

Spherical thrust roller bearings

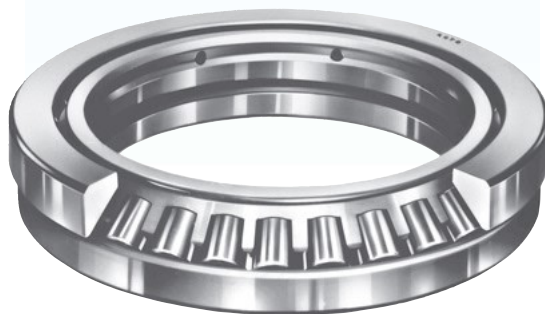
Spherical thrust roller bearings



Bore diameter **60 – 500 mm**

Spherical thrust roller bearings are designed to carry high axial loads. They can also support radial load if magnitude is no more than 55 % of the axial load being carried.

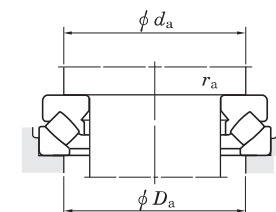
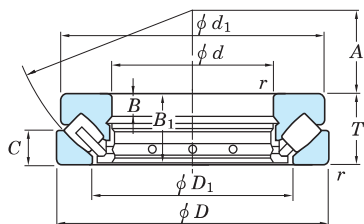
These bearings are not suitable for high-speed rotation. Having a spherical housing race raceway surface, these bearings are self-aligning, adjusting to axial inclination. They are usually used with oil lubrication.



Boundary dimensions	As specified in JIS B 1512.
Tolerances	As specified in JIS B 1514-2, class 0. (refer to table 7-10 on p. A 75.)
Recommended fits	Refer to Table 9-8 on p. A 98.
Required minimum axial load	A certain degree of load is necessary in order for bearings to operate satisfactorily. (refer to p. A 116.)
Standard cage	Copper alloy machined cage (supplementary code : FY)
Allowable aligning angle	0.035 – 0.052 rad (2° – 3°) in general, depending on bearing series.
Equivalent axial load	Dynamic equivalent axial load $P_a = 1.2F_r + F_a$ Static equivalent axial load $P_{0a} \doteq 2.7F_r + F_a$ (Note : $F_r / F_a \leq 0.55$)

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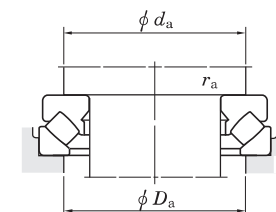
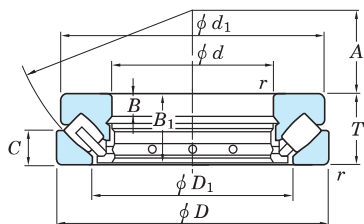
d 60 ~ 160 mm



