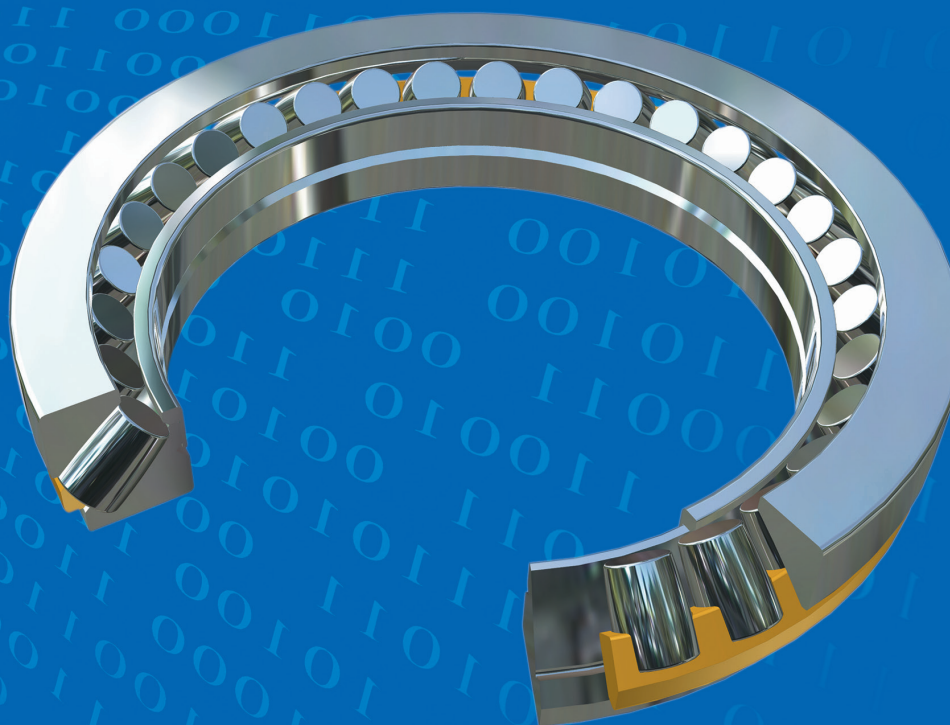




Spherical roller thrust bearings

With asymmetrical rollers.....465



With symmetrical rollers.....469



Spherical roller thrust bearings

Features

The rollers in such type bearings have a spherical profile. The spherical raceway of the housing washer provides a self-aligning function which permits the shaft to have a certain angular displacement. Spherical roller thrust bearings can accommodate heavy axial loads and limited radial loads at the same time (The radial load must not exceed 55% of the axial load). These bearings therefore are used in hydro-electric generators, upright engines, marine propeller shafts, overhang cranes, squeezing presses and so on.

In general, the bearings are merely suitable for limited high speeds.
As a rule, oil lubrication has to be adopted for spherical roller thrust bearings.

Dimensions

The boundary dimensions of the listed bearings are in conformity with GB/T 5859 .

Tolerances

The tolerances for the listed bearings are made according to JB/T 7750.

Recommended fits and tolerances

In order to make good work performance of bearings, the customer should adopt the appropriate arrangements when mounting. Specific values may be referred to in the tables below.

Table 1 Recommended fits for shafts
Spherical roller thrust bearings with tolerance classes normal and 6

Conditions		Shaft diameter mm		Shaft tolerance zone	Remarks
		over	incl		
		all sizes		js6	h6 is available as well
Combined load	Stationary shaft washer load	all sizes		js6	-----
	Rotating shaft washer load or loading in indeterminate direction		200	k6	js6、k6、m6 are available instead of k6、m6、n6 respectively
		200	400	m6	
		400		n6	

Table 2 Recommended fits for housings
Spherical roller thrust bearings with tolerance classes normal and 6

Conditions		Housing bore tolerance zone	Remarks
Axial loads only		—	Proper tolerance zone should be selected so as to obtain a radial internal clearance between the housing washer and the house
		H8	—
Combined load	Stationary housing washer load	H7	—
	Loading in indeterminate direction or rotating housing washer load	K7	Normal loads
		M7	Comparatively larger axial loads

Angular misalignment

Based on the features of these bearings, values for angular misalignment listed in the table is admissible if P and P₀ ≤ 0.05C₀, and the shaft washer rotates:

Bearing diameter series	Angular misalignment
200 Series	1° ~ 1.5°
300 Series	1.5° ~ 2°
400 Series	2° ~ 3°

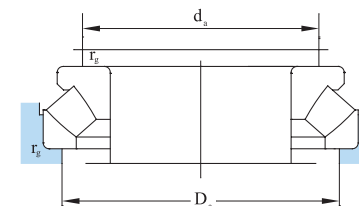
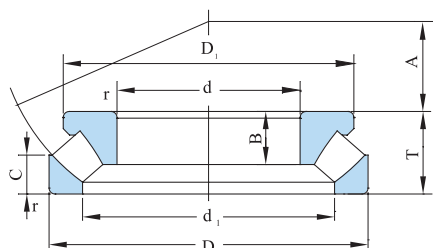
The smaller values apply to large bearings, and the less values the heavier loads.

