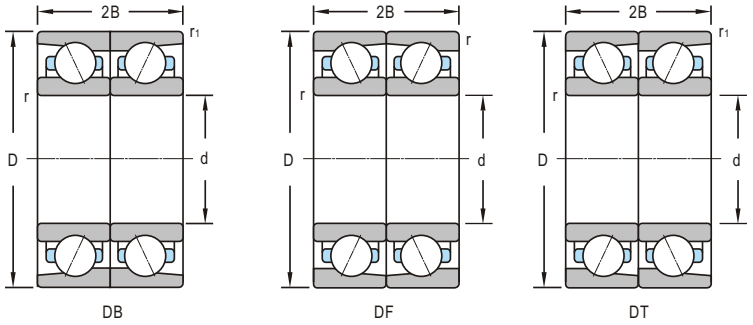


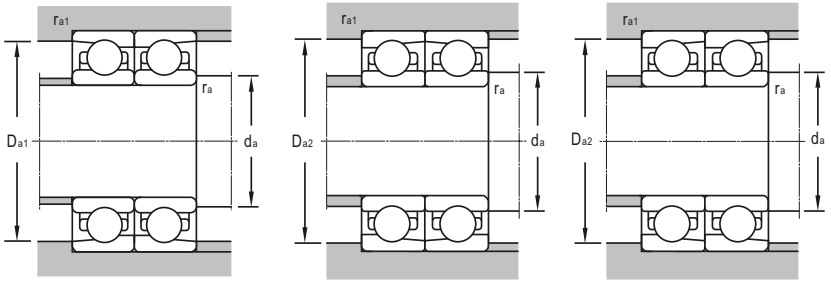


d 70～90mm

Boundary Dimensions					Basic Load Ratings		Limiting Speeds	
					Dynamic	Static	Grease	Oil
d	*D*	*2B*	r_{min}	r_{1min}	*C*	C_0		
mm					kN		r/min	
70	125	48	1.5	0.6	118	120	3200	4300
	125	48	1.5	0.6	123	123	3200	4300
	125	48	1.5	0.6	100	102	3200	4300
	150	70	2.1	1.1	218	200	2800	3600
	150	70	2.1	1.1	210	193	2800	3600
	150	70	2.1	1.1	185	173	2800	3600
75	115	40	1.1	0.6	80.5	96	3400	4500
	115	40	1.1	0.6	76	91	3400	4500
	115	40	1.1	0.6	80.5	92.1	3400	4500
	130	50	1.5	0.6	129	131	3000	4000
	130	50	1.5	0.6	122	126	3000	4000
	130	50	1.5	0.6	118	123	3000	4000
	160	74	2.1	1.1	236	226	2600	3400
	160	74	2.1	1.1	226	218	2600	3400
	160	74	2.1	1.1	201	194	2600	3400
80	125	44	1.1	0.6	94.4	114	3200	4300
	125	44	1.1	0.6	90	110	3200	4300
	125	44	1.1	0.6	90	110	3200	4300
	140	52	2	1	145	154	2800	3600
	140	52	2	1	138	158	2800	3600
	140	52	2	1	138	158	2800	3600
	140	52	2	1	100	109	2800	3600
	140	52	2	1	131	138	2800	3600
	170	78	2.1	1.1	257	256	2400	3400
	170	78	2.1	1.1	247	244	2400	3400
	170	78	2.1	1.1	219	218	2400	3400
85	130	44	1.1	0.6	102	123	3000	4000
	130	44	1.1	0.6	96.2	118	3000	4000
	150	56	2	1	162	170	2600	3400
	150	56	2	1	154	162	2600	3400
	150	56	2	1	151	162	2600	3400
	180	82	3	1.1	279	282	2400	3200
	180	82	3	1.1	268	273	2400	3200
	180	82	3	1.1	240	244	2400	3200
90	140	48	1.5	0.6	116	143	2800	3600
	140	48	1.5	0.6	110	137	2800	3600
	160	60	2	1	200	210	2400	3400

