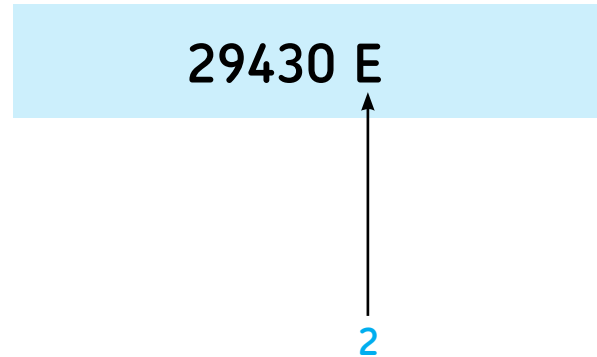
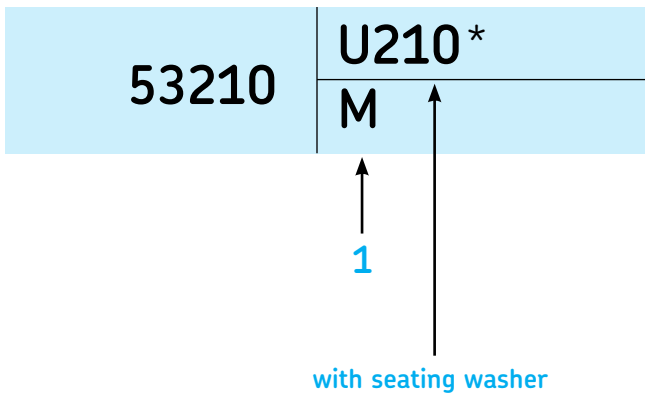




Thrust bearings

Thrust ball bearing

Spherical roller thrust bearing



1. Features	
M	Machined brass cage, roller guided
J9	Internal design change to J cage
F	Machined steel or special cast iron cage, roller guided
P5	Dimensional and running accuracy to ISO tolerance class 5 (approximately ABEC 5)

2. Features	
E	Optimized internal design, window-type steel cage
–	Machined brass cage (no symbol)
EF	Optimized internal design, machined steel cage
EM	Optimized internal design, machined brass cage
RD	Spacer sleeve
W64	Solid Oil lubricants

* The sphered seating washer must be ordered separately. See Table 1 on page 110 for designations and dimensions.

Technical features

Thrust ball bearing

Spherical roller thrust bearing

Boundary dimensions

Bearings with flat housing washers are in accordance with ISO 104. The bearings with sphered housing washers have dimensions in accordance with ISO 20516.

In accordance with ISO 104

Tolerances

ABEC 1

RBEC 1

Heat stabilization

250° F (125° C)

392° F (200° C)

Misalignment

None – contact SKF

Normal load conditions

$F_a + 2.7 \times F_r \leq 0.05 C_0$
 series 29200 – 2 degrees
 series 29300 – 2.5 degrees
 series 29400 – 3 degrees

Heavy load conditions

$F_a + 2.7 \times F_r > 0.05 C_0$
 1.5 degrees for all series

Extreme load conditions

$F_a + 2.7 \times F_r > 0.3 C_0$
 series 29200 – 1 degree
 series 29300 – 0.3 degrees
 series 29400 – 0.3 degrees

Cage materials

Standard

Pressed steel

Steel

Optional

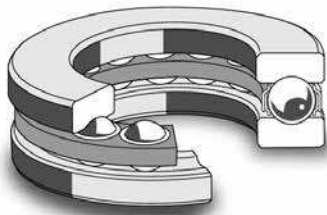
Machined brass (M)

Machined brass (larger bearings only)

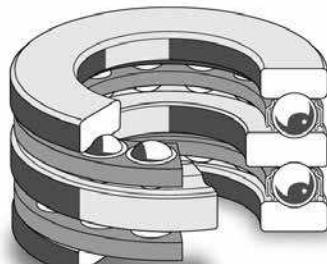
Seals

Not available

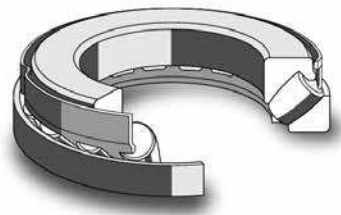
Not available



Single direction thrust ball bearing (data tables on page 112)



Double direction thrust ball bearing (data tables on page 118)



Spherical roller thrust bearing (data tables on page 123)

Introduction

SKF produces two types of thrust bearings – ball and roller – both of the separable design. The thrust ball bearings are manufactured in single direction and double direction designs and are specifically designed into applications in which there is no radial load.

The spherical roller thrust bearings are capable of handling shaft misalignment, very heavy axial loads, small radial loads and relatively high speeds.

Basic design

Single direction thrust ball bearings

Thrust ball bearings of this type are suitable for the accommodation of axial loads in one direction only and can locate a shaft in one direction; **they may not, however, be subjected to any radial load.**

Single direction thrust ball bearings comprise a shaft washer with raceway groove, a ball and cage thrust assembly and a housing washer with raceway groove. The housing washer can have a flat or sphered seating surface as required. Bearings with a sphered housing washer can compensate for initial misalignment if they are used together with a seating washer which has a correspondingly sphered surface.

The bearings are separable and mounting is simple as the components can be mounted individually.

Double direction thrust ball bearings

Thrust ball bearings of this type can accommodate axial loads acting in both directions and consequently can be used to locate a shaft in both directions. They should not be subjected to any radial load.

Double direction thrust ball bearings comprise one shaft washer with a raceway groove in each face, two ball and cage thrust assemblies and two housing washers with raceway groove. The housing washers can have a flat or sphered seating surface as required. Bearings with sphered housing washers can compensate for initial misalignments if they are used together with seating washers which have a correspondingly sphered surface. The sphered seating washers must be ordered separately. See bearing tables for designations.

The bearings are separable. The housing washers and ball and cage thrust assemblies are the same as those of the corresponding single direction bearings.

Spherical roller thrust bearings

In spherical roller thrust bearings the load is transmitted from one raceway to the other at an angle to the bearing axis (**Figure 1**). They are therefore suitable, in contrast to the other thrust bearings shown in this catalog, for the accommodation of radial loads in addition to simultaneously acting axial loads. Another important characteristic of spherical roller thrust bearings is their self-aligning capability. This makes the bearings insensitive to shaft deflection and to errors of alignment of the shaft relative to the housing.

Spherical roller thrust bearings are of separable design; the shaft washer with roller and cage assembly, and the housing washer, can be mounted individually.

Product highlights

Thrust ball

Purely for thrust loads

SKF thrust ball bearings are designed for purely thrust loads and are used in applications in which there is no radial load. These bearings are separable to facilitate easy mounting.

High speed capabilities

SKF thrust ball bearings offer higher speed capabilities than the spherical roller thrust bearings.

Large product assortment

Single and double direction designs are available also with sphered seating washers to compensate for alignment errors. Size range includes 10 to 800 mm inside diameter.

Spherical roller thrust

Accommodates heavy combined load at high speeds

Spherical roller thrust bearings are used extensively in applications where heavy axial and simultaneous radial loads need to be supported. These heavy loads are often accompanied by relatively high speeds.

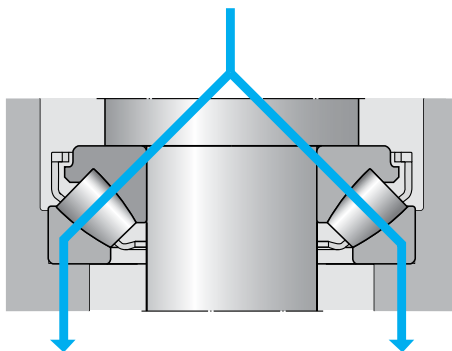
Unaffected by misalignment

Spherical roller thrust bearings are also insensitive to misalignments allowing for equipment machining error without reduced service life.

Application flexibility

Used in a wide range of machinery including gearboxes, water turbines, steering propellers and propeller thrust blocks, wind power stations, electric motors, pumps, fans, crushers, machine tools, rolling mills, extrusion machines refiners, injection molding machines, hydraulic motors, cranes and tunneling.

Figure 1



Introduction

SKF spherical roller thrust bearings incorporate a large number of asymmetrical rollers and have specially designed raceways with an optimum conformity. They are therefore suitable for very heavy axial loads and also permit relatively high speed operation.

SKF spherical roller thrust bearings are manufactured in two designs depending on size and series. Bearings identified by the designation suffix E up to and including size 68 – except bearing 29238 E – have a pressed steel window-type cage which forms a non-separable assembly with the rollers and the shaft washer. All other bearings have a machined cage of brass which is guided by a sleeve fixed in the shaft washer bore. Here again, the shaft washer, cage and rollers form a non-separable unit.

The E design bearings represent a new generation of SKF spherical roller thrust bearings. They have the same boundary dimensions, but because of improvements to the internal design, their load carrying capacity is much higher and their friction much lower than that of the earlier bearings.

If bearings of earlier design with a machined cage, where axial forces were transmitted via the cage-guiding sleeve, are to be replaced by E design bearings with a pressed steel cage, it is necessary to insert a spacer sleeve between the shaft washer and the existing abutment (**Figure 2**). If bearings of the earlier B design are to be replaced, the spacer sleeve used with the B design generally needs machining (**Figure 3**). The sleeves must be hardened and should have ground faces. These sleeves may be purchased through SKF using the designation RD + the basic part number, i.e. RD 29434 B. Appropriate outside diameters for the sleeves and detailed drawings can be obtained from SKF Applications Engineering.

