Thrust Roller Bearings

Thrust Roller Bearings

Most of LYC's thrust roller bearings are separable, which make it very convenient to mount and dismount. This type of bearings has high rigidity and takes up little space, so it could carry heavier axial load and a certain amount of impact loads. They are mainly used in applications where the load carrying capacity of thrust ball bearing is inadequate.

LYC's thrust roller bearings are divided into cylindrical roller thrust bearings, taper roller thrust bearings, spherical roller thrust bearings, and needle roller thrust bearings by different structures.

Cylindrical Roller Thrust Bearings

LYC's cylindrical roller thrust bearings are divided into bearings of single row and double row. Single row cylindrical roller thrust bearings can carry axial load in one direction and limit axial displacement in one direction. Double-row cylindrical roller thrust bearings can carry axial load in both directions and limit axial displacements in both directions.

Taper Roller Thrust Bearings

LYC's taper roller thrust bearings have tapered inner raceway, outer raceway, and rolling elements. The extension lines of these intersect at one point of the shaft axis, which will make dynamic friction less compared with other types of thrust roller bearings.

Any angular error between axial and bearing block of taper roller thrust bearings is not allowed.

Needle Roller Thrust Bearing

The performance of LYC's needle roller thrust bearings is similar to that of cylindrical roller thrust bearings. Compared with cylindrical roller thrust bearings, the needle roller thrust bearings are with smaller axial dimension and have a high load carrying capacity. However, the friction is larger as the speed is slow because of the long length of needle rollers.

According to the number of rows, the needle roller thrust bearing is divided into single direction and double-direction.

Single direction needle roller thrust bearings can carry axial load in one direction and limit unidirectional axial displacements.

The needle roller thrust bearing does not allow any angular error when mounting.

LYC can also design thrust roller bearings with other structures, such as double-row cylindrical roller thrust bearings, thrust roller bearings with outer covers or flat washers, cylindrical roller thrust bearings without rings etc. All types cannot be listed in this catalogue. If customers have additional requirements, please consult LYC technical department.

Cage

Cages for thrust roller bearings are supplied by LYC, hese are pressed steel cages, machined solid cages, glass fabric reinforced polyamide 66 cages, and etc. Machined solid cages are mainly made of brass, bronze, various light alloys and phenolic resin. Cages of different material are identified by a suffix. Further details can be found in LYC catalogue "Bearing Material".

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 thrust roller bearing can be obtained from

Cylindrical roller thrust bearings

$$F_{min}=0.0005C_0+A\left(\frac{n}{1000}\right)^2 \text{ kN}$$

Spherical roller thrust bearing

$$F_{min}=1.8Fr+A\left(\frac{n}{1000}\right)^2 \text{ kN}$$

where

- A – Minimum load constant, see bearing dimension tables.
- n – Speed, r/min
- Fr – Radial load (when combined load), kN
- C_0 – Basic static load rating, kN

When bearings are started at low ambient temperatures or in the condition where the viscosity of lubricant is very high, a larger minimum load is required. Usually, the weight of the bearing supporting parts plus the load on the bearing have been over the minimum load. If the weight cannot 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. The requirement can be met through preloading in axial with springs.

Dimension, Tolerance

The boundary dimension of the LYC's standard thrust roller bearing is according to GB/T273.2 <Rolling Bearing, Thrust Bearing, and Boundary Dimension General Specification>, GB/T4663 <Rolling Bearing, Cylindrical Roller Thrust Bearing, and Boundary Dimension>, GB/T5859 <Rolling Bearing, Spherical Roller Thrust Bearing, and Boundary Dimension>.

The tolerance of LYC's standard thrust roller bearing is according to GB/T307.4 <Rolling Bearing, Thrust Bearing, and Tolerance>, JB/T7750 <Rolling Bearing, Spherical Roller Thrust Bearing, and Tolerance>.

Usually, the dimensional tolerance of LYC's standard taper roller 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

The equivalent dynamic load of thrust roller bearings can be calculated according to the following

when $\alpha=90°$ $P=Fa$

when $\alpha\neq90°$ $P=XFr+YFa$

Single Direction Bearing:

$Fa/Fr > e$ $X=\tan\alpha$ $Y=1$

$e=1.5\tan\alpha$

Double-direction bearing

$Fa/Fr \leqslant e$ $X=1.5\tan\alpha$ $Y=0.67$

$e=1.5\tan\alpha$

$Fa/Fr > e$ $X=\tan\alpha$ $Y=1$

$e=1.5\tan\alpha$

Equivalent Static Load

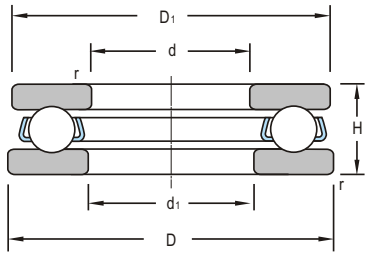
The equivalent static load of thrust roller bearings can be calculated from