Bearing Designations						Mounting Dimensions					Mass
Present			Original								
tandem	back-to-back	face-to-face	tandem	back-to-back	face-to-face	d_a	D_{a1}	D_{a2}	r_a	r_{a1}	
						mm					kg
7214C/DT	7214C/DB	7214C/DF	436214	236214	336214	79	114	120	1.5	0.6	2.2
7214AC/DT	7214AC/DB	7214AC/DF	446214	246214	346214	79	114	120	1.5	0.6	2.2
7214B/DT	7214B/DB	7214B/DF	466214	266214	366214	79	114	120	1.5	0.6	2.3
7314C/DT	7314C/DB	7314C/DF	436314	236314	336314	79	141	143	1.5	1	5.34
7314AC/DT	7314AC/DB	7314AC/DF	446314	246314	346314	79	141	143	1.5	1	6.12
7314B/DT	7314B/DB	7314B/DF	466314	266314	366314	79	141	143	1.5	1	5.5
7015C/DT	7015C/DB	7015C/DF	436115	236115	336115	82	108	110	1	0.6	1.26
7015EA/DT	7015EAC/DB	7015EAC/DF	446115E	246115E	346115E	82	108	110	1	0.6	1.26
	7015C/DBB					82	108	110	1	0.6	1.34
7215C/DT	7215C/DB	7215C/DF	436215	236215	336215	84	121	125	1.5	0.6	2.4
7215AC/DT	7215AC/DB	7215AC/DF	446215	246215	346215	84	121	125	1.5	0.6	2.4
7215B/DT	7215B/DB	7215B/DF	466215	266215	366215	84	121	125	1.5	0.6	2.6
7315C/DT	7315C/DB	7315C/DF	436315	236315	336315	87	148	153	2.1	1	7.12
7315AC/DT	7315AC/DB	7315AC/DF	446315	246315	346315	87	148	153	2.1	1	7.12
7315B/DT	7315B/DB	7315B/DF	466315	266315	366315	87	148	153	2.1	1	6.6
7016C/DT	7016C/DB	7016C/DF	436116	236116	336116	87	118	120	1	0.6	1.7
7016AC/DT	7016AC/DB	7016AC/DF	446116	246116	346116	87	118	120	1	0.6	1.7
	7016 ACTB/P4 DBB					87	118	120	1	0.6	1.7
7216C/DT	7216C/DB	7216C/DF	436216	236216	336216	90	130	134	2	1	2.9
7216AC/DT	7216AC/DB	7216AC/DF	446216	246216	346216	90	130	134	2	1	2.9
	7216ACN2/DB			246216K		90	130	134	2	1	2.99
	7216EACN2/DB			266216EK		90	130	134	2	1	3.16
7216B/DT	7216B/DB	7216B/DF	466216	266215	366216	90	130	134	2	1	3.1
7316C/DT	7316C/DB	7316C/DF	436316	236316	336316	92	158	163	2.1	1	7.18
7316AC/DT	7316AC/DB	7316AC/DF	446316	246316	346316	92	158	163	2.1	1	7.18
7316B/DT	7316B/DB	7316B/DF	466316	266316	366316	92	158	163	2.1	1	7.8
7017C/DT	7017C/DB	7017C/DF	436117	236117	336117	92	123	126	1	0.6	1.78
7017AC/DT	7017AC/DB	7017AC/DF	446117	246117	346117	92	123	126	1	0.6	1.78
7217C/DT	7217C/DB	7217C/DF	436217	236217	336217	95	140	144	2	1	3.6
7217AC/DT	7217AC/DB	7217AC/DF	446217	246217	346217	95	140	144	2	1	3.6
7217B/DT	7217B/DB	7217B/DF	466217	266217	366217	95	140	144	2	1	3.9
7317C/DT	7317C/DB	7317C/DF	436317	236317	336317	99	166	173	2.5	1	8.76
7317AC/DT	7317AC/DB	7317AC/DF	436317	236317	346317	99	166	173	2.5	1	8.76
7317B/DT	7317B/DB	7317B/DF	446317	266317	366317	99	166	173	2.5	1	9.2
7018C/DT	7018C/DB	7018C/DF	436118	236118	336118	99	131	135	1.5	0.6	2.3
7018AC/DT	7018AC/DB	7018AC/DF	446118	246118	346118	99	131	135	1.5	0.6	1.62
7218EC/DT	7218EC/DB	7218EC/DF	436218E	236218E	336218E	100	150	154	2	1	4.5