Loads

Minimum load – thrust ball

In order to provide satisfactory operation, thrust ball bearings, like all ball and roller bearings, must always be subjected to a given minimum load, particularly if they are to operate at high speeds or are subjected to high accelerations or rapid changes in the direction of load. Under such conditions the inertia forces of the balls and cage(s), and the friction in the lubricant, can have a detrimental influence on the rolling conditions in the bearing arrangement and may cause damaging sliding movements to occur between the balls and raceways.

The requisite minimum axial load to be applied to thrust ball bearings can be estimated using

$$F_{am} = A \left(\frac{n}{1\,000} \right)^2$$

where

F_{am} = minimum axial load, N

A = minimum load factor, (see product tables)

n = rotational speed, r/min

When starting up at low temperatures or when the lubricant is highly viscous, even greater minimum loads may be required. The weight of the components supported by the bearing, particularly when the shaft is vertical, together with external forces, generally exceeds the requisite minimum load. If this is not the case, the thrust ball bearing must be preloaded, e.g. by springs.

Minimum load – spherical roller thrust

In order to provide satisfactory operation, spherical roller thrust bearings, like all ball and roller bearings, must always be subjected to a given minimum load, particularly if they are to operate at high speeds or are subjected to high accelerations or rapid changes in the direction of the load. Under such conditions, the inertia forces of the rollers and cage, and the friction in the lubricant, can have a detrimental influence on the rolling conditions in the bearing arrangement and may cause damaging sliding movements to occur between the rollers and raceways.

The requisite minimum axial load to be applied to spherical roller thrust bearings can be estimated using

$$F_{am} = 1.8 F_r + A \left(\frac{n}{1\,000} \right)^2$$

where

F_{am} = minimum axial load, N

F_r = radial component of load for bearings subjected to combined load, N

C_0 = basic static load rating, N (see product tables)

A = minimum load factor, (see product tables)

n = rotational speed, r/min

If $1.8 F_r < 0.0005 C_0$ then $0.0005 C_0$ should be used in the above equation instead of $1.8 F_r$.

At speeds higher than the reference speed or when starting up at low temperatures, or when the lubricant is highly viscous, even greater minimum loads may be required. The weight of the components supported by the bearing, together with external forces, generally exceeds the requisite minimum load. If this is not the case, the spherical roller thrust bearing must be preloaded, e.g. by springs. For a more accurate calculation of minimum load requirement that factors in lubrication, visit www.SKF.com and under the Knowledge Centre section, access engineering tools.

Figure 2

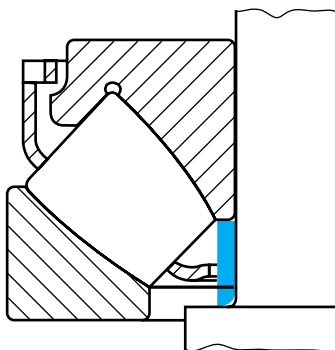
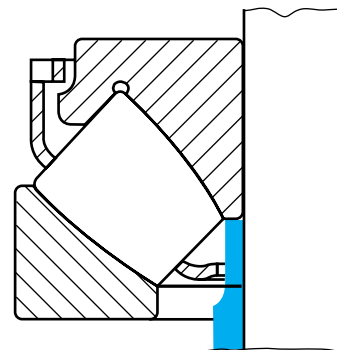


Figure 3



Equivalent dynamic bearing load – thrust ball

For single and double direction thrust ball bearings

$$P = F_a$$

Equivalent dynamic bearing load – spherical roller thrust

For spherical roller thrust bearings, provided $F_r \leq 0.55 F_a$

$$P = F_a + 1.2 F_r$$

If, however, the bearing is arranged so that it can compensate for axial and radial runouts by relative movements between the washers and provided $F_r \leq 0.55 F_a$ then

$$P = 0.88 (F_a + 1.2 F_r)$$

can be used.

If $F_r > 0.55 F_a$ please contact SKF Applications Engineering.

Design of associated components for roller thrust bearings

For E design bearings with pressed steel cage it is recommended that the housing bore be relieved to prevent the cage from rubbing against the housing if the shaft should be misaligned (**Figure 4**). Recommended guideline values for the diameter of this relief are $D + 15$ mm for bearings with outside diameters up to and including 380 mm and $D + 20$ mm for larger bearings. Contact SKF Applications Engineering for additional information.

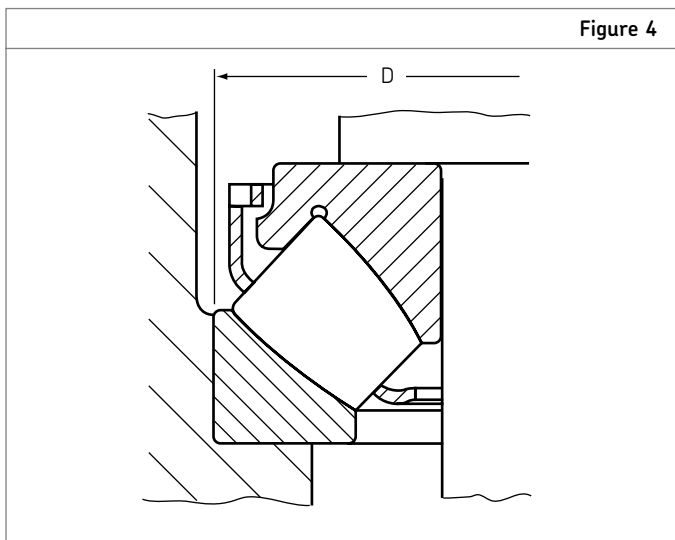
SKF Explorer class bearings

High performance SKF Explorer spherical roller thrust bearings are shown in blue in the product tables. SKF Explorer bearings retain the designation of the earlier standard bearings, e.g. 29330 E. However, each bearing and its box are marked with the name "SKF Explorer". Additional details on the Explorer performance class bearings can be found on page 25.

Frequency vibration data

Frequency vibration data is available on the SKF website, www.skf.com under Knowledge Centre/Engineering tools and CAD, or by contacting SKF Applications Engineering.

Figure 4



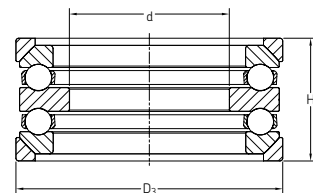
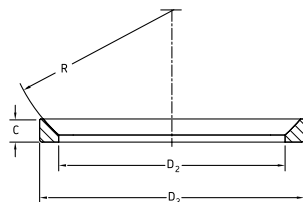


Table 1

Ball thrust bearing seating washer dimensions

Designation		Dimensions - seating washer										Mass	
Seating washer	Bearing	D2		D3		C		R		H1		Seating washer	
		mm	in	mm	in	mm	in	mm	in	mm	in	kg	lb
U 201	53201	20	0.7874	30	1.1811	3.5	0.1378	25	0.9843	13	0.5118	0.01	0.03
U 202	53202	24	0.9449	35	1.3780	4	0.1575	28	1.1024	15	0.5906	0.01	0.03
U 203	53203	26	1.0236	38	1.4961	4	0.1575	32	1.2598	15	0.5906	0.02	0.03
U 204	53204	30	1.1811	42	1.6535	5	0.1969	36	1.4173	17	0.6693	0.02	0.04
U 205	53205	36	1.4173	50	1.9685	5.5	0.2165	40	1.5748	19	0.7480	0.03	0.07
U 206	53206	42	1.6535	55	2.1654	5.5	0.2165	45	1.7717	20	0.7874	0.04	0.08
U 207	53207	48	1.8898	65	2.5591	7	0.2756	50	1.9685	22	0.8661	0.06	0.13
U 207	54207	48	1.8898	65	2.5591	7	0.2756	50	1.9685	42	1.6535	0.06	0.13
U 208	53208	55	2.1654	72	2.8346	7	0.2756	56	2.2047	23	0.9055	0.07	0.15
U 208	54208	55	2.1654	72	2.8346	7	0.2756	56	2.2047	44	1.7323	0.07	0.15
U 209	53209	60	2.3622	78	3.0709	7.5	0.2953	56	2.2047	24	0.9449	0.09	0.19
U 210	53210	62	2.4409	82	3.2283	7.5	0.2953	64	2.5197	26	1.0236	0.10	0.22
U 211	53211	72	2.8346	95	3.7402	9	0.3543	72	2.8346	30	1.1811	0.15	0.33
U 211	54211	72	2.8346	95	3.7402	9	0.3543	72	2.8346	55	2.1654	0.15	0.33
U 212	53212	78	3.0709	100	3.9370	9	0.3543	72	2.8346	31	1.2205	0.16	0.35
U 213	53213	82	3.2283	105	4.1339	9	0.3543	80	3.1496	32	1.2598	0.18	0.40
U 214	53214	88	3.4646	110	4.3307	9	0.3543	80	3.1496	32	1.2598	0.19	0.42
U 215	53215	92	3.6220	115	4.5276	9.5	0.3740	90	3.5433	32	1.2598	0.21	0.46
U 216	53216	98	3.8583	120	4.7244	10	0.3937	90	3.5433	33	1.2992	0.22	0.48
U 217	53217	105	4.1339	130	5.1181	11	0.4331	100	3.9370	37	1.4567	0.29	0.64
U 218	53218	110	4.3307	140	5.5118	13.5	0.5315	100	3.9370	42	1.6535	0.42	0.92
U 220	53220	125	4.9213	155	6.1024	14	0.5512	112	4.4094	45	1.7717	0.50	1.10
U 222	53222	135	5.3150	165	6.4961	14	0.5512	125	4.9213	45	1.7717	0.56	1.23
U 224	53224	145	5.7087	175	6.8898	15	0.5906	125	4.9213	46	1.8110	0.65	1.43
U 226	53226	160	6.2992	195	7.6772	17	0.6693	140	5.5118	53	2.0866	0.90	1.98
U 228	53228	170	6.6929	210	8.2677	17	0.6693	160	6.2992	55	2.1654	1.20	2.64
U 306	53306	45	1.7717	62	2.4409	7	0.2756	50	1.9685	25	0.9843	0.06	0.12
U 306	54306	45	1.7717	62	2.4409	7	0.2756	50	1.9685	46	1.8110	0.06	0.12
U 307	53307	52	2.0472	72	2.8346	7.5	0.2953	56	2.2047	28	1.1024	0.08	0.18
U 307	54307	52	2.0472	72	2.8346	7.5	0.2953	56	2.2047	52	2.0472	0.08	0.18
U 308	53308	60	2.3622	82	3.2283	8.5	0.3346	64	2.5197	31	1.2205	0.12	0.26
U 308	54308	60	2.3622	82	3.2283	8.5	0.3346	64	2.5197	59	2.3228	0.12	0.26