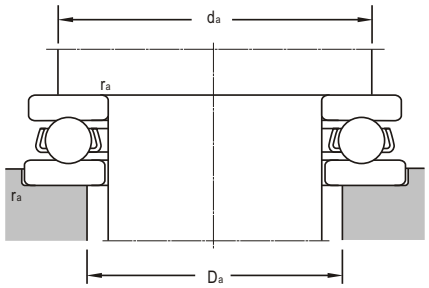
when $\alpha=90°$ $P_0=Fa$

when $\alpha\neq90°$ $P_0=Fa+2.3Fr\cdot\tan\alpha$

where

- Fa – Radial load, N
- Fr – Axial load, N
- α – Contact angle
- X – Radial load factor
- Y – Axial load factor

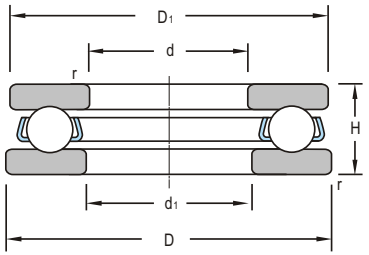


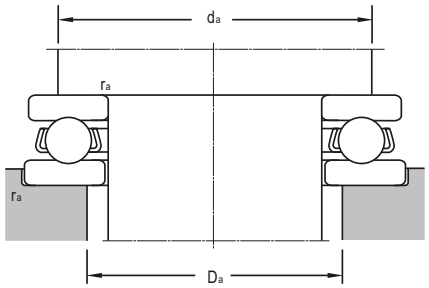


d 25～75mm

Boundary Dimensions						Basic Load Ratings		Limiting Speeds	
						Dynamic	Static	Grease	Oil
d	d_1	*D*	D_1	*H*	r_{min}	*C*	C_0		
mm						kN		r/min	
25	25.2	40.5	40.5	7	0.3	13.8	66	4000	5500
34.925	37	79	79	15.875	1	76.8	316.8	2500	3400
35	35.2	52	52	8	0.6	18.1	95.74	3400	4500
	35	52	52	18.5	1				
40	40.2	60	60	13	0.6	38	118	1700	2400
	40.2	68	68	19	1	83	255	1400	1900
	40.2	90	90	16	1.1	92.9	400	2400	3100
	42	78	78	22	1	91.1	285	2000	4000
45	45.2	110	110	19	1.1	150	619.5	1900	2600
	45	80	80	60	1				
50	50.2	78	78	22	1	91.5	300	1200	1700
	50	110	110	82	1.1				
55	55.2	78	78	16	0.6	69.5	285	1400	1900
	57	90	90	25	1	116	365	950	1400
	57	105	105	30	1.1	145	564	1200	1600
60	60	100	100	12	1	91.4	372		
	60	120	120	82	1.1				
	60.2	138	138	22	2				
	62	85	85	17	1	80	300	1300	1800
	62	95	95	26	1	117	332	1810	2400
	62	110	110	30	1.1	171	591	1400	2800
	62	130	130	32	1.5	206	998	1000	1400
65	65	90	90	26.4	1.5				
	65.2	90	90	18	1	83	320	1200	1700
	67	100	100	27	1	140	490	1200	1700
	70	165	165	25	2				
70	72	95	95	18	1	81.9	254	1200	1700
72	72	108	102	13	1.5				
75	77	100	100	19	1	75.5	266	1100	1600
	77	110	110	27	1	125	440	850	1200

Bearing Designations		MinimumLoad Constant	Mounting Dimensions			Mass
Present	Original	A	d_a	D_a	r_{amax}	
			mm			kg
81705	589705	0.00031	39	26	0.3	0.038
817/34.925	549707	0.0083	75	38	1	0.441
87107	7009107	0.00057	51	36	0.6	0.0625
	89707		51	36	1	0.173
81108	9108	0.0011	56	44	0.6	0.146
81208	9208	0.0051	63	45	1	0.32
81708	559708	0.0073	85	44	1.1	0.497
89308M		0.009	76	44	1	0.526
81709	559709	0.0077	106	47	1.1	0.94
	459709		68	46	1	1.21
81210	9210	0.0073	75	53	1	0.43
	495710		91	54	1.1	3.59
81111	9111	0.0066	77	56	0.6	0.27
81211	9211	0.011	85	59	1	0.708
89311	954311	0.019	102	59	1.1	1.38
KOW-87212X3			124	63	1	0.404
	459712		102	64	1.1	4.41
81712	559712		134	65	2	1.18
81112	9112	0.0073	82	62	1	0.338
81212	9212		91	64	1	0.792
89312M		0.023	107	65	1	1.37
87412	7559412	0.06	124	65	1.5	2.45
	89713		87	67	1.5	0.63
81113	9113	0.0083	87	67	1	0.381
81213	9213	0.019	96	69	1	0.874
81714	559714		157	72	2	2.6
81114	9214	0.0096	92	72	1	0.403
81814	559814		99	74	1.5	
81115	9115	0.0068	97	78	1	0.455
81215	9215	0.015	106	79	1	0.979