Equivalent axial loads

Dynamic: P_a=1.2F_r+F_a, for F_r/F_a ≤ 0.55
Static: P_{0a}=2.7F_r+F_a, for F_r/F_a ≤ 0.55



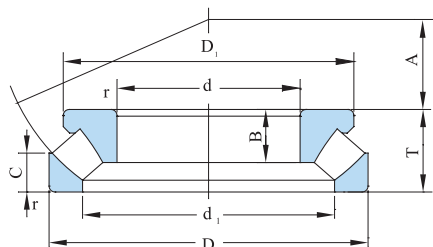
Spherical roller thrust bearings with asymmetrical roller



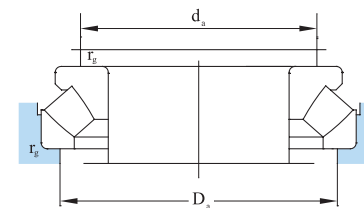
Designations		Boundary dimensions								
New	Old	d	D	T	d ₁	D ₁	B	C	A	rmin
mm										
29412	9039412	60	130	42	89	117	27	20	38	1.5
29413	9039413	65	140	45	95	125	29.5	21	42	2
29413E	9039413E		140	45	91	120	29.5	21	42	2
29415	9039415	75	160	51	108	140	18	24	47	2
29416	9039416	80	170	54	113	153.7	19	26.8	50	2.1
29417	9039417	85	180	58	120	160	21	27.8	54	2.1
29418	9039418	90	190	60	127	170	22	28.5	56	2.1
29420	9039420	100	210	67	142	185	24	31.5	62	3
29322	9039322	110	190	48	143	175	16	23	64	2
29422	9039422		230	73	155.5	208	26	34.4	69	3
39424	9039424	120	250	78	172	222	50.5	37	74	4
29326E	9039326E	130	225	58	166	200	36.5	28	76	2.1
29426	9039426		270	85	183	246	31	39.7	81	4
29330	9039330	150	250	60	194	240	20	29	87	2.1
29430	9039430		300	90	214	285	32	44	92	4
29430E	9039430E	160	300	90	206	266	58	44	92	4
29432	9039432		320	95	218.5	285	34	46.9	99	5
29434E	9039434E	170	340	103	235	302	65.5	50	104	4
29236	9039236	180	250	42	209	239	15	21.3	97	1.5
29336	9039336		300	73	229	275	25	34.4	103	3
29436	9039436	190	360	109	249.5	326	39	51.2	110	5
29438	9039438		380	115	263	345	41	53.7	117	5
29340	9039340	200	340	85	261	318	29	41	116	4
29340K	9039340K		340	85	261	325	54.5	41	116	4
29440	9039440	220	400	122	267.5	360	44	56.7	122	5
29344	9039344		360	85	277.5	330	29	40.7	125	4
29348	9039348	240	380	85	298.5	360	29	1.7	135	4
29448	9039448		440	122	316	400	43	60	142	6
29256	9039256	280	380	60	322.5	364	19	29.5	150	2.1
29468	9039468	340	620	170	449.5	560	61	80	201	7.5
29376	9039376	380	600	132	475	561	44	61.4	216	6
29280	9039384	400	540	85	460	510	27	42	212	4

Basic load ratings		Limiting speeds		Abutment and fillet dimensions			Mass
Ca	Cor	grease	oil	d _a min	D _a max	r _a max	
kN		r/min		mm			kg
275	425	1800	2600	90	107	1.5	2.6
315	490	1700	2400	100	117	2	3.33
315	490	1700	2400	100	117	2	3.14
440	700	1600	2200	115	133	2	4.27
480	1600	1400	2000	120	141	2	6.06
510	1650	1300	1900	130	151	2	6.76
560	1980	1300	1800	135	158	2	7.85
760	2500	1200	1700	150	175	2.5	12.3
455	1640	1200	1700	145	164	2	6.94
905	1540	1100	1600	164	193	2.5	18.1
910	1590	1000	1500	180	209	3	17.1
630	1150	1000	1500	138	194	2	8.48
1110	3500	950	1400	142.5	227	3	28.3
620	1210	950	1400	195	219	2	11.5
1090	2070	800	1100	220	253	3	28.9
1320	2370	800	1100	220	253	3	27.9
1650	5330	700	1000	235	270	4	32.8
1680	3150	700	950	250	286	4	39.7
420	1760	900	1300	215	227	1.5	7.05
990	4050	700	1000	235	262	2.5	19.9
2050	6750	700	950	265	304	4	64.2
2070	3900	630	850	280	321	4	75.6
1200	5181	700	950	265	297	3	34
1200	5181	700	950	265	297	3	34
2270	4300	600	800	295	337	4	83.5
1390	2800	670	900	285	316	3	28.6
1610	6100	600	800	305	336	3	35.4
2920	10100	530	750	335	378	5	96.1
895	2130	700	1000	325	347	2	21.7
4550	9750	500	700	475	530	6	218
3280	15200	450	650	495	535	5	129
1720	4700	500	700	470	493	3	64.6