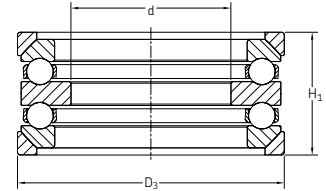
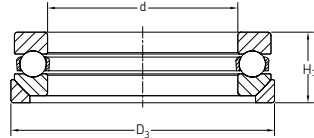
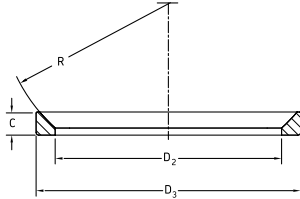


Table 1

Ball thrust bearing seating washer dimensions

Designation		Dimensions - seating washer										Mass	
Seating washer	Bearing	D2		D3		C		R		H1		Seating washer	
		mm	in	mm	in	mm	in	mm	in	mm	in	kg	lb
U 309	53309	65	2.5591	90	3.5433	10	0.3937	64	2.5197	33	1.2992	0.17	0.37
U 309	54309	65	2.5591	90	3.5433	10	0.3937	64	2.5197	62	2.4409	0.17	0.37
U 310	53310	72	2.8346	100	3.9370	11	0.4331	72	2.8346	37	1.4567	0.23	0.51
U 310	54310	72	2.8346	100	3.9370	11	0.4331	72	2.8346	70	2.7559	0.23	0.51
U 311	53311	80	3.1496	110	4.3307	11.5	0.4528	80	3.1496	42	1.6535	0.28	0.62
U 312	53312	85	3.3465	115	4.5276	11.5	0.4528	90	3.5433	42	1.6535	0.31	0.68
U 312	54312	85	3.3465	115	4.5276	11.5	0.4528	90	3.5433	78	3.0709	0.31	0.68
U 313	53313	90	3.5433	120	4.7244	12.5	0.4921	90	3.5433	43	1.6929	0.34	0.75
U 314	53314	98	3.8583	130	5.1181	13	0.5118	100	3.9370	48	1.8898	0.41	0.90
U 315	53315	105	4.1339	140	5.5118	15	0.5906	100	3.9370	52	2.0472	0.55	1.21
U 316	53316	110	4.3307	145	5.7087	15	0.5906	112	4.4094	52	2.0472	0.57	1.25
U 316	54316	110	4.3307	145	5.7087	15	0.5906	112	4.4094	95	3.7402	0.57	1.25
U 317	53317	115	4.5276	155	6.1024	17.5	0.6890	112	4.4094	58	2.2835	0.81	1.78
U 317	54317	115	4.5276	155	6.1024	17.5	0.6890	112	4.4094	105	4.1339	0.81	1.78
U 318	53318	120	4.7244	160	6.2992	18	0.7087	112	4.4094	59	2.3228	0.84	1.85
U 320	53320	135	5.3150	175	6.8898	18	0.7087	125	4.9213	64	2.5197	0.95	2.09
U 322	53322	150	5.9055	195	7.6772	20.5	0.8071	140	5.5118	72	2.8346	1.30	2.86
U 324	53324	165	6.4961	220	8.6614	22	0.8661	160	6.2992	80	3.1496	2.00	4.40
U 408	53408	65	2.5591	95	3.7402	12	0.4724	72	2.8346	42	1.6535	0.25	0.55
U 409	53409	72	2.8346	105	4.1339	12.5	0.4921	80	3.1496	46	1.8110	0.32	0.70
U 409	54409	72	2.8346	105	4.1339	12.5	0.4921	80	3.1496	86	3.3858	0.32	0.70
U 410	53410	80	3.1496	115	4.5276	14	0.5512	90	3.5433	50	1.9685	0.41	0.90
U 410	54410	80	3.1496	115	4.5276	14	0.5512	90	3.5433	92	3.6220	0.41	0.90
U 412	53412	95	3.7402	135	5.3150	16	0.6299	100	3.9370	58	2.2835	0.71	1.56
U 414	53414	110	4.3307	155	6.1024	19.5	0.7677	112	4.4094	69	2.7165	1.00	2.20
U 415	53415	115	4.5276	165	6.4961	21	0.8268	125	4.9213	75	2.9528	1.25	2.75
U 416	53416	125	4.9213	175	6.8898	22	0.8661	125	4.9213	78	3.0709	1.40	3.08
U 416	54416	125	4.9213	175	6.8898	22	0.8661	125	4.9213	140	5.5118	1.40	3.08
U 418	53418	140	5.5118	195	7.6772	25.5	1.0039	140	5.5118	88	3.4646	1.90	4.18
U 420	53420	155	6.1024	220	8.6614	27	1.0630	160	6.2992	98	3.8583	2.90	6.38
U 420	54420	155	6.1024	220	8.6614	27	1.0630	160	6.2992	176	6.9291	2.90	6.38

Thrust ball bearings

Single direction

Standard

Series: BA 3 – BA 9

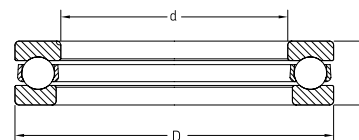
Size: 3 mm – 9 mm

0.1181 in – 0.3543 in

Series: 51100 – 51132 M

Size: 10 mm – 160 mm

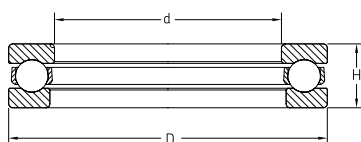
0.3937 in – 6.2292 in



Single direction

Designation	Principal dimensions						Basic load ratings				Minimum load factor A	Speed rating		Mass	
	Bore d		Outside diameter D		Height H		Dynamic C		Static C ₀			Reference speed r/min	Limiting speed r/min	kg	lb
	mm	in	mm	in	mm	in	N	lbf	N	lbf					
BA 3	3	0.1181	8	0.3150	3.5	0.1378	806	180	720	160	0.003	26 000	36 000	0.0009	0.00
BA 4	4	0.1575	10	0.3937	4	0.1575	761	170	720	160	0.003	22 000	30 000	0.0015	0.00
BA 5	5	0.1969	12	0.4724	4	0.1575	852	190	965	220	0.005	20 000	28 000	0.0021	0.00
BA 6	6	0.2362	14	0.5512	5	0.1969	1 780	400	1 920	430	0.019	17 000	24 000	0.0035	0.01
BA 7	7	0.2756	17	0.6693	6	0.2362	2 510	560	2 900	650	0.044	14 000	19 000	0.0065	0.01
BA 8	8	0.3150	19	0.7480	7	0.2756	3 190	720	3 800	850	0.075	12 000	17 000	0.0091	0.02
BA 9	9	0.3543	20	0.7874	7	0.2756	3 120	700	3 800	850	0.075	12 000	16 000	0.0100	0.02
51100	10	0.3937	24	0.9449	9	0.3543	9 950	2 240	15 300	3 440	1.2	9 500	13 000	0.02	0.04
51101	12	0.4724	26	1.0236	9	0.3543	10 400	2 340	16 600	3 730	1.4	9 000	13 000	0.02	0.05
51102	15	0.5906	28	1.1024	9	0.3543	10 600	2 380	18 300	4 110	1.7	8 500	12 000	0.02	0.05
51103	17	0.6693	30	1.1811	9	0.3543	11 400	2 560	21 200	4 760	2.3	8 500	12 000	0.03	0.06
51104	20	0.7874	35	1.3780	10	0.3937	15 100	3 390	29 000	6 520	4.4	7 500	10 000	0.04	0.08
51105	25	0.9843	42	1.6535	11	0.4331	18 200	4 090	39 000	8 760	7.9	6 300	9 000	0.06	0.12
51106	30	1.1811	47	1.8504	11	0.4331	19 000	4 270	43 000	9 660	9.6	6 000	8 500	0.06	0.14
51107	35	1.3780	52	2.0472	12	0.4724	19 900	4 470	51 000	11 460	13	5 600	7 500	0.08	0.18
51108	40	1.5748	60	2.3622	13	0.5118	25 500	5 730	63 000	14 160	20	5 000	7 000	0.12	0.26
51109	45	1.7717	65	2.5591	14	0.5512	26 500	5 960	69 500	15 620	25	4 500	6 300	0.14	0.31
51110	50	1.9685	70	2.7559	14	0.5512	27 000	6 070	75 000	16 850	29	4 300	6 300	0.16	0.35
51111	55	2.1654	78	3.0709	16	0.6299	30 200	6 790	81 500	18 310	39	3 800	5 300	0.23	0.51
51112	60	2.3622	85	3.3465	17	0.6693	41 600	9 350	122 000	27 420	77	3 600	5 000	0.27	0.60
51113	65	2.5591	90	3.5433	18	0.7087	37 700	8 470	108 000	24 270	60	3 400	4 800	0.33	0.73
51114	70	2.7559	95	3.7402	18	0.7087	40 300	9 060	120 000	26 970	74	3 400	4 500	0.35	0.77
51115	75	2.9528	100	3.9370	19	0.7480	44 200	9 930	134 000	30 110	110	3 200	4 300	0.40	0.88
51116	80	3.1496	105	4.1339	19	0.7480	44 900	10 090	140 000	31 460	120	3 000	4 300	0.42	0.93
51117	85	3.3465	110	4.3307	19	0.7480	44 900	10 090	146 000	32 810	140	3 000	4 300	0.44	0.97
51118	90	3.5433	120	4.7244	22	0.8661	59 200	13 300	208 000	46 740	220	2 600	3 800	0.67	1.48
51120	100	3.9370	135	5.3150	25	0.9843	80 600	18 110	265 000	59 600	440	2 400	3 200	0.97	2.14
51122	110	4.3307	145	5.7087	25	0.9843	83 200	18 700	285 000	64 000	520	2 200	3 200	1.05	2.32
51124	120	4.7244	155	6.1024	25	0.9843	85 200	19 150	305 000	68 500	580	2 200	3 000	1.15	2.54
51126	130	5.1181	170	6.6929	30	1.1811	119 000	26 740	440 000	98 900	940	1 900	2 600	1.85	4.08
51128	140	5.5118	180	7.0866	31	1.2205	111 000	24 940	440 000	98 900	1 000	1 800	2 600	2.05	4.52
51130 M	150	5.9055	190	7.4803	31	1.2205	111 000	24 940	440 000	98 900	1 000	1 700	2 400	2.20	4.85
51132 M	160	6.2992	200	7.8740	31	1.2205	112 000	25 170	465 000	104 500	1 100	1 700	2 400	2.35	5.18