Boundary dimensions (mm)				Basic load ratings (kN)		Fatigue load limit (kN)	Limiting speed (min ⁻¹)	Bearing No.	Dimensions (mm)						Mounting dimensions (mm)			(Refer.) Mass (kg)
d	D	T	$r_{min.}$	C_a	C_{0a}	C_u	Oil lub.		d_1	D_1	B	B_1	C	A	d_a min.	D_a max.	r_a max.	Mass
60	130	42	1.5	399	884	73.7	2 700	29412R	123	89	15	39.5	20	38	90	108	1.5	2.75
65	140	45	2	450	1 020	73.4	2 500	29413R	133	96	16	42.5	21	42	100	115	2	3.41
70	150	48	2	485	1 100	105	2 300	29414R	142	103	17	45.5	23	44	105	125	2	4.16
75	160	51	2	584	1 360	102	2 100	29415R	152	109	18	48	24	47	115	132	2	4.98
80	170	54	2.1	631	1 480	128	2 000	29416R	162	117	19	51	26	50	120	140	2	5.95
85	150	39	1.5	400	1 000	100	2 600	29317R	143.5	114	13	37	19	50	115	135	1.5	2.87
	180	58	2.1	714	1 700	124	1 900	29417R	170	125	21	55	28	54	130	150	2	7.19
90	155	39	1.5	412	1 050	103	2 500	29318R	148.5	117	13	37	19	52	120	140	1.5	3.06
	190	60	2.1	821	2 010	158	1 800	29418R	180	132	22	57	29	56	135	157	2	8.28
100	170	42	1.5	481	1 270	118	2 300	29320R	163	129	14	40	20.8	58	130	150	1.5	3.91
	210	67	3	911	2 220	166	1 650	29420R	200	146	24	64	32	62	150	175	2.5	11.2
110	190	48	2	628	1 690	147	2 000	29322R	182	143	16	45.5	23	64	145	165	2	5.67
	230	73	3	1 120	2 810	203	1 500	29422R	220	162	26	69	35	69	165	190	2.5	14.7
120	210	54	2.1	759	2 030	182	1 800	29324R	200	159	18	51	26	70	160	180	2	7.90
	250	78	4	1 300	3 270	241	1 350	29424R	236	174	29	74	37	74	180	205	3	18.5
130	225	58	2.1	894	2 440	209	1 700	29326R	215	171	19	55	28	76	170	195	2	9.45
	270	85	4	1 490	3 870	270	1 250	29426R	255	189	31	81	41	81	195	225	3	23.5
140	240	60	2.1	898	2 490	206	1 600	29328R	230	183	20	57	29	82	185	205	2	11.1
	280	85	4	1 560	4 080	289	1 250	29428R	268	199	31	81	41	86	205	235	3	24.6
150	250	60	2.1	965	2 740	233	1 550	29330R	240	194	20	57	29	87	195	215	2	11.7
	300	90	4	1 730	4 620	334	1 100	29430R	285	214	32	86	44	92	220	250	3	29.6
160	270	67	3	1 150	3 070	272	1 400	29332R	260	208	23	64	32	92	210	235	2.5	15.4
	320	95	5	1 990	5 370	375	1 050	29432R	306	229	34	91	45	99	230	265	4	35.9

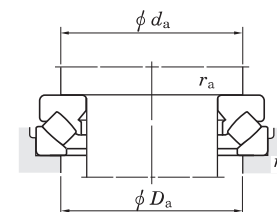
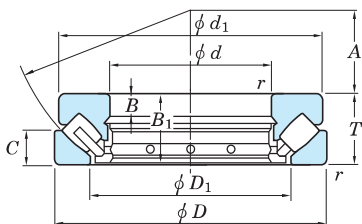
Spherical thrust roller bearings

d 170 ~ 320 mm



Boundary dimensions (mm)				Basic load ratings (kN)		Fatigue load limit (kN)	Limiting speed (min ⁻¹)	Bearing No.	Dimensions (mm)						Mounting dimensions (mm)			(Refer.) Mass (kg)
d	D	T	$r_{\min.}$	C_a	C_{0a}	C_u	Oil lub.		d_1	D_1	B	B_1	C	A	d_a min.	D_a max.	r_a max.	Mass
170	280	67	3	1 190	3 180	286	1 350	29334R	270	216	23	64	32	96	220	245	2.5	15.4
	340	103	5	2 120	5 880	389	950		324	243	37	99	50	104	245	285	4	44.0
180	300	73	3	1 380	3 170	330	1 250	29336R	290	232	25	69	35	103	235	260	2.5	20.7
	360	109	5	2 450	6 590	447	900		342	255	39	105	52	110	260	300	4	52.2
190	320	78	4	1 570	4 230	369	1 150	29338R	308	246	27	74	38	110	250	275	3	25.1
	380	115	5	2 790	7 690	504	850		360	271	41	111	55	117	275	320	4	61.4
200	280	48	2	641	2 170	151	1 600	29240	271	236	15	45	24	108	235	255	2	8.90
	340	85	4	1 810	5 040	415	1 050		325	261	29	81	41	116	265	295	3	31.2
	400	122	5	3 060	8 470	575	800		380	286	43	117	59	122	290	335	4	73.0
220	300	48	2	670	2 340	148	1 550	29244	292	254	15	45	24	117	260	275	2	10.0
	360	85	4	1 840	5 240	439	1 000		345	280	29	81	41	125	285	315	3	33.3
	420	122	6	3 160	8 990	619	750		400	308	43	117	58	132	310	355	5	74.2
240	340	60	2.1	1 030	3 670	233	1 250	29248	330	283	19	57	30	130	285	305	2	16.7
	380	85	4	1 790	5 330	99.3	950		365	300	29	81	41	135	300	330	3	35.5
	440	122	6	3 260	9 510	659	700		420	326	43	117	59	142	330	375	5	83.0
260	360	60	2.1	1 050	3 720	240	1 200	29252	350	302	19	57	30	139	305	325	2	18.5
	420	95	5	1 960	6 040	389	850		405	329	32	91	45	148	330	365	4	51.5
	480	132	6	3 760	11 100	764	650		460	357	48	127	64	154	360	405	5	110
280	380	60	2.1	1 030	3 730	225	1 150	29256	370	323	19	57	30	150	325	345	2	19.5
	440	95	5	2 200	6 870	439	800		423	348	32	91	46	158	350	390	4	53.2
	520	145	6	4 560	13 600	907	550		495	387	52	140	68	166	390	440	5	137
300	420	73	3	1 330	4 880	302	950	29260	405	353	21	69	38	162	355	380	2.5	30.5
	480	109	5	2 470	7 780	496	700		460	379	37	105	50	168	380	420	4	74.9
	540	145	6	4 670	14 900	925	550		515	402	52	140	70	175	410	460	5	146
320	440	73	3	1 780	6 480	321	900	29264R	430	372	21	69	38	172	375	400	2.5	32.7
	500	109	5	2 890	9 380	573	650		482	399	37	105	53	180	400	440	4	78.0
	580	155	7.5	5 190	16 100	1 040	500		555	435	55	149	75	191	435	495	6	179