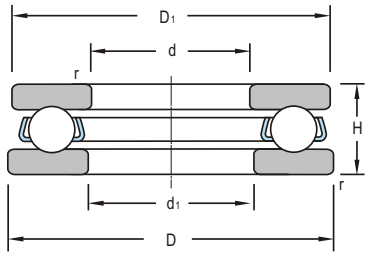


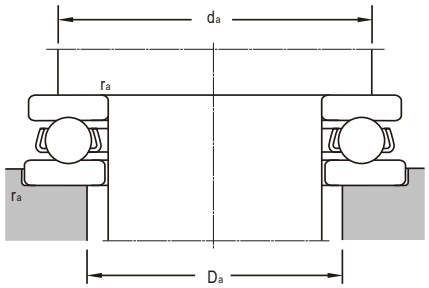


d 75～150mm

Boundary Dimensions						Basic Load Ratings		Limiting Speeds	
d	d_1	D	D_1	H	r_{min}	Dynamic C	Static C_0	Grease	Oil
mm						kN		r/min	
75	77	135	135	36	1.5	218	920	1000	2400
80	80.2	150	150	26	1.5	238	1056	1400	1900
	80.2	150	150	26	2.5				
	82	105	105	19	1	76.5	134	1000	1500
	82	115	115	28	1	160	270	850	1200
	90.2	135	134	62	0.6	311	1256	1000	1500
85	85.2	110	110	19	1	76.5	310	1000	1500
	88	125	125	31	1	153	550	800	1100
	88	150	150	39	1.5	286	1200	900	1200
	88	150	150	39	1.5	257	1100	1100	2200
90	90.2	120	120	22	1	104	415	900	1300
	90.2	160	160	26	1.5	250	1210	1300	1800
100			135	11	1	77.6	530	1800	2500
	100.2	190	190	39	1.5	451	2090	1000	1400
	100.2	135	135	25	1	152	544	850	1200
	103	150	150	38	1.1	214	830	800	1100
	103	170	170	42	1.5	327	1520	760	1100
110	110.2	200	200	39	2.1	459	2194	990	1300
	110.2	200	200	26	2	460	2180		
	111	230	230	60	3	634	2642	720	960
	112	145	145	25	1	153	280	800	1100
	113	160	160	38	1.1	244	827	630	850
120	100	215	215	30	1.1	451	2471	850	1200
	120.2	155	155	25	1	146	680	950	1400
	123	170	170	39	1.1	258	918	600	800
	123	210	210	54	2.1	555	1876		
130			170	14	1	113	825	1400	1800
	130.2	225	187	30	2.1	446	2180		
	133	190	187	45	1.5	344	1250	670	900
150			188	21.5	1	246	1174	1000	1300
	150.3	300	300	35	2.1	698	4330	840	1100
	152	190	188	31	1	253	1230	630	850
	153	230	227	50	3	553	2370	800	1100

Bearing Designations		MinimumLoad Constant A	Mounting Dimensions			Mass
Present	Original		d_a	D_a	r_{amax}	
			mm			kg
89315M		0.042	132	83	1.5	2.51
81716	9716	0.032	143	82	1.5	2.06
81716L	9716L		143			2.06
81116	9116	0.0073	102	83	1	0.4
81216	9216	0.03	112	84	1	0.9
82716	59716	0.044	130	92	0.6	3.28
81117	9117	0.0077	108	87	1	0.52
81217	9217	0.024	119	90	1	1.44
89317	9549317	0.054	144	91	1.5	3.35
89317M		0.054	147	93	1.5	3.29
81118	9118	0.014	117	93	1	0.797
81718	9718	0.039	154	96	1.5	2.25
KIW-87120	7789120	0.028	131	104		0.517
81720	9720	0.06	182	105		5.11
81120	9220	0.028	131	104	1	1.19
81220	9220	0.054	142	107	1	2.58
89320	9549320	0.074	163	108	1.5	4.49
81722	9722	0.075	192	115	2.1	5.43
40W-87322X3			192	115	2	3.7
89422 X2	549822	0.3	220	116	3	13.7
81122	9122	0.32	141	114	1	1.1
81222	9222	0.067	152	117	1	2.78
81724	559724	0.1	206	125	1.1	5.03
81124	9124	0.037	151	124	1	1.36
81224	9224	0.074	162	127	1	3.08
89324	9549324		202	127	2.1	9.37
KIW-89126 X2	799726	0.049	163	135	1	0.949
KOW-8726X2		5.52	181	135	2.1	5.52
81226	9226	0.13	181	137	1.5	4.59
KIW-81130	209130	0.065	182	156	1	1.54
87430 X2	569730	0.45	288	156	2.1	11.3
81130	9130	0.065	185	155	1	2.3
81730	9830	0.35	220	160	3	8.22