Thrust ball bearings
 Single direction
 Standard
 Series: 51122 – 511/670 M
 Size: 110 mm – 670 mm
 4.3307 in – 26.3780 in

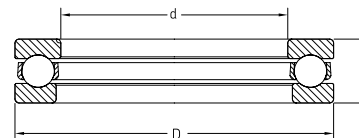


Single direction

Designation	Principal dimensions						Basic load ratings				Minimum load factor A	Speed rating		Mass	
	Bore d		Outside diameter D		Height H		Dynamic C		Static C ₀			Reference speed r/min	Limiting speed r/min	kg	lb
	mm	in	mm	in	mm	in	N	lbf	N	lbf					
51122	110	4.3307	145	5.7087	25	0.9843	83 200	18 700	285 000	64 000	520	2 200	3 200	1.05	2.32
51124	120	4.7244	155	6.1024	25	0.9843	85 200	19 150	305 000	68 500	580	2 200	3 000	1.15	2.54
51126	130	5.1181	170	6.6929	30	1.1811	119 000	26 740	440 000	98 900	940	1 900	2 600	1.85	4.08
51128	140	5.5118	180	7.0866	31	1.2205	111 000	24 940	440 000	98 900	1 000	1 800	2 600	2.05	4.52
51130 M	150	5.9055	190	7.4803	31	1.2205	111 000	24 940	440 000	98 900	1 000	1 700	2 400	2.20	4.85
51132 M	160	6.2992	200	7.8740	31	1.2205	112 000	25 170	465 000	104 500	1 100	1 700	2 400	2.35	5.18
51134 M	170	6.6929	215	8.4646	34	1.3386	133 000	29 890	540 000	121 300	1 500	1 600	2 200	3.30	7.28
51136 M	180	7.0866	225	8.8583	34	1.3386	135 000	30 340	570 000	128 100	1 700	1 500	2 200	3.50	7.72
51138 M	190	7.4803	240	9.4488	37	1.4567	172 000	38 650	710 000	159 600	2 600	1 400	2 000	4.05	8.93
51140 M	200	7.8740	250	9.8425	37	1.4567	168 000	37 750	710 000	159 600	2 600	1 400	1 900	4.25	9.37
51144 M	220	8.6614	270	10.6299	37	1.4567	178 000	40 000	800 000	179 800	3 300	1 300	1 900	4.60	10.14
51148 M	240	9.4488	300	11.8110	45	1.7717	234 000	52 600	1 040 000	233 700	5 600	1 100	1 600	7.55	16.65
51152 M	260	10.2362	320	12.5984	45	1.7717	238 000	53 500	1 100 000	247 200	6 300	1 100	1 500	8.10	17.86
51156 M	280	11.0236	350	13.7795	53	2.0866	319 000	71 700	1 460 000	328 100	11 000	950	1 300	12.00	26.46
51160 M	300	11.8110	380	14.9606	62	2.4409	364 000	81 800	1 760 000	395 500	16 000	850	1 200	17.50	38.59
51164 M	320	12.5984	400	15.7480	63	2.4803	371 000	83 400	1 860 000	418 000	18 000	800	1 100	19.00	41.90
51168 M	340	13.3858	420	16.5354	64	2.5197	377 000	84 700	1 960 000	440 400	20 000	800	1 100	20.50	45.20
51172 F	360	14.1732	440	17.3228	65	2.5591	390 000	87 600	2 080 000	467 400	22 000	750	1 100	22.00	48.51
51176 F	380	14.9606	460	18.1102	65	2.5591	397 000	89 200	2 200 000	494 400	25 000	750	1 000	23.00	50.72
51180 F	400	15.7480	480	18.8976	65	2.5591	403 000	90 600	2 280 000	512 400	27 000	700	1 000	24.00	52.92
51184 F	420	16.5354	500	19.6850	65	2.5591	410 000	92 100	2 400 000	539 300	30 000	700	1 000	25.50	56.23
51188 F	440	17.3228	540	21.2598	80	3.1496	527 000	118 400	3 250 000	730 300	55 000	600	850	42.00	92.61
51192 F	460	18.1102	560	22.0472	80	3.1496	527 000	118 400	3 250 000	730 300	55 000	600	800	43.50	95.92
51196 F	480	18.8976	580	22.8346	80	3.1496	540 000	121 300	3 550 000	797 800	66 000	560	800	45.50	100.33
511/500 F	500	19.6850	600	23.6220	80	3.1496	553 000	124 300	3 600 000	809 000	67 000	560	800	47.00	103.64
511/530 F	530	20.8661	640	25.1969	85	3.3465	650 000	146 100	4 400 000	988 800	100 000	530	750	58.50	128.99
511/560 F	560	22.0472	670	26.3780	85	3.3465	650 000	146 100	4 650 000	1 044 900	110 000	500	700	61.00	134.51
511/600 F	600	23.6220	710	27.9528	85	3.3465	663 000	149 000	4 800 000	1 078 700	120 000	500	700	65.00	143.33
511/630 F	630	24.8031	750	29.5276	95	3.7402	728 000	163 600	5 400 000	1 213 500	150 000	450	630	84.00	185.22
511/670 F	670	26.3780	800	31.4961	105	4.1339	852 000	191 500	6 700 000	1 505 600	230 000	400	560	105.00	231.53
511/670 M	670	26.3780	800	31.4961	105	4.1339	852 000	191 500	6 700 000	1 505 600	230 000	400	560	105.00	231.53

Consult SKF USA Inc. prior to design change or order placement.

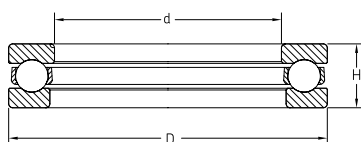
Thrust ball bearings
 Single direction
 Standard
 Series: 51200 – 51228
 Size: 10 mm – 140 mm
 0.3937 in – 5.5118 in