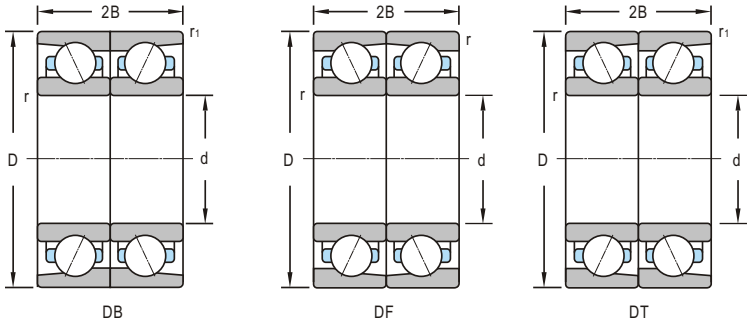


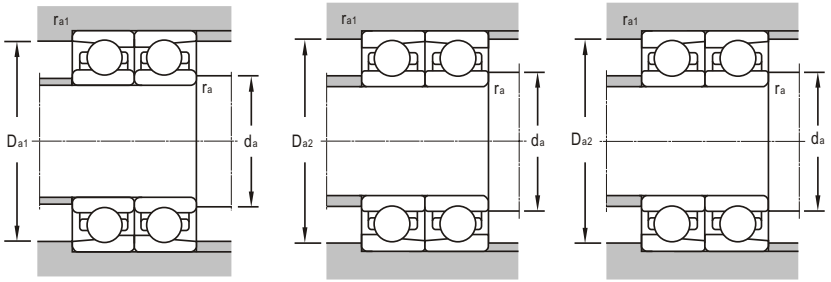


d 90～110mm

Boundary Dimensions					Basic Load Ratings		Limiting Speeds	
					Dynamic	Static	Grease	Oil
d	*D*	*2B*	r_{min}	r_{1min}	*C*	C_0		
mm					kN		r/min	
90	160	60	2	1	190	200	2400	3400
	160	60	2	1	172	188	2400	3400
	190	86	3	1.1	301	320	2200	3000
	190	86	3	1.1	289	308	2200	3000
	190	86	3	1.1	257	274	2200	3000
	190	86	3	1.1	197	232	2200	3000
95	145	48	1.5	0.6	120	154	2600	3400
	145	48	1.5	0.6	113	142	2600	3400
	170	64	2.1	1.1	219	226	2400	3200
	170	64	2.1	1.1	208	229	2400	3200
	170	64	2.1	1.1	197	202	2400	3200
	200	90	3	1.1	327	360	2000	2800
	200	90	3	1.1	314	346	2000	2800
95	200	90	3	1.1	279	308	2000	2800
100	150	48	1.5	0.6	129	163	2600	3400
	150	48	1.5	0.6	122	150	2600	3400
	180	68	2.1	1.1	242	254	2200	3000
	180	68	2.1	1.1	231	260	2200	3000
	180	68	2.1	1.1	211	228	2200	3000
	215	94	3	1.1	361	414	1800	2400
	215	94	3	1.1	348	398	1800	2400
	215	94	3	1.1	309	354	1800	2400
	150	72	1.5	0.6	138	199		
105	160	52	2	1	144	183	2600	3400
	160	52	2	1	136	174	2600	3400
	190	72	2.1	1.1	263	286	2000	2800
	190	72	2.1	1.1	252	274	2000	2800
	190	72	2.1	1.1	232	258	2000	2800
110	170	56	2	1	174	216	2400	3400
	170	56	2	1	169	208	2400	3400
	170	84	2	1	224	312	2200	3200
	170	84	2	1	224	312	2200	3200
	200	76	2.1	1.1	286	342	1900	2600
	200	76	2.1	1.1	273	306	1900	2600
	200	76	2.1	1.1	250	288	1900	2600
	240	100	3	1.1	411	504	1500	2200