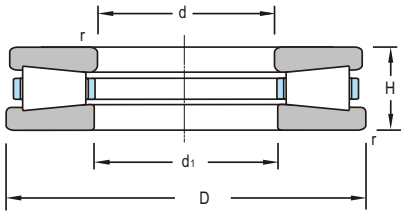


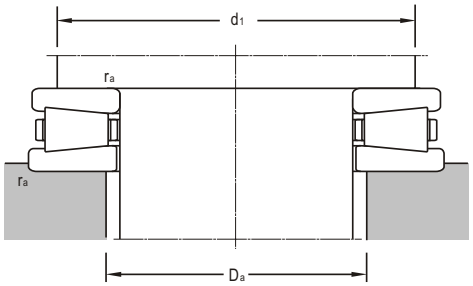


d 150～1320mm

Boundary Dimensions						Basic Load Ratings		Limiting Speeds	
						Dynamic	Static	Grease	Oil
d	d_1	*D*	D_1	*H*	r_{min}	*C*	C_0		
mm						kN		r/min	
150	153	215	212	50	1.5	459	1615	480	630
240	285	445		95	4	1210	5943	360	480
	300	540		145	6	2770	12917	230	300
280	285	440	435	95	5	2230	10200	260	310
420	424	495	500	65	2	900	2600	240	340
460	464	560	555	80	2.1	1030	6150	200	300
	461.5	580	580	102	4	1580	8580		
500	505	670	665	135	5	3400	17600	140	190
530	532	710	708	82	5	2280	17840	220	290
560	565	750	745	150	5	3900	20800	120	170
600	602	860	860	125	6	3870	12980	130	180
610	610	710	710	65	4	1080	7300		
630	634	750	745	95	3	2180	13700	220	450
670	672	900	900	103	6	3530	26503	160	200
710	714	850	848	63	4	1440	13657	240	300
800	800	950	950	90	4	1360	9440	160	200
850	855	1000	995	67	4	1864	17480	200	260
900	902	1180	1180	125	7.5	5300	50459	100	130
1060	1065	1400	1400	155	9.5	8950	79388	87	110
1180	1180	1325		88.5	3	4430	21700	100	150
	1185	1400	1395	100	6	4430	48664	110	140
1320	1325	1700	1700	175	9.5	10300	105400	67	90

Bearing Designations		MinimumLoad Constant	Mounting Dimensions			Mass
Present	Original	A	d_a	D_a	r_{amax}	
			mm			kg
81230	9230	0.28	211	158	1.5	6.45
81757 DH	809757	4	428	296	4	60.4
89460 DH	9809460	10	520	312	6	161
89356			421	299	4	60.8
81184		2.8	493	433	2	25.6
81192		5.7	553	479	2	42.6
LY-8008			558	480	4	71.8
812/500	92/500	25	661	540	4	153
872/530	75492/530	23	689	551	5	96.6
812/560	92/560	35	741	611	4	198
817/600	5497/600	23	850	620	6	264
817/610M/P4YB5		23.1	698	622	3	51
811/630M		91.2	740	640	2.5	83.7
872/670	75492/670	30	895	685	6	198
871/710	75491/710	27	843	728	4	79
891/800	90091/800	32	944	810	4	105
871/850	75491/850	32	989	862	4	97.1
972/900	75492/900	46	1173	908	7.5	386
872/1060	75492/1060	50	1392	1072	9.5	689
817/1180 DH	97/1180	25	1317	1188	3	173
871/1180	75491/1180	35	1389	1190	6	311
872/1320	75492/1320	56	1690	1330	9.5	105