Single direction

Designation	Principal dimensions						Basic load ratings				Minimum load factor A	Speed rating		Mass	
	Bore d		Outside diameter D		Height H		Dynamic C		Static C ₀			Reference speed r/min	Limiting speed r/min	kg	lb
	mm	in	mm	in	mm	in	N	lbf	N	lbf					
51200	10	0.3937	26	1.0236	11	0.4331	12 700	2 850	18 600	4 180	1.8	8 000	11 000	0.03	0.07
51201	12	0.4724	28	1.1024	11	0.4331	13 300	2 990	20 800	4 670	2.2	8 000	11 000	0.03	0.07
51202	15	0.5906	32	1.2598	12	0.4724	15 900	3 570	25 000	5 620	3.8	7 000	10 000	0.04	0.10
51203	17	0.6693	35	1.3780	12	0.4724	16 300	3 660	27 000	6 070	4.7	6 700	9 500	0.05	0.12
51204	20	0.7874	40	1.5748	14	0.5512	21 200	4 760	37 500	8 430	8.5	6 000	8 000	0.08	0.18
51205	25	0.9843	47	1.8504	15	0.5906	26 500	5 960	50 000	11 240	15	5 300	7 500	0.11	0.24
51206	30	1.1811	52	2.0472	16	0.6299	25 100	5 640	51 000	11 460	13	4 800	6 700	0.13	0.29
51207	35	1.3780	62	2.4409	18	0.7087	35 100	7 890	73 500	16 520	28	4 000	5 600	0.22	0.49
51208	40	1.5748	68	2.6772	19	0.7480	44 200	9 930	96 500	21 690	58	3 800	5 300	0.28	0.62
51209	45	1.7717	73	2.8740	20	0.7874	39 000	8 760	86 500	19 440	38	3 600	5 000	0.30	0.66
51210	50	1.9685	78	3.0709	22	0.8661	49 400	11 100	116 000	26 070	69	3 400	4 500	0.37	0.82
51211	55	2.1654	90	3.5433	25	0.9843	58 500	13 150	134 000	30 110	110	2 800	4 000	0.59	1.30
51212	60	2.3622	95	3.7402	26	1.0236	59 200	13 300	140 000	31 460	120	2 800	3 800	0.65	1.43
51213	65	2.5591	100	3.9370	27	1.0630	60 500	13 600	150 000	33 710	140	2 600	3 600	0.72	1.59
51214	70	2.7559	105	4.1339	27	1.0630	62 400	14 020	160 000	35 960	160	2 600	3 600	0.79	1.74
51215	75	2.9528	110	4.3307	27	1.0630	63 700	14 310	170 000	38 200	170	2 400	3 400	0.83	1.83
51216	80	3.1496	115	4.5276	28	1.1024	76 100	17 100	208 000	46 740	220	2 400	3 400	0.91	2.01
51217	85	3.3465	125	4.9213	31	1.2205	97 500	21 910	275 000	61 800	390	2 200	3 000	1.20	2.65
51218	90	3.5433	135	5.3150	35	1.3780	112 000	25 170	290 000	65 170	550	2 000	2 800	1.70	3.75
51220	100	3.9370	150	5.9055	38	1.4961	119 000	26 740	325 000	73 030	620	1 800	2 400	2.20	4.85
51222	110	4.3307	160	6.2992	38	1.4961	125 000	28 090	365 000	82 020	790	1 700	2 400	2.40	5.29
51224	120	4.7244	170	6.6929	39	1.5354	127 000	28 540	390 000	87 640	1 000	1 600	2 200	2.65	5.84
51226	130	5.1181	190	7.4803	45	1.7717	186 000	41 800	585 000	131 460	1 800	1 400	2 000	4.00	8.82
51228	140	5.5118	200	7.8740	46	1.8110	190 000	42 700	620 000	139 330	2 000	1 400	1 900	4.35	9.59

Thrust ball bearings
 Single direction
 Standard
 Series: 51230 M – 51276 F
 Size: 150 mm – 380 mm
 5.9055 in – 14.9606 in

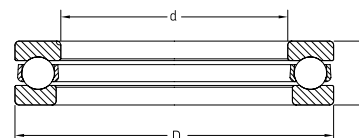


Single direction

Designation	Principal dimensions						Basic load ratings				Minimum load factor A	Speed rating		Mass	
	Bore d		Outside diameter D		Height H		Dynamic C		Static C ₀			Refer- ence speed	Limiting speed	kg	lb
	mm	in	mm	in	mm	in	N	lbf	N	lbf		r/min	r/min		
51230 M	150	5.9055	215	8.4646	50	1.9685	238 000	53 480	800 000	179 780	3 300	1 300	1 800	6.10	13.45
51232 M	160	6.2992	225	8.8583	51	2.0079	238 000	53 480	830 000	186 520	3 800	1 200	1 700	6.55	14.44
51234 M	170	6.6929	240	9.4488	55	2.1654	270 000	60 670	930 000	208 990	5 400	1 200	1 700	8.15	17.97
51236 M	180	7.0866	250	9.8425	56	2.2047	302 000	67 870	1 120 000	251 690	6 100	1 200	1 600	8.60	18.96
51238 M	190	7.4803	270	10.6299	62	2.4409	332 000	74 610	1 270 000	285 390	8 400	1 100	1 600	12.00	26.46
51240 M	200	7.8740	280	11.0236	62	2.4409	338 000	75 960	1 320 000	296 630	9 100	1 100	1 500	12.00	26.46
51244 M	220	8.6614	300	11.8110	63	2.4803	358 000	80 450	1 460 000	328 090	11 000	950	1 300	13.00	28.67
51248 M	240	9.4488	340	13.3858	78	3.0709	449 000	100 900	1 960 000	440 450	21 000	800	1 100	23.00	50.72
51252 M	260	10.2362	360	14.1732	79	3.1102	488 000	109 660	2 240 000	503 370	24 000	750	1 100	25.00	55.13
51256 M	280	11.0236	380	14.9606	80	3.1496	488 000	109 660	2 320 000	521 350	28 000	750	1 000	26.50	58.43
51260 M	300	11.8110	420	16.5354	95	3.7402	585 000	131 460	3 000 000	674 160	47 000	630	850	42.00	92.61
51264 F	320	12.5984	440	17.3228	95	3.7402	572 000	128 540	3 000 000	674 160	47 000	600	850	45.50	100.33
51264 M		12.5984	440	17.3228	95	3.7402	572 000	128 540	3 000 000	674 160	47 000	600	850	45.00	99.23
51268 F	340	13.3858	460	18.1102	96	3.7795	371 000	83 370	1 370 000	307 870	53 000	600	800	48.50	106.94
51272 F	360	14.1732	500	19.6850	110	4.3307	741 000	166 520	4 150 000	932 580	90 000	500	700	70.00	154.35
51276 F	380	14.9606	520	20.4724	112	4.4094	728 000	163 600	4 150 000	932 580	90 000	500	700	73.00	160.97

Consult SKF USA Inc. prior to design change or order placement.

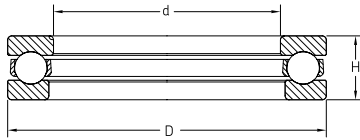
Thrust ball bearings
 Single direction
 Standard
 Series: 51305 – 51340 M
 Size: 25 mm – 200 mm
 0.9843 in – 7.8740 in



Single direction

Designation	Principal dimensions						Basic load ratings				Minimum load factor A	Speed rating		Mass	
	Bore d		Outside diameter D		Height H		Dynamic C		Static C ₀			Reference speed r/min	Limiting speed r/min	kg	lb
	mm	in	mm	in	mm	in	N	lbf	N	lbf					
51305	25	0.9843	52	2.0472	18	0.7087	34 500	7 750	60 000	13 480	18	4 500	6 300	0.17	0.37
51306	30	1.1811	60	2.3622	21	0.8268	35 800	8 040	65 500	14 720	26	3 800	5 300	0.26	0.57
51307	35	1.3780	68	2.6772	24	0.9449	49 400	11 100	96 500	21 690	48	3 400	4 800	0.39	0.86
51308	40	1.5748	78	3.0709	26	1.0236	61 800	13 890	122 000	27 420	77	3 000	4 300	0.53	1.17
51309	45	1.7717	85	3.3465	28	1.1024	76 100	17 100	153 000	34 380	120	2 800	4 000	0.66	1.46
51310	50	1.9685	95	3.7402	31	1.2205	81 900	18 400	170 000	38 200	190	2 600	3 600	0.94	2.07
51311	55	2.1654	105	4.1339	35	1.3780	101 000	22 700	224 000	50 340	260	2 200	3 200	1.30	2.87
51312	60	2.3622	110	4.3307	35	1.3780	101 000	22 700	224 000	50 340	260	2 200	3 000	1.35	2.98
51313	65	2.5591	115	4.5276	36	1.4173	106 000	23 820	240 000	53 930	300	2 000	3 000	1.50	3.31
51314	70	2.7559	125	4.9213	40	1.5748	135 000	30 340	320 000	71 910	530	1 900	2 600	2.00	4.41
51315	75	2.9528	135	5.3150	44	1.7323	163 000	36 630	390 000	87 640	790	1 700	2 400	2.60	5.73
51316	80	3.1496	140	5.5118	44	1.7323	159 000	35 730	390 000	87 640	790	1 700	2 400	2.70	5.95
51317	85	3.3465	150	5.9055	49	1.9291	174 000	39 100	405 000	91 010	1 100	1 600	2 200	3.55	7.83
51318	90	3.5433	155	6.1024	50	1.9685	182 000	40 900	440 000	98 880	1 300	1 500	2 200	3.80	8.38
51320	100	3.9370	170	6.6929	55	2.1654	225 000	50 560	570 000	128 090	1 900	1 400	1 900	4.95	10.91
51322 M	110	4.3307	190	7.4803	63	2.4803	281 000	63 150	815 000	183 150	3 200	1 200	1 700	7.85	17.31
51324 M	120	4.7244	210	8.2677	70	2.7559	325 000	73 030	980 000	220 220	5 000	1 100	1 500	11.00	24.26
51326 M	130	5.1181	225	8.8583	75	2.9528	358 000	80 450	1 140 000	256 180	6 800	1 000	1 400	13.0	28.67
51328 M	140	5.5118	240	9.4488	80	3.1496	377 000	84 720	1 220 000	274 160	9 100	950	1 300	15.50	34.18
51330 M	150	5.9055	250	9.8425	80	3.1496	390 000	87 640	1 290 000	289 890	10 000	900	1 300	16.50	36.38
51332 M	160	6.2992	270	10.6299	87	3.4252	449 000	100 900	1 660 000	373 030	14 000	850	1 200	21.00	46.31
51334 M	170	6.6929	280	11.0236	87	3.4252	468 000	105 170	1 760 000	395 510	16 000	800	1 100	22.00	48.51
51336 M	180	7.0866	300	11.8110	95	3.7402	520 000	116 850	2 000 000	449 440	21 000	750	1 100	28.50	62.84
51338 M	190	7.4803	320	12.5984	105	4.1339	559 000	125 620	2 200 000	494 380	30 000	700	950	36.50	80.48
51340 M	200	7.8740	340	13.3858	110	4.3307	624 000	140 220	2 600 000	584 270	35 000	630	900	44.50	98.12