Bearing Designations						Mounting Dimensions					Mass
Present			Original								
tandem	back-to-back	face-to-face	tandem	back-to-back	face-to-face	d_a	D_{a1}	D_{a2}	r_a	r_{a1}	
						mm					kg
	7218ACM/DF					100	150	154	2	1	5.32
7218B/DT	7218B/DB	7218B/DF	466218	266218	366218	100	150	154	2	1	4.8
7318C/DT	7318C/DB	7318C/DF	436318	236318	336318	104	176	183	2.5	1	9.76
7318AC/DT	7318AC/DB	7318AC/DF	446318	246318	346318	104	176	183	2.5	1	10.12
7318B/DT	7318B/DB	7318B/DF	466318	266318	366318	104	176	183	2.5	1	10.8
	7318EBN2DB			266318EK		104	176	183	2.5	1	11.3
7019C/DT	7019C/DB	7019C/DF	436119	236119	336119	104	136	140	1.5	0.6	2.4
7019AC/DT	7019AC/DB	7019AC/DF	446119	246119	346119	104	136	140	1.5	0.6	2.4
7219C/DT	7219C/DB	7219C/DF	436219	236219	336219	107	158	163	2.1	1	5.4
7219AC/DT	7219AC/DB	7219AC/DF	446219	246219	346219	107	158	163	2.1	1	5.4
7219B/DT	7219B/DB	7219B/DF	466219	266219	366219	107	158	163	2.1	1	5.8
7319C/DT	7319C/DB	7319C/DF	436319	236319	336319	109	186	193	2.5	1	12
7319AC/DT	7319AC/DB	7319AC/DF	446319	246319	346319	109	186	193	2.5	1	12
7319B/DT	7319B/DB	7319B/DF	466319	266319	366319	109	186	193	2.5	1	12.5
7020C/DT	7020C/DB	7020C/DF	436120	236120	336120	109	141	145	1.5	0.6	2.5
7020AC/DT	7020AC/DB	7020AC/DF	446120	246120	346120	109	141	145	1.5	0.6	2.5
7220C/DT	7220C/DB	7220C/DF	436220	236220	336220	112	168	173	2.1	1	6.5
7220AC/DT	7220AC/DB	7220AC/DF	446220	246220	346220	112	168	173	2.1	1	6.5
7220B/DT	7220B/DB	7220B/DF	466220	266220	366220	112	168	173	2.1	1	6.9
7320C/DT	7320C/DB	7320C/DF	436320	236320	336320	114	201	208	2.5	1	14.4
7320AC/DT	7320AC/DB	7320AC/DF	446320	246320	346320	114	201	208	2.5	1	16.9
7320B/DT	7320B/DB	7320B/DF	466320	266320	366320	114	201	208	2.5	1	15.5
7020AC/TBT						109	141	145	1.5	0.6	
7021C/DT	7021C/DB	7021C/DF	436121	236121	336121	115	150	154	2	1	3.2
7021AC/DT	7021AC/DB	7021AC/DF	446121	246121	346121	115	150	154	2	1	3.2
7221C/DT	7221C/DB	7221C/DF	436221	236221	336221	117	178	173	2.1	1	7.7
7221AC/DT	7221AC/DB	7221AC/DF	446221	246221	346221	117	178	173	2.1	1	7.7
7221B/DT	7221B/DB	7221B/DF	466221	266221	366221	117	178	173	2.1	1	8.2
7022C/DT	7022C/DB	7022C/DF	436122	236122	336122	120	160	164	2	1	4.92
7022AC/DT	7022AC/DB	7022AC/DB	446122	246122	346122	120	160	164	2	1	4.92
	7022AC/TBT			946122Y		120	160	164	2	1	7.38
	B7022AC/TBT			946122		120	160	164	2	1	7.38
7222C/DT	7222C/DB	7222C/DF	436222	236222	336222	122	188	193	2.1	1	9.1
7222AC/DT	7222AC/DB	7222AC/DF	446222	246222	346222	122	188	193	2.1	1	9.1
7222B/DT	7222B/DB	7222B/DF	466222	266222	366222	122	188	193	2.1	1	9.6
7322AC/DT	7322AC/DB	7322AC/DF	446322	246322	346322	124	226	233	2.5	1	19.6