Spherical roller thrust bearings with asymmetrical roller



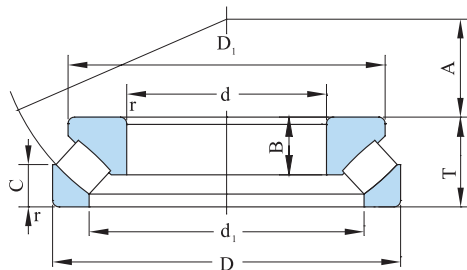
Designations		Boundary dimensions								
New	Old	d	D	T	d _i	D _i	B	C	A	rmin
		mm								
29380	9039292	400	620	132	489	582	44	64.7	225	6
29384	9039384	420	650	140	514.5	610	48	68	235	6
29292	9039292	460	620	95	525.5	590	30	49.4	245	5
292/500	90392/500	500	670	103	572	640	33	50.5	268	5
294/500	90394/500		870	224	648	790	81	106	290	9.5
292/530	90392/530	530	710	109	604	680	35	54	288	5
292/560	90394/560	560	750	115	640	715	40	56.8	302	5
292/800	90392/800	800	1060	155	907.5	1010	50	80	426	7.5
292/1060	90392/1060	1060	1400	206	1208	1335	66	100	566	9.5



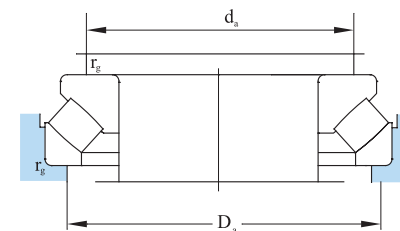
Basic load ratings		Limiting speeds		Abutment and fillet dimensions			Mass
Ca	Cor	grease	oil	d _a min	D _a max	r _a max	
kN		r/min		mm			kg
3500	16800	440	620	510	550	5	153
3800	17900	420	600	535	580	5	175
2280	12900	400	580	540	565	4	74.7
2550	14600	380	540	585	615	4	117
8550	39500	320	460	685	755	8	589
2830	16600	350	500	615	655	4	118
3100	8600	360	480	655	685	4	131
5650	36000	240	340	935	980	6	343
9600	62000	180	260	1225	1290	8	767



Spherical roller thrust bearings with symmetrical roller



Designations	Boundary dimensions								
	d	D	T	d ₁	D ₁	B	C	A	r _{min}
	mm								
9069414	70	150	48	103	135	31	23	44	2.3
9069416	80	170	54	117	155	35	25	50	2.5
9069418	90	190	60	132	170	39	29	56	2.5
9069420	100	210	67	146	190	45	32	62	3
9069324	120	210	54	161	188	34	30	57	2.5
9269424		250	78	181	222	48	38	74	3.7
9069424K		250	78	181	222	48	38	74	2.5
9069326	130	225	58	170	200	37	29	76	3.7
9069426		270	85	190	240	55	44	79	3.7
9069428	140	280	85	203	247	55	47	64	3.7
9069430	150	300	90	220	270	60	48	69	4.7
9069432	160	320	95	234	275	61	53	74	4.7
9069434	170	340	103	243	310	71	48	104	3
9069336	180	300	73	230	276	50	35	103	4.7
9069436		360	109	265	308	67	58	82	2
9069244	220	300	48	260	286	31	24	117	6
9069448	240	440	122	330	400	78	59	142	3.7
9069252	260	360	60	302	335	38	30	139	2.1
9069356	280	440	95	348	413	64	46	158	5
9069268	340	460	73	388	438	48	36	204	3
9069284	420	580	95	489	548	62	46	251	4.7
90692/630	630	850	132	728	800	86	65	338	6
90692/710	710	950	145	805	895	92	75	380	6
90694/750	750	1280	315	972	1152	160	158	448	15



Basic load ratings		Limiting speeds		Abutment and fillet dimensions			Mass
Ca	Cor	grease	oil	d _a min	D _a max	r _a max	
kN		r/min		mm			kg
285	430	1400	2000	105	125	2	3.87
370	550	1100	1700	120	141	2	5.33
440	690	950	1500	135	158	2	7.13
585	865	850	1300	150	175	2.5	10.5
380	650	1000	1600	160	181	2	6.88
710	1060	750	1100	180	209	3	19.5
710	1060	750	1100	180	209	2.5	19.4
440	750	950	1500	175	194	2	8.26
760	1100	700	1100	195	227	3	23
825	1120	670	950	205	236	3	22.7
995	1710	630	900	220	253	3	27.3
1000	1720	560	800	235	270	4	33.3
1210	2130	530	750	250	286	3	40.7
885	3000	630	900	235	262	2.5	19.4
1210	2130	750	750	265	304	2	42.3
440	910	850	1300	260	273	2	7.92
1920	3550	750	750	335	378	3	74.5
725	1550	530	750	310	326	2	15.7
1450	6060	530	750	355	390	4	49.1
1140	2440	530	750	400	422	2.5	31.4
1870	4150		560	500	525	4	78.9
3250	8350		300	740	780	5	231
3600	12000		240	820	880	5	279
13500	31000		100	1015	1120	12	1340