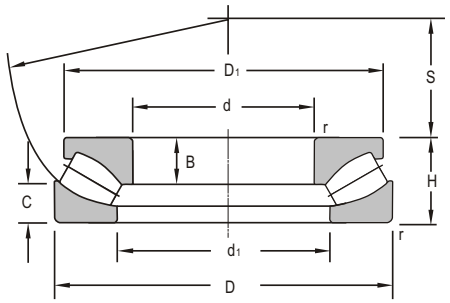


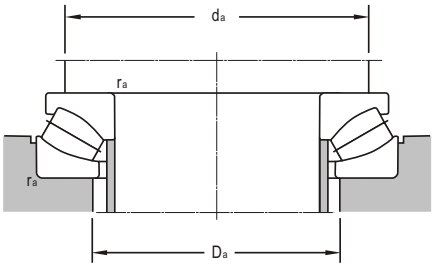


d 84.925～1290mm

Boundary Dimensions					Basic Load Ratings		Limiting Speeds	
					Dynamic	Static	Grease	Oil
d	d_1	*D*	*H*	r_{min}	*C*	C_0		
mm					kN		r/min	
84.925	84.925	76.2	15.875	1.5	89	301		
180	180.3	360	109	5	1920	6700	300	500
200	200.3	400	122	5	1720	7226	200	300
210	210.3	460	122	7.5	2870	14450	290	390
	210.3	460	150	7.5	2870	14450	290	390
240		540	127	7.5	5100	28760	250	340
260	260.3	480	132	6	2558	11360	160	220
270	270.3	550	130	6	4080	20940	240	330
280	280.3	520	145	6	2950	13350	140	190
320	320.4	580	155	7.5	3740	17537	110	160
	320.4	580	155	7.5	4260	16400	110	160
380	380.4	670	175	7.5	4710	22870	85	120
1290	1291	1550	134	6	6970	55950	95	120

Bearing Designations		MinimumLoad Constant	Mounting Dimensions			Mass
Present	Original	A	d_a	D_a	r_{amax}	
			mm			kg
T135			74	36	1.5	0.387
99436M/P6		0.25	280	260	4	59.6
99440	9019440		386	206	5	75
91742	19742	0.25	454	216	7.5	107
91742 DS	219742	0.25	454	216	7.5	134
91748/YA	219748	0.3	534	247	7.5	157
99452	9019452	0.35	472	268	6	111
91754	19954	0.35	546	278	6	164
99456	9019456	0.35	516	288	6	143
99464	9019464	0.38	576	324	7.5	185
99464M		0.38	576	324	7.5	798
99476	9019476	0.56	664	388	7.5	274
917/1290	197/1290	1.6	1546	1296	6	495

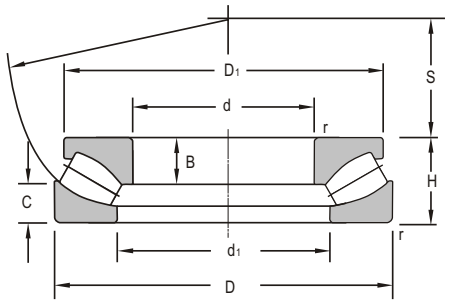


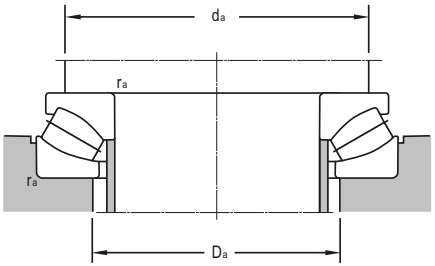


d 90～220mm

Boundary Dimensions									Basic Load Ratings		Limiting Speeds	
									Dynamic	Static	Grease	Oil
d	d_1	*D*	D_1	*B*	*C*	*H*	*S*	r_{min}	*C*	C_0		
mm									kN		r/min	
90	128	190	169.6	22	29	60	56	2.1	624	1750	1260	1800
100	129	170	153	15	20.8	42	58	1.5	410	1280	1120	1600
	140	210	187.6	24	32	67	62	3	762	2170	760	1000
110	135	190	175	30	24	48	64	2	347	970	1200	1800
	150	230	195	43	35	73	69	3	545	1479	800	1200
	150	230	195	43	35	73	69	3	545	1479	800	1200
	155	230	200	26	34.5	73	69	3	950	2790	800	1200
120	156.5	210	192.7	18	26.5	54	70	2.1	607	1940	1120	1600
130	184	270	240.6	31	41	85	81	4	1210	3570	800	1200
140	181	240	221.8	20	29	60	82	2.1	760	2530	980	1400
150	185	250	220	36	31	60	87	2.1	525	1670	850	1300
	207.6	300	270.5	32	43.5	90	92	4	1240	4390	770	1100
160	200	270	240	45	32	67	92	3	610	2240	800	1200
	218	320	289.5	34	46	95	99	5	1440	5050	760	1000
170	216	280	255	23	32	67	96	3	954	3220	900	1400
	236	340	300	62	52	103	104	5	1400	4120	650	950
	235	340	308.8	37	50	103	104	5	1820	5900	650	950
180	225	300	270	46	36	73	103	3	790	2713	700	1000
	230	300	276.8	25	34.5	73	103	3	967	3864	700	1000
	230	300	276.8	25	34.5	73	103	3	967	3864	700	1000
	250	360	325.5	39	53	109	110	5	1770	6460	630	900
190	224	270	250	30	24	48	110	2	420	1746	950	1500
	226	270	253.3	14	25.5	48	103	2	2100	2260	950	1500
	268	380	340	41	53.5	115	117	5	2070	7594	430	600
200	257	340	306.5	54	41	85	116	4	1450	5080	650	900
	257	340	306.5	29	41	85	116	4	1420	4930	800	1200
	270	400	340	62	62	122	122	5	1740	6054	430	600
	278	400	360	43	59	122	122	5	2760	9000	600	800
220	254	300	278	29	26	48	117	2	504	1932	438	1300