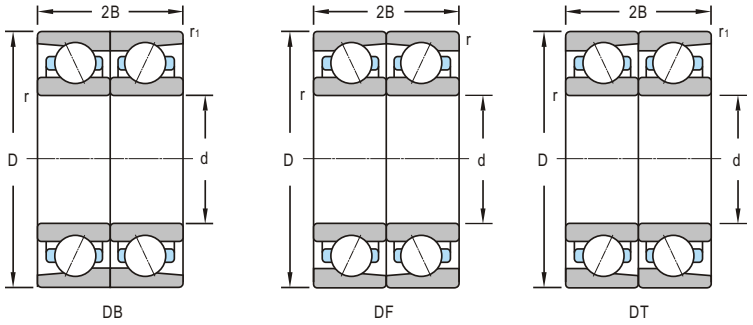


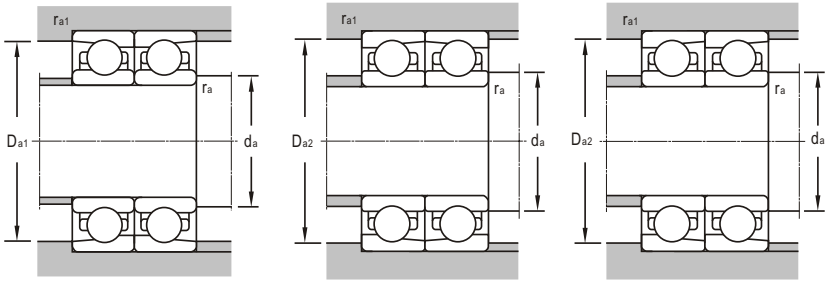


d 110～460mm

Boundary Dimensions					Basic Load Ratings		Limiting Speeds	
					Dynamic	Static	Grease	Oil
d	*D*	*2B*	r_{min}	r_{1min}	*C*	C_0		
mm					kN		r/min	
110	240	100	3	1.1	367	450	1500	2200
	240	100	3	1.1	411	504	1100	2200
120	215	80	2.1	1.1	309	358	1700	2400
	215	80	2.1	1.1	294	367	1700	2400
	215	80	2.1	1.1	268	322	1700	2400
	215	160	4	2.5	435.5	644	1700	2400
130	200	63	2	1	117	167	1100	2200
	230	80	3	1.1	292	364	1500	2200
140	250	84	2.1	1.1	281	389	1800	2300
150	230	70	2.1	2.1	229	322	1810	2200
160	290	96	3	1.1	416	590	800	1800
	340	136	4	1.5	601	892	700	1600
180	280	100	2.1	1.1	280	420	1500	1900
190	260	66	4	2.5	226	354	1500	1900
203.23	276.25	73	2	1	237	362	1300	1500
220	400	130	4	1.5	582	1014	750	1100
240	360	118	3	3	404	712	900	1250
260	369.5	118	3	3	362	643	1000	1300
	400	140	4	1.5	489	900	750	980
280	389.5	92	2.1	2.1	397	732	750	110
300	419.5	112	4	1.5	442	847	660	950
340	400	115	2.1	1.1	157	344	640	960
420	560	130	3	1.5	733	1304	540	680
460	580	56	3	3	596	1396	670	830