d 340 ~ 500 mm



Boundary dimensions (mm)				Basic load ratings (kN)		Fatigue load limit (kN)	Limiting speed (min ⁻¹)	Bearing No.	Dimensions (mm)						Mounting dimensions (mm)			(Refer.) Mass (kg)
d	D	T	$r_{min.}$	C_a	C_{0a}	C_u	Oil lub.		d_1	D_1	B	B_1	C	A	d_a min.	D_a max.	r_a max.	Mass
340	460	73	3	1 800	6 420	307	900	29268R	445	395	21	69	37	183	395	420	2.5	34.7
	540	122	5	3 810	12 700	890	600	29368R	520	428	41	117	59	192	430	470	4	106
	620	170	7.5	6 190	19 400	1 210	450	29468R	590	462	61	164	82	201	465	530	6	224
360	500	85	4	1 650	6 080	332	750	29272	485	423	25	81	44	194	420	455	3	51.8
	560	122	5	3 890	13 200	923	550	29372R	540	448	41	117	59	202	450	495	4	110
	640	170	7.5	6 440	20 600	1 300	450	29472R	610	480	61	164	82	210	485	550	6	231
380	520	85	4	1 750	6 610	343	700	29276	505	441	27	81	42	202	440	475	3	52.8
	600	132	6	4 430	15 000	1 030	500	29376R	580	477	44	127	63	216	480	525	5	141
	670	175	7.5	6 780	22 000	1 300	410	29476R	640	504	63	168	85	230	510	575	6	263
400	540	85	4	1 980	7 610	377	700	29280	526	460	27	81	42	212	460	490	3	55.3
	620	132	6	4 630	16 100	1 080	500	29380R	596	494	44	127	64	225	500	550	5	144
	710	185	7.5	7 750	25 300	1 530	380	29480R	680	534	67	178	89	236	540	610	6	315
420	580	95	5	2 310	8 750	463	600	29284	564	489	30	91	46	225	490	525	4	75.4
	650	140	6	5 070	17 700	1 160	450	29384R	626	520	48	135	68	235	525	575	5	169
	730	185	7.5	7 960	26 500	1 630	370	29484R	700	556	67	178	89	244	560	630	6	330
440	600	95	5	2 340	8 970	441	600	29288	585	508	30	91	49	235	510	545	4	77.9
	680	145	6	5 360	18 800	1 250	420	29388R	655	548	49	140	70	245	550	600	5	190
	780	206	9.5	9 100	30 000	1 800	320	29488R	745	588	74	199	100	260	595	670	8	423
460	620	95	5	2 460	9 620	440	550	29292	605	530	30	91	46	245	530	570	4	81.0
	710	150	6	4 580	15 800	875	400	29392	685	567	51	144	72	257	575	630	5	216
	800	206	9.5	9 360	31 600	1 870	300	29492R	765	608	74	199	100	272	615	690	8	438
480	650	103	5	2 880	11 600	531	500	29296	635	556	33	99	55	259	555	595	4	89.0
	850	224	9.5	10 900	36 300	2 100	270	29496R	810	638	81	216	108	280	645	730	8	548
500	870	224	9.5	10 800	36 400	2 120	270	294/500R	830	661	81	216	107	290	670	750	8	562