Bearing Designations		MinimumLoad Constant	Mounting Dimensions			Mass
Present	Original	A	d_a	D_a	r_{amax}	
			mm			kg
29418	9039320	0.41	135	158	2	7.78
29320		0.166	132	148	1.5	3.66
29420	9069322	0.64	150	175	2.5	10.5
	9069422					
9069322	9069422Y	0.138	145	165	2	5.46
9069422		0.393	165	192	2.5	12.8
9069422Y		0.393				12.8
29422/HE		0.393	165	192	2.5	13.4
29324		0.44	160	182	2	7.48
29428		1.7	195	227	3	21.9
29328	9069330	0.8	185	208	2	10.6
9069330		0.54	195	220	2	10.2
29430	9069332	2.6	220	253	3	28.2
9069332		0.736	210	236	2.5	13.5
29432		3.2	230	271	4	34.3
29334M/P6		1.9	220	245	2.5	15.1
9069434		4.1	245	288	4	38.8
29434	9069336	4.3	245	288	4	41.9
9069336		0.883	235	263	2.5	18.3
29336/P6		1.7	235	263	2.5	19.5
29336		1.7	235	263	2.5	19.4
29436	9069238	5.4	260	305	4	49.2
9069238	9039438	0.442	220	244	2	8
29238			220	244	2	7.87
29438	9069440	6.228	275	322	4	56.4
	9039440E					
LY-Z089		3	218	322	3	28.8
29340		4.1	265	295	3	28.7
9069440		5.685	290	338	4	60.6
29440E	9069244	5.978	290	338	4	71.1
	9069344					
9069244		0.491	260	277	2	11.2