Bearing Designations						Mounting Dimensions					Mass
Present			Original								
tandem	back-to-back	face-to-face	tandem	back-to-back	face-to-face	d_a	D_{a1}	D_{a2}	r_a	r_{a1}	
						mm					kg
7322B/DT	7322B/DB B7322AC/DB	7322B/DF	466322	266322 546322	366322	124 124	226 226	233 233	2.5 2.5	1 1	20.6 23.5
7224C/DT	7224C/DB	7224C/DF	436224	236224	336224	132	203	208	2.1	1	10.8
7224AC/DT	7224AC/DB	7224AC/DF	446224	246224	346224	132	203	208	2.1	1	10.8
7224B/DT	7224B/DB	7224B/DF	466224	266224	366224	132	203	208	2.1	1	12.3
7224B/QT			3-634			132	203	208	2.1	1	24.5
	7026TN/DBYA			246126KA		140	190	194	2	1	6.76
7226ACM/DB						146	212	214	2.5	1	14.9
7228C/DT	7228C/DB	7228C/DF	436228	236228	336228	152	238	243	2.1	1	19.8
4030X2DCM/P5						162		218	2.1	2.1	10.4
7232ACM/P4DB						174	283	283	2.5	1.1	29.2
	B7332AC/DB		546332			178	322	331	3	1.5	65.3
4036D			4286136			192	268	273	2.1	1	20.9
		71938AC/DF			1346938	208	242	246	3	2.1	8.9
49/203.23D						213	266	270	2	1	13.5
7244AC/DT	7244AC/DB	7244AC/DF	446244	246244	346244	238	382	391	3	1.5	77
4048D						254	346	346	2.5	2.5	39.3
4052X3D						274	355	355	2.5	2.5	39.7
4052D/C2						290	383	374	3	1.5	60.5
4956X3D						292	377	377	2.1	2.1	34.7
4960X3D/C2						327	404	397	2.5	1	45.8
4868X3D/YB2						352	388	393	2.1	1	21.6
		71984DF		1346984K		434	546	551	2.5	1.5	105
71892 AM/DT						476	560	564	2.5	2.5	68

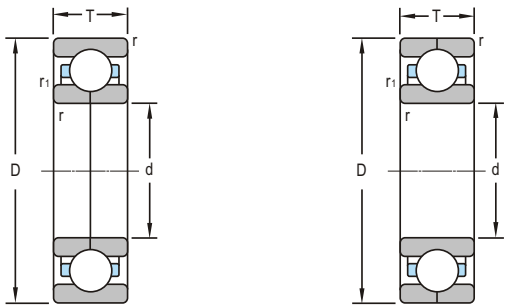


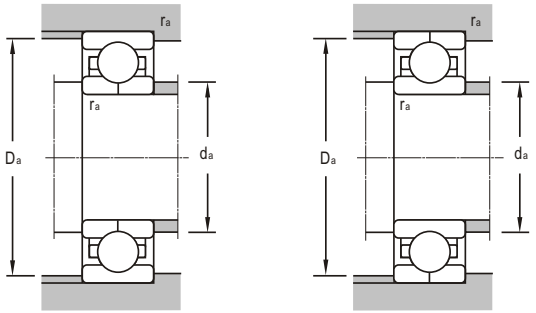


d 540～1180mm

Boundary Dimensions					Basic Load Ratings		Limiting Speeds	
					Dynamic	Static	Grease	Oil
d	*D*	*2B*	r_{min}	r_{1min}	*C*	C_0		
mm					kN		r/min	
540	660	108	3	3	661	1680	450	560
850	1030	164	5	2	1126	3720	500	700
1180	1420	212	6	4	1786	7420	60	80