Thrust ball bearings
 Single direction
 Standard
 Series: 51405 – 51276 F
 Size: 25 mm – 380 mm
 0.9843 in – 14.9606 in

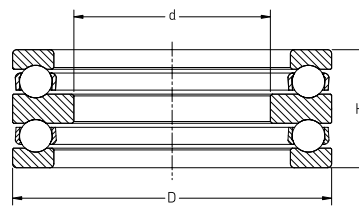


Single direction

Designation	Principal dimensions						Basic load ratings				Minimum load factor A	Speed rating		Mass	
	Bore d		Outside diameter D		Height H		Dynamic C		Static C ₀			Refer- ence speed	Limiting speed	kg	lb
	mm	in	mm	in	mm	in	N	lbf	N	lbf		r/min	r/min		
51405	25	0.9843	60	2.3622	24	0.9449	42 300	9 510	67 000	15 060	48	3 600	5 000	0.34	0.75
51406	30	1.1811	70	2.7559	28	1.1024	70 200	15 780	122 000	27 420	97	3 000	4 300	0.52	1.15
51407	35	1.3780	80	3.1496	32	1.2598	76 100	17 100	137 000	30 790	150	2 600	3 600	0.79	1.74
51408	40	1.5748	90	3.5433	36	1.4173	95 600	21 480	183 000	41 120	260	2 400	3 400	1.10	2.43
51409	45	1.7717	100	3.9370	39	1.5354	124 000	27 870	240 000	53 930	370	2 200	3 000	1.40	3.09
51410	50	1.9685	110	4.3307	43	1.6929	159 000	35 730	340 000	76 400	600	2 000	2 800	2.00	4.41
51411	55	2.1654	120	4.7244	48	1.8898	195 000	43 820	400 000	89 890	790	1 800	2 400	2.55	5.62
51412 M	60	2.3622	130	5.1181	51	2.0079	199 000	44 720	430 000	96 630	960	1 600	2 200	3.10	6.84
51413 M	65	2.5591	140	5.5118	56	2.2047	216 000	48 540	490 000	110 110	1 200	1 500	2 200	4.00	8.82
51414 M	70	2.7559	150	5.9055	60	2.3622	234 000	52 580	550 000	123 600	1 600	1 400	2 000	5.00	11.03
51415 M	75	2.9528	160	6.2992	65	2.5591	251 000	56 400	610 000	137 080	1 900	1 300	1 800	6.75	14.88
51416 M	80	3.1496	170	6.6929	68	2.6772	302 000	67 870	750 000	168 540	2 300	1 200	1 700	7.95	17.53
51417 M	85	3.3465	180	7.0866	72	2.8346	286 000	64 270	750 000	168 540	2 900	1 200	1 600	9.45	20.84
51418 M	90	3.5433	190	7.4803	77	3.0315	307 000	68 990	815 000	183 150	3 500	1 100	1 500	11.00	24.26
51420 M	100	3.9370	210	8.2677	85	3.3465	371 000	83 370	1 060 000	238 200	5 800	950	1 400	15.00	33.08
51422 M	110	4.3307	230	9.0551	95	3.7402	410 000	92 130	1 220 000	274 160	7 700	900	1 300	20.00	44.10
51424 M	120	4.7244	250	9.8425	102	4.0157	432 000	97 080	1 320 000	296 630	16 000	800	1 100	25.50	56.23
51426 M	130	5.1181	270	10.6299	110	4.3307	520 000	116 850	1 730 000	388 760	16 000	750	1 000	32.00	70.56
51428 M	140	5.5118	280	11.0236	112	4.4094	520 000	116 850	1 730 000	388 760	16 000	700	1 000	34.50	76.07
51430 M	150	5.9055	300	11.8110	120	4.7244	559 000	125 620	1 960 000	440 450	20 000	670	950	42.50	93.71
51276 F	380	14.9606	520	20.4724	112	4.4094	728 000	163 600	4 150 000	932 580	90 000	500	700	73.00	160.97

Consult SKF USA Inc. prior to design change or order placement.

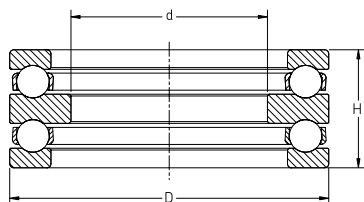
Thrust ball bearings
 Double direction
 Standard
 Series: 52202 – 52236 M
 Size: 10 mm – 150 mm
 0.3937 in – 5.9055 in



Designation	Principal dimensions						Basic load ratings				Minimum load factor A	Speed rating		Mass	
	Bore d		Outside diameter D		Height H		Dynamic C		Static C ₀			Reference speed r/min	Limiting speed r/min	kg	lb
	mm	in	mm	in	mm	in	N	lbf	N	lbf					
52202	10	0.3937	32	1.2598	22	0.8661	15 900	3 570	25 000	5 620	3.8	5 300	7 500	0.08	0.18
52204	15	0.5906	40	1.5748	26	1.0236	21 200	4 760	37 500	8 430	8.5	4 300	6 000	0.15	0.33
52205	20	0.7874	47	1.8504	28	1.1024	26 500	5 960	50 000	11 240	15	3 800	5 300	0.22	0.49
52206	25	0.9843	52	2.0472	29	1.1417	25 100	5 640	51 000	11 460	13	3 600	5 000	0.25	0.55
52207	30	1.1811	62	2.4409	34	1.3386	35 100	7 890	73 500	16 520	28	3 000	4 300	0.41	0.90
52208		1.1811	68	2.6772	36	1.4173	44 200	9 930	96 500	21 690	58	2 800	3 800	0.55	1.21
52209	35	1.3780	73	2.8740	37	1.4567	39 000	8 760	86 500	19 440	38	2 600	3 600	0.60	1.32
52210	40	1.5748	78	3.0709	39	1.5354	49 400	11 100	116 000	26 070	69	2 400	3 400	0.71	1.57
52211	45	1.7717	90	3.5433	45	1.7717	58 500	13 150	134 000	30 110	110	2 200	3 000	1.10	2.43
52212	50	1.9685	95	3.7402	46	1.8110	59 200	13 300	140 000	31 460	120	2 000	2 800	1.20	2.65
52213	55	2.1654	100	3.9370	47	1.8504	60 500	13 600	150 000	33 710	140	2 000	2 800	1.35	2.98
52214		2.1654	105	4.1339	47	1.8504	62 400	14 020	160 000	35 960	160	1 900	2 600	1.50	3.31
52215	60	2.3622	110	4.3307	47	1.8504	63 700	14 310	170 000	38 200	170	1 900	2 600	1.55	3.42
52216	65	2.5591	115	4.5276	48	1.8898	76 100	17 100	208 000	46 740	220	2 400	3 400	1.70	3.75
52217	70	2.7559	125	4.9213	55	2.1654	97 500	21 910	275 000	61 800	390	1 600	2 200	2.40	5.29
52218	75	2.9528	135	5.3150	62	2.4409	112 000	25 170	290 000	65 170	550	1 500	2 000	3.20	7.06
52220	85	3.3465	150	5.9055	67	2.6378	119 000	26 740	325 000	73 030	620	1 300	1 800	4.20	9.26
52222	95	3.7402	160	6.2992	67	2.6378	125 000	28 090	365 000	82 020	790	1 300	1 800	4.65	10.25
52224	100	3.9370	170	6.6929	68	2.6772	127 000	28 540	390 000	87 640	1 000	1 200	1 700	5.25	11.58
52226	110	4.3307	190	7.4803	80	3.1496	182 000	40 900	585 000	131 460	1 800	1 100	1 500	8.00	17.64
52228	120	4.7244	200	7.8740	81	3.1890	190 000	42 700	620 000	139 330	2 000	1 000	1 400	8.65	19.07
52230 M	130	5.1181	215	8.4646	89	3.5039	238 000	53 480	800 000	179 780	3 300	950	1 300	11.50	25.36
52232 M	140	5.5118	225	8.8583	90	3.5433	238 000	53 480	830 000	186 520	3 800	900	1 300	12.00	26.46
52234 M	150	5.9055	240	9.4488	97	3.8189	270 000	60 670	930 000	208 990	5 400	850	1 200	15.00	33.08
52236 M	150	5.9055	250	9.8425	98	3.8583	302 000	67 870	1 120 000	251 690	6 100	800	1 100	16.00	35.28

Consult SKF USA Inc. prior to design change or order placement.