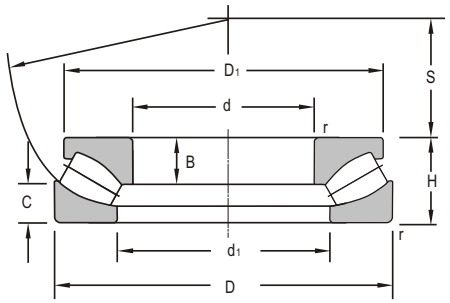


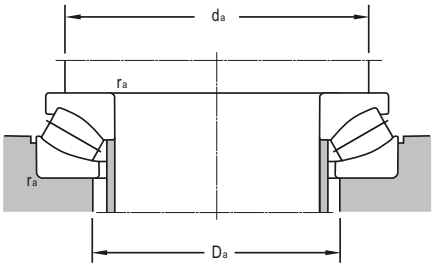


d 220～360mm

Boundary Dimensions									Basic Load Ratings		Limiting Speeds	
									Dynamic	Static	Grease	Oil
d	*d1*	*D*	*D1*	*B*	*C*	*H*	*S*	*rmin*	*C*	*C0*		
mm									kN		r/min	
220	254	300	283	15	24	48	117	2	654	2750	438	1300
	270	360	320	52	44	85	125	4	970	3769	560	800
	278	360	332.9	29	41	85	125	4	1500	5470	560	800
	290	420	360	76	58	122	132	6	1830	6624	400	560
	301.5	420	378.1	79	57	122	132	6	2260	8470	390	550
240	280	340	323.9	19	31.2	60	130	2.1	800	3450	770	1100
	290	380	340	52	44	85	135	4	1320	4251	560	800
	310	440	380	62	62	122	142	6	1920	7158	380	530
260	295	360	330	38	30	60	139	2.1	645	2877	700	1000
	302	360	340.8	19	30	60	139	2.1	944	4000	700	1000
	315	420	370	60	46	95	148	5	1390	5793	480	670
	327	420	390	32	45	95	148	5	2220	8300	600	800
	335	480	415	80	66	132	154	6	2120	8118	340	480
	346	480	434.9	48	63	132	154	6	2730	10800	450	600
	353	480	429	83	64	132	154	6	3220	11200	400	560
280	323	380	360.4	19	30	60	150	2.1	852	4330	700	1000
	335	440	390	62	46	95	158	5	1410	5980	450	630
	348	440	409.8	32	46	95	158	5	1980	7710	650	870
	348	440	409.8	61	46	95	158	5	2040	8010	650	970
	365	520	450	75	72	145	166	6	2550	9828	300	480
	372	520	475.6	52	70	145	166	6	3800	13450	400	550
300	365	480	425	58	52	109	168	5	1870	7640	400	560
320	385	500	445	68	55	109	180	5	2030	7915	380	530
	369	440	413	21	38	73	172	3	1300	5610	800	1100
	410	580	500	95	75	155	191	7.5	2930	11660	240	360
	424	580	528.5	55	74	155	191	7.5	3910	16180	350	500
	424	580	528.5	55	74	170	176	7.5	3910	16180	350	500
	424	580	530	70	74	170	176	7.5	4520	16300	350	500
340	390.5	460	436.5	21	37	73	183	3	1410	6440	800	1100
	410	540	480	74	62	122	192	5	2710	11000	420	600
	462	620	590	61	82	170	201	7.5	4550	17480	220	320
360	442	560	523.1	41	59.5	122	202	5	2744	12707	550	700
	460	640	555	87	85	170	210	7.5	3790	15440	190	300

Bearing Designations		MinimumLoad Constant	Mounting Dimensions			Mass
Present	Original	A	*da*	*Da*	*ramax*	
			mm			kg
LY-Z092		0.491	260	277	2	9.04
9069344		2.059	285	316	3	32.5
29344		3.8	285	316	3	31.9
9069444	9069444	6.665	310	360	5	68.7
29444		6.7	310	360	5	71.3
29248E	9039248E	1.483	285	311	2	19.3
9069348	9069348	2.556	300	337	3	33.8
9069448	9069448	7.645	330	381	5	70
9069252	9069252	1.128	305	331	2	16.9
29252		1.5	305	331	2	17.1
9069352	9069352	4.705	330	372	4	45.6
29352 E	9039352E	6.5	330	372	4	53.6
9069452	9069452	9.81	360	419	5	91.8
29452		16	360	419	5	99.2
29452B		21	360	419	5	95.2
29256		1.7	325	351	2	18.1
9069356	9069356	5.097	350	394	4	48.4
29356		7	350	394	4	50.2
LY-Z088		7	350	394	4	50.7
9069456	9069456	14.5	390	446	5	115
29456		23	390	446	5	130
9069360	9069360	8.527	380	429	4	61.4
9069364	9069364	8.919	400	449	4	73.4
29264		2.8	375	406	2.5	29.4
9069464	9069464	20.1	435	507	6	171
29464		35	435	507	6	168
29464/P6		35	435	570	6	168
29464X2		35	435	507		185
29268		3.1	395	427	2.5	32.3
9069368	9069368	11	430	484	4	94.9
29468	9039468	30.19	465	541	6	226
29372		15	450	504	4	104
9069472	9069472	35.38	485	560	6	199