Bearing Designations						Mounting Dimensions					Mass
Present			Original								
tandem	back-to-back	face-to-face	tandem	back-to-back	face-to-face	d_a	D_{a1}	D_{a2}	r_a	r_{a1}	
						mm					kg
LY-7027						577	639	633	2.5	2.5	76.8
718/850AMB/DT						868	1002	996	4	1.5	277
		SN 718/1180 AC/DF				1208	1376	1394	5	3	632

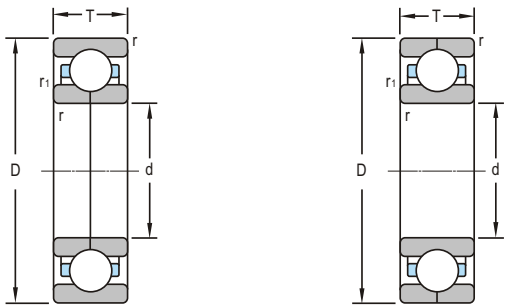


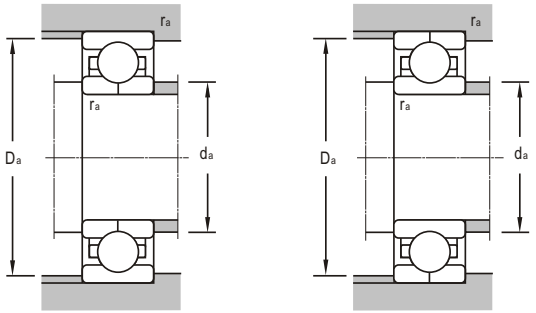


d 10～100mm

Boundary Dimensions						Basic Load Ratings		Limiting Speeds	
						Dynamic	Static	Grease	Oil
d	*D*	*B*	*T*	r_{min}	r_1	*C*	C_0		
mm						kN		r/min	
10	28	8	8	0.3	0.3	5.82	2.53	24000	30000
16	30	106.2	106.2	1.4	1.4	11.3	6.5	7.9	5.4
17	35	10	10	0.3	0.3	8.23	4.53	15000	20000
20	47	12	12	1.1	0.5	15.5	8.92	15000	19000
25	62	17	20	1.1	0.6	27	15.6	11000	14500
	67	20.6	34	1	0.8	23.5	19.3	11000	14500
26	62	17	20	1.1	0.5	27	15.6	11000	14500
32	72	24.5	30	1.1	0.5	32.8	20.5	18000	12000
30	72	19	19	1.1		38.5	38	6700	9000
35	59.482	14.5	14.5	1.1	0.5	21.4	14.9	8000	10000
	80	29	33.5	1.5	0.5	40.2	24.7	9000	11000
53	84	16.15	20	1.1	0.6	17.4	14.7	7300	9200
63	102	23	27	2	1	31.5	21.6	6000	8000
65	102	16.5	21.5	1.1	1.1	26.9	21.7	6000	8000
	140	33	33	2.1	2.1	118	132	3800	5300
70	125	24	24	1.5		51.8	43.1	3200	4300
75	160	37	37	2.1	2.1	163	204	3400	4800
80	140	21	26.5	2	1	51	48	3500	4400
81	107	17	17	0.5	0.5	16.4	24.6		
90	140	24	24	1.5		59.1	56.6	6000	7600
	190	43	43	3		193	259	2400	3400
91	117	20	20	0.5	0.5	17	26.9		
100	180	34	34	2,1	2.1	152	215	2800	3800