Thrust ball bearings
 Double direction
 Standard
 Series: 52305 – 52320
 Size: 20 mm – 85 mm
 0.7874 in – 3.3465 in



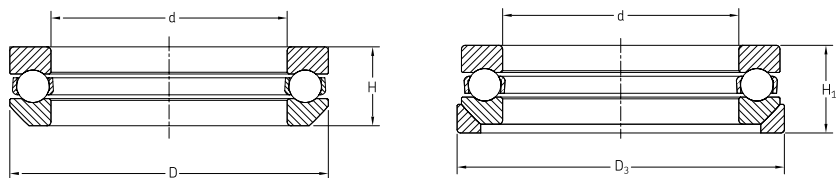
Double direction

Series: 52406 – 52414 M
 Size: 20 mm – 55 mm
 0.7874 in – 2.1654 in

Designation	Principal dimensions						Basic load ratings				Minimum load factor A	Speed rating		Mass	
	Bore d		Outside diameter D		Height H		Dynamic C		Static C ₀			Refer- ence speed	Limiting speed	kg	lb
	mm	in	mm	in	mm	in	N	lbf	N	lbf		r/min	r/min		
52305	20	0.7874	52	2.0472	34	1.3386	34 500	7 750	60 000	13 480	18	3 200	4 500	0.33	0.73
52306	25	0.9843	60	2.3622	38	1.4961	35 800	8 040	65 500	14 720	26	2 800	4 000	0.47	1.04
52307	30	1.1811	68	2.6772	44	1.7323	49 400	11 100	96 500	21 690	48	2 400	3 400	0.68	1.50
52308		1.1811	78	3.0709	49	1.9291	61 800	13 890	122 000	27 420	77	2 200	3 000	1.05	2.32
52309	35	1.3780	85	3.3465	52	2.0472	76 100	17 100	153 000	34 380	120	2 000	2 800	1.25	2.76
52310	40	1.5748	95	3.7402	58	2.2835	81 900	18 400	170 000	38 200	190	1 800	2 600	1.75	3.86
52311	45	1.7717	105	4.1339	64	2.5197	101 000	22 700	224 000	50 340	260	1 600	2 200	2.40	5.29
52312	50	1.9685	110	4.3307	64	2.5197	101 000	22 700	224 000	50 340	260	1 600	2 200	2.55	5.62
52313	55	2.1654	115	4.5276	64	2.5197	106 000	23 820	240 000	53 930	300	1 600	2 200	2.75	6.06
52314		2.1654	125	4.9213	72	2.8346	135 000	30 340	320 000	71 910	530	1 400	2 000	3.65	8.05
52315	60	2.3622	135	5.3150	79	3.1102	163 000	36 630	390 000	87 640	790	1 300	1 800	4.80	10.58
52316	65	2.5591	140	5.5118	79	3.1102	159 000	35 730	390 000	87 640	790	1 300	1 800	4.94	10.89
52320	85	3.3465	170	6.6929	97	3.8189	225 000	50 560	570 000	128 090	1 900	1 000	1 400	8.95	19.73
52406	20	0.7874	70	2.7559	52	2.0472	70 200	15 780	122 000	27 420	97	2 200	3 200	1.00	2.21
52407	25	0.9843	80	3.1496	59	2.3228	76 100	17 100	137 000	30 790	150	2 000	2 800	1.45	3.20
52408	30	1.1811	90	3.5433	65	2.5591	95 600	21 480	183 000	41 120	260	1 800	2 400	2.05	4.52
52409	35	1.3780	100	3.9370	72	2.8346	124 000	27 870	240 000	53 930	370	1 600	2 200	2.70	5.95
52411	45	1.7717	120	4.7244	87	3.4252	195 000	43 820	400 000	89 890	790	1 300	1 800	4.70	10.36
52412 M	50	1.9685	130	5.1181	93	3.6614	199 000	44 720	430 000	96 630	960	1 200	1 700	6.35	14.00
52414 M	55	2.1654	250	9.8425	107	4.2126	234 000	52 580	550 000	123 600	1 600	800	1 100	9.70	21.39

Consult SKF USA Inc. prior to design change or order placement.

Thrust ball bearings
 Single direction, sphered housing washer
 Standard
 Series: 53201 – 53228
 Size: 12 mm – 140 mm
 0.4724 in – 5.5118 in



Single direction with sphered housing washer

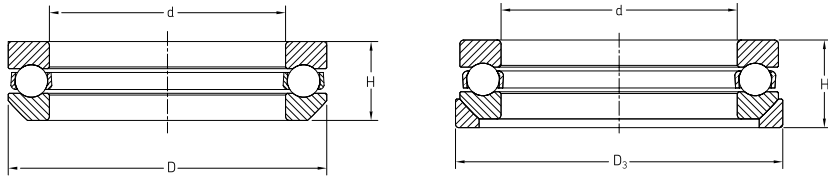
For D_3 and H_1 dimension refer to table 1 on pages 110 and 111.

Designation	Principal dimensions						Basic load ratings				Minimum load factor	Speed rating		Mass		Seating washer	Mass		
	Bore		Outside diameter		Height		Dynamic		Static			Reference speed	Limiting speed	kg	lb		-	kg	lb
	d		D		H_1		C	C_0	N	lbf									
mm	in	mm	in	mm	in	N	lbf	N	lbf	A	r/min	r/min	kg	lb	-	kg	lb		
53201	12	0.4724	28	1.1024	13	0.5118	13 300	2 990	20 800	4 670	2.2	8 000	11 000	0.05	0.10	U 201	0.0	0.0	
53202	15	0.5906	32	1.2598	15	0.5906	15 900	3 570	25 000	5 620	3.8	7 000	10 000	0.06	0.14	U 202	0.0	0.0	
53203	17	0.6693	35	1.3780	15	0.5906	16 300	3 660	27 000	6 070	4.7	6 700	9 500	0.07	0.16	U 203	0.0	0.0	
53204	20	0.7874	40	1.5748	17	0.6693	21 200	4 760	37 500	8 430	8.5	5 600	8 000	0.10	0.22	U 204	0.0	0.0	
53205	25	0.9843	47	1.8504	19	0.7480	26 500	5 960	50 000	11 240	15	5 000	7 000	0.15	0.33	U 205	0.0	0.1	
53206	30	1.1811	52	2.0472	20	0.7874	25 100	5 640	51 000	11 460	13	4 500	6 300	0.18	0.40	U 206	0.0	0.1	
53207	35	1.3780	62	2.4409	22	0.8661	35 100	7 890	73 500	16 520	28	4 000	5 600	0.28	0.62	U 207	0.1	0.1	
53208	40	1.5748	68	2.6772	23	0.9055	44 200	9 930	96 500	21 690	58	3 600	5 300	0.35	0.77	U 208	0.1	0.2	
53209	45	1.7717	73	2.8740	24	0.9449	39 000	8 760	86 500	19 440	38	3 400	4 800	0.39	0.86	U 209	0.1	0.2	
53210	50	1.9685	78	3.0709	26	1.0236	49 400	11 100	116 000	26 070	69	3 200	4 500	0.47	1.04	U 210	0.1	0.2	
53211	55	2.1654	90	3.5433	30	1.1811	58 500	13 150	134 000	30 110	110	2 800	3 800	0.75	1.65	U 211	0.2	0.3	
53212	60	2.3622	95	3.7402	31	1.2205	59 200	13 300	140 000	31 460	120	2 600	3 600	0.82	1.81	U 212	0.2	0.4	
53213	65	2.5591	100	3.9370	32	1.2598	60 500	13 600	150 000	33 710	140	2 600	3 600	0.91	2.01	U 213	0.2	0.4	
53214	70	2.7559	105	4.1339	32	1.2598	62 400	14 020	160 000	35 960	160	2 600	3 600	0.97	2.14	U 214	0.2	0.4	
53215	75	2.9528	110	4.3307	32	1.2598	63 700	14 310	170 000	38 200	170	2 400	3 400	1.00	2.21	U 215	0.2	0.5	
53216	80	3.1496	115	4.5276	33	1.2992	76 100	17 100	208 000	46 740	220	2 400	3 200	1.10	2.43	U 216	0.2	0.5	
53217	85	3.3465	125	4.9213	37	1.4567	97 500	21 910	275 000	61 800	390	2 000	3 000	1.50	3.31	U 217	0.3	0.6	
53218	90	3.5433	135	5.3150	42	1.6535	112 000	25 170	290 000	65 170	550	1 900	2 600	2.10	4.63	U 218	0.4	0.9	
53220	100	3.9370	150	5.9055	45	1.7717	119 000	26 740	325 000	73 030	620	1 700	2 400	2.70	5.95	U 220	0.5	1.1	
53222	110	4.3307	160	6.2992	45	1.7717	125 000	28 090	365 000	82 020	790	1 700	2 400	2.91	6.42	U 222	0.6	1.2	
53224	120	4.7244	170	6.6929	46	1.8110	127 000	28 540	390 000	87 640	1 000	1 500	2 200	3.20	7.06	U 224	-	-	
53226	130	5.1181	190	7.4803	53	2.0866	186 000	41 800	585 000	131 460	1 800	1 300	1 800	4.85	10.69	U 226	0.9	1.9	
53228	140	5.5118	200	7.8740	55	2.1654	190 000	42 700	620 000	139 330	2 000	1 300	1 800	5.45	12.02	U 228	1.2	2.7	

Consult SKF USA Inc. prior to design change or order placement.

Thrust ball bearings
 Single direction, sphered housing washer
 Standard
 Series: 53306 – 53324 M
 Size: 30 mm – 120 mm
 1.1811 in – 4.7244 in

Series: 53408 – 53420 M
 Size: 40 mm – 100 mm
 1.5748 in – 3.9370 in



Single direction with sphered housing washer

For D_3 and H_1 dimension refer to table 1 on pages 110 and 111.

Designation	Principal dimensions						Basic load ratings				Minimum load factor A	Speed rating		Mass		Seating washer	Mass		
	Bore d		Outside diameter D		Height H ₁		Dynamic C		Static C ₀			Refer- ence speed r/min	Limiting speed r/min	kg	lb		–	kg	lb
	mm	in	mm	in	mm	in	N	lbf	N	lbf									
53306	30	1.1811	60	2.3622	25	0.9843	35 800	8 040	65 500	14 720	26	3 800	5 300	0.33	0.73	U 306	0.1	0.1	
53307	35	1.3780	68	2.6772	28	1.1024	49 400	11 100	96 500	21 690	48	3 200	4 500	0.46	1.01	U 307	0.1	0.2	
53308	40	1.5748	78	3.0709	31	1.2205	61 800	13 890	122 000	27 420	77	2 800	4 000	0.67	1.48	U 308	0.1	0.2	
53309	45	1.7717	85	3.3465	33	1.2992	76 100	17 100	153 000	34 380	120	2 600	3 800	0.83	1.83	U 309	0.2	0.4	
53310	50	1.9685	95	3.7402	37	1.4567	81 900	18 400	170 000	38 200	190	2 400	3 400	1.20	2.65	U 310	0.2	0.5	
53311	55	2.1654	105	4.1339	42	1.6535	101 000	22 700	224 000	50 340	260	2 200	3 000	1.68	3.70	U 311	–	–	
53312	60	2.3622	110	4.3307	42	1.6535	101 000	22 700	224 000	50 340	260	2 000	3 000	1.71	3.77	U 312	0.3	0.7	
53313	65	2.5591	115	4.5276	43	1.6929	106 000	23 820	240 000	53 930	300	2 000	2 800	1.89	4.17	U 313	0.3	0.7	
53314	70	2.7559	125	4.9213	48	1.8898	135 000	30 340	320 000	71 910	530	1 800	2 600	2.50	5.51	U 314	0.4	0.9	
53315	75	2.9528	135	5.3150	52	2.0472	163 000	36 630	390 000	87 640	790	1 700	2 400	3.20	7.06	U 315	0.5	1.2	
53316	80	3.1496	140	5.5118	52	2.0472	159 000	35 730	390 000	87 640	790	1 600	2 200	3.20	7.06	U 316	0.6	1.2	
53317	85	3.3465	150	5.9055	58	2.2835	174 000	39 100	405 000	91 010	1 100	1 500	2 000	4.35	9.59	U 317	0.8	1.8	
53318	90	3.5433	155	6.1024	59	2.3228	182 000	40 900	440 000	98 880	1 300	1 400	2 000	4.70	10.36	U 318	0.8	1.9	
53320	100	3.9370	170	6.6929	64	2.5197	225 000	50 560	570 000	128 090	1 900	1 300	1 800	5.95	13.12	U 320	1.0	2.1	
53322 M	110	4.3307	190	7.4803	72	2.8346	281 000	63 150	815 000	183 150	3 200	1 100	1 600	9.10	20.07	U 322	–	–	
53324 M	120	4.7244	210	8.2677	80	3.1496	325 000	73 030	980 000	220 220	5 000	1 000	1 400	12.50	27.56	U 324	–	–	
53408	40	1.5748	90	3.5433	42	1.6535	95 600	21 480	183 000	41 120	260	2 400	3 200	1.35	2.98	U 408	0.3	0.6	
53410	50	1.9685	110	4.3307	50	1.9685	159 000	35 730	340 000	76 400	600	1 900	2 600	2.31	5.09	U 410	0.4	0.9	
53411	55	2.1654	120	4.7244	55	2.1654	195 000	43 820	400 000	89 890	790	1 700	2 400	3.08	6.79	U 411	–	–	
53412 M	60	2.3622	130	5.1181	58	2.2835	199 000	44 720	430 000	96 630	960	1 600	2 200	3.80	8.38	U 412	–	–	
53414 M	70	2.7559	150	5.9055	69	2.7165	234 000	52 580	550 000	123 600	1 600	1 400	2 000	6.50	14.33	U 414	–	–	
53415 M	75	2.9528	160	6.2992	75	2.9528	251 000	56 400	610 000	137 080	1 900	1 300	1 800	8.10	17.86	U 415	–	–	
53418 M	90	3.5433	190	7.4803	88	3.4646	307 000	68 990	815 000	183 150	3 500	1 100	1 500	13.00	28.67	U 418	–	–	
53420 M	100	3.9370	210	8.2677	98	3.8583	371 000	83 370	1 060 000	238 200	5 800	950	1 300	18.00	39.69	U 420	2.8	6.2	

Consult SKF USA Inc. prior to design change or order placement.

Thrust ball bearings

Double direction, sphered housing washer

Standard

Series: 54207 – 54211

Size: 30 mm – 45 mm

1.1811 in – 1.7717 in

Series: 54306 – 54317

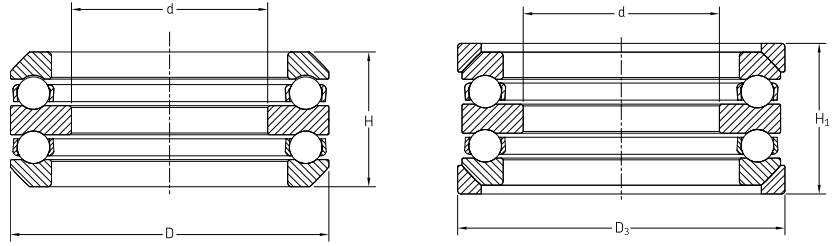
Size: 25 mm – 70 mm

0.9843 in – 2.7559 in

Series: 54409 – 54420

Size: 35 mm – 80 mm

1.3780 in – 3.1496 in

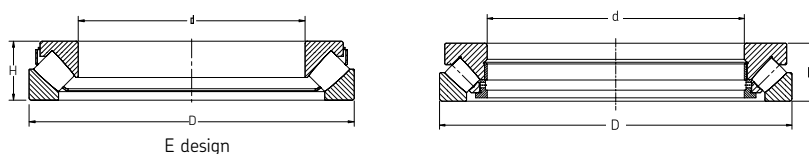


Double direction with sphered housing washer

For D_3 and H_1 dimension refer to table 1 on pages 110 and 111.

Designation	Principal dimensions						Basic load ratings				Minimum load factor	Speed rating		Mass		Seating washer	Mass	
	Bore d		Outside diameter D		Height H ₁		Dynamic C		Static C ₀			Reference speed	Limiting speed	kg	lb		kg	lb
	mm	in	mm	in	mm	in	N	lbf	N	lbf	A	r/min	r/min	kg	lb	-	kg	lb
54207	30	1.1811	62	2.4409	42	1.6535	35 100	7 890	73 500	16 520	28	2 800	4 000	0.53	1.17	U 207	0.1	0.1
54208	30	1.1811	68	2.6772	44	1.7323	44 200	9 930	96 500	21 690	58	2 800	3 800	0.63	1.39	U 208	0.1	0.2
54209	35	1.3780	73	2.8740	45	1.7717	39 000	8 760	86 500	19 440	38	2 600	3 600	0.78	1.72	U 209	0.1	0.2
54211	45	1.7717	90	3.5433	55	2.1654	58 500	13 150	134 000	30 110	110	2 200	3 000	1.30	2.87	U 211	0.2	0.3
54306	25	0.9843	60	2.3622	46	1.8110	35 800	8 040	65 500	14 720	26	2 800	3 800	0.58	1.28	U 306	0.1	0.1
54307	30	1.1811	68	2.6772	52	2.0472	49 400	11 100	96 500	21 690	48	2 400	3 400	0.85	1.87	U 307	0.1	0.2
54308		1.1811	78	3.0709	59	2.3228	61 800	13 890	122 000	27 420	77	2 200	3 000	1.17	2.58	U 308	0.1	0.2
54309	35	1.3780	85	3.3465	62	2.4409	76 100	17 100	153 000	34 380	120	1 900	2 800	1.60	3.53	U 309	0.2	0.4
54310	40	1.5748	95	3.7402	70	2.7559	81 900	18 400	170 000	38 200	190	1 700	2 400	2.30	5.07	U 310	0.2	0.5
54410		1.5748	110	4.3307	92	3.6220	148 000	33 260	305 000	68 540	600	1 400	1 900	4.45	9.81	U 410	0.4	0.9
54312	50	1.9685	110	4.3307	78	3.0709	101 000	22 700	224 000	50 340	260	1 500	2 200	2.90	6.39	U 312	0.3	0.7
54316	65	2.5591	140	5.5118	95	3.7402	159 000	35 730	390 000	87 640	790	1 300	1 800	5.57	12.28	U 316	0.6	1.2
54317	70	2.7559	150	5.9055	105	4.1339	174 000	39 100	405 000	91 010	1 100	1 100	1 500	7.95	17.53	U 317	0.8	1.8
54409	35	1.3780	100	3.9370	86	3.3858	124 000	27 870	240 000	53 930	370	1 500	2 000	3.00	6.62	U 409	-	-
54416 M	65	2.5591	170	6.6929	140	5.5118	307 000	68 990	750 000	168 540	2 300	850	1 200	17.50	38.59	U 416	-	-
54420 M	80	3.1496	210	8.2677	176	6.9291	371 000	83 370	1 060 000	238 200	5 800	700	950	29.00	63.95	U 420	2.8	6.2

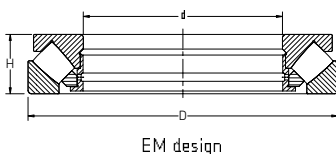