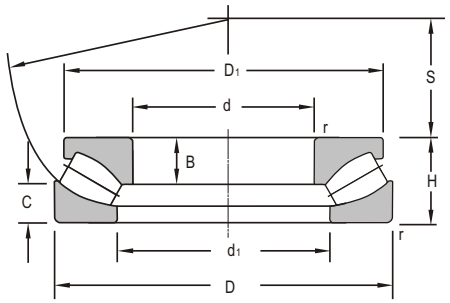


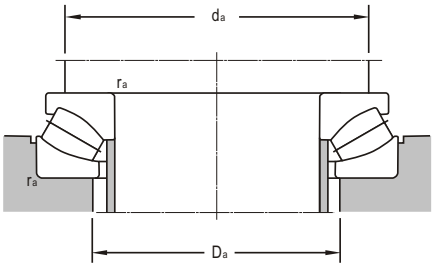


d 380～750mm

Boundary Dimensions									Basic Load Ratings		Limiting Speeds	
									Dynamic	Static	Grease	Oil
d	d_1	*D*	D_1	*B*	*C*	*H*	*S*	r_{min}	*C*	C_0		
mm									kN		r/min	
380	439	520	497	27	41.8	85	202	4	1460	6800	550	750
400	450	540	500	55	42	85	212	4	1260	7060	430	600
	475	620	555	81	65	132	225	6	2860	12050	260	380
	510	710	620	113	93	185	236	7.5	4820	19060	260	380
420	514.5	650	608.3	48	68.5	140	235	6	3660	17600	400	500
440	508	600	570.2	30	48	95	235	5	2350	11100	550	750
	540	680	626	48	70.5	145	245	6	4440	18600	500	720
	575	780	710	74	100	206	260	9.5	7310	27700	500	700
460	527	620	690.8	30	47	95	245	5	2440	11800	430	600
	567	710	685	51	72	150	257	6	4310	19000	320	450
480	540	650	600	65	50	103	259	5	1950	10500	340	480
500	560	670	620	60	50	103	268	5	1950	10540	320	450
	569	670	637.3	33	52	103	268	5	2590	13000	400	560
	590	750	675	94	74	150	280	6	3520	16900	180	280
	590	750	675	94	74	150	280	6	3520	16900	180	280
	630	870	760	140	110	224	290	9.5	6290	27340	120	180
	652.5	870	794.5	81	107.5	224	290	9.5	7850	34600	200	300
530	601.5	710	681.2	39	57	109	288	5	3220	16400	400	550
	690	920	841.5	85	110.4	236	309	9.5	9000	41950	120	160
	700	920	840	145	116	236	309	9.5	8386	32630	120	160
560	625	750	695	72	58	115	300	5	2430	13320	260	380
600	688	800	780	39	65	122	321	5	3420	20500	240	340
	750	1030	900	156	130	258	360	12	9626	37580	100	130
630	705	850	785	84	64	132	338	6	3270	17760	190	300
	728	850	830	42	67	132	338	6	4634	24450	190	300
670	750	900	830	86	70	140	365	6	3670	20280	180	280
710	915	1220	1131.8	113	150	308	415	15	15500	67400	120	160
750	935	1280	1120	195	155	315	450	15	14340	58590	80	100

Bearing Designations		MinimumLoad Constant	Mounting Dimensions			Mass
Present	Original	A	d_a	D_a	r_{amax}	
			mm			kg
29276 E	9039276E	5.6	440	480	3	50
9069280	9069280	6.763	460	500	3	49
9069380	9069380	20.59	500	557	5	134
9069480	9069480	53.8	540	622	6	3.88
29384		26	525	585	5	161
29288		12	510	554	4	72.7
29388EM		42	550	600	5	180
29488		110	595	670	8	396
29292		12	530	575	4	81
29392	9039392	34	575	628	5	217
9069296	9069296	14.99	555	603	4	89.4
90692/500	90692/500	15	575	622	4	89.6
292/500		16	575	622	4	95.7
90693/500	90693/500	39.99	615	683	5	203
90693/500K	90693/500K	40	630	675	5	203
90694/500	90694/500	110.8	670	765	8	520
294/500		130	670	765	8	521
292/530		22	620	655	4	114
294/530 E	90394/530E	179.2	700	810	8	624
90694/530	90694/530	137.8	700	810	8	573
90692/560	90692/560	23.92	645	697	4	127
292/600	90392/600	37.04	690	744	4	172
90694/600	90694/600	223	800	900	10	700
90692/630	90692/630	42.73	730	789	5	188
292/630	90392/630	52.95	730	789	5	218
90692/670	90692/670	55.67	790	825	5	218
294/710		560	925	1073	12	1400
90694/750	90694/750	412.8	1000	1130	12	1309





d 750～1620mm

Boundary Dimensions									Basic Load Ratings		Limiting Speeds	
									Dynamic	Static	Grease	Oil
d	d_1	*D*	D_1	*B*	*C*	*H*	*S*	r_{min}	*C*	C_0		
mm									kN		r/min	
750	964	1280	1183	122	152	315	436	15	159000	70800	140	200
800	1034	1360	1310	120	165	335	462	15	2000	91000	130	180
1060	1180	1400	1300	128	103	206	566	12	10500	58500	120	160
	1200	1400	1325	66	103	206	566	9.5	10500	58200	120	160
	1349	1770	1615	192	207	426	610	15	32200	148000	100	150
1180	1330	1520	1452	83	101	206	625	9.5	9900	56900	110	160
1320	1380	1540	1510	87	72	175	1446	6	4050	50400	70	90
1620	1700	1860	1799	45	80	150	850	6	6150	48400	50	70

Bearing Designations		MinimumLoad Constant	Mounting Dimensions			Mass
Present	Original	A	d_a	D_a	r_{amax}	
			mm			kg
294/750		590	1000	1130	12	1650
294/800		680	1080	1185	12	1870
906921/1060	90692/1060	300	1225	1290	8	824
292/1060EF		300	1225	1290	8	784
294/1060EF/HC			1360	1570	10	3973
292/1180EF			1270	1430	8	855
691/1320	691/1320	140	1430	1470	8	480
292/1620			1740	1780	10	552