Bearing Designations		Mounting Dimensions			Mass
Present	Original	d_{1min}	D_{amax}	r_{amax}	
		mm			kg
S7600	6700	12.4	25.6	0.3	0.0227
WR1630106.2	3-637				0.253
S71003	106103	19.4	32.6	0.3	0.0452
S70204X2	6704	27	40	1	0.103
SN7305X2/YA	26705	32	55	1	0.276
4605-2RS	186705	31	61	1	0.523
S76/26/YA	26905	33	55	1	0.281
SN76/32/YA	26706	39	65	1	0.454
QJS306	176306	37	65	1	0.418
LR7607	226707	42	53	1	0.105
SN72307X2/YA	26707	44	71	1.5	0.561
46/53/YA	996911K1	60	77	1	0.44
B76/63/YA	26913	73	92	2	0.707
	996713	72	95	1	0.569
QJ313	176313	77	128	2.1	2.7
QJS214	276214	79	114	1.5	1.31
QJ315N2	176315	87	148	2.1	4.04
S7216X2/YA	26216	90	130	2	1.33
LY-Q017		83.5	104.5	0.5	0.312
QJ1018	1176118	99	131	1.5	1.47
QJ318	176318	104	176	2.5	6.51
LY-Q018		93.5	114.5	0.5	0.346
QJ220N2		112	168	2,1	4.22





d 120～1060mm

Boundary Dimensions						Basic Load Ratings		Limiting Speeds	
						Dynamic	Static	Grease	Oil
d	*D*	*B*	*T*	r_{min}	r_1	*C*	C_0		
mm						kN		r/min	
120	165	34	34	1.1	0.8	85.4	131	1400	2000
	215	40	40	2.1	2.1	209	318	2400	3200
	260	55	55	3	3	263	365	1600	2200
140	210	33	33	2	2	206	273	3200	4000
	250	42	42	3	3	252	436	2000	2800
	300	62	62	4	4	361	646	1700	2400
150	225	35	35	2.1	2.1	169	298	3000	3700
160	220	45	45	2	1	125	208	1000	1500
	290	48	48	3	3	286	533	1700	2400
170	230	45	45	2	1	128	220	950	1450
	260	42	42	2.1	2.1	221	409	1800	2400
	310	52	52	4	4	382	742	2000	1500
180	280	46	46	2.1	2.1	246	481	1300	1800
	280	46	46	2.1	2.1	246	481	1300	1800
190	260	33	33	2	2	125	177	2600	3200
220	300	60	60	2.5	1.2	219	392	1900	2400
	340	56	56	3	3	306	653	1200	1700
240	440	72	72	4	4	649	1200	1000	1500
260	368	48	48	2.1	2.1	298	676	1000	1400
280	420	65	65	4	4	410	1010	1400	1800
	389.5	65	65	4	4	433	803	900	1100
320	440	50	100	4	4	237	492		
	480	74	74	4	4	447	587	1200	1500
	580	92	92	5	5	946	2100	800	1100
360	540	82	82	5	5	491	900	1000	1300
1000	1380	190							
1060	1500	195							

Bearing Designations		Mounting Dimensions			Mass
Present	Original	d_{1min}	D_{amax}	r_{amax}	
		mm			kg
3924D	3356924	127	158	1	2.51
QJ224N2		132	203	2.1	7.04
QJF324	116324	134	246	2.5	15.6
QJF1028	176128	150	200	2	4.33
QJ228N2		154	236	2.5	10.1
QJ328		158	382	3	
QJF1030	176130	162	213	2.1	5.16
3932D	3356932	170	210	2	5.41
QJ232		174	276	2.5	16
3934D	3356934	180	220	2	5.9
QJF1034		182	248	2.1	8.18
QJ234N2	176234K	188	292	3	18.107
QJ1036	176136	192	268	2.1	11.4
QJ1036N2	176136K	192	268	2.1	11.4
QJ1938	1176938	200	250	2	6.02
3944D	3356944	234	286	2.1	13.1
QJ1044N2	176144	234	326	2.5	20.2
QJF248M		258	222	3	51.6
QJF1952X2		272	356	2.1	16.9
QJF1056	176156	298	402	3	34.3
QJF1056X1		298	371	3	23.2
7664D		338	422	3	
QJF1064	176164	338	462	3	50
QJF 264 M		342	558	4	123
QJF1072	176172	382	518	4	71.5
QJ 6/1000M				393	
QJ 6/1060MA/C9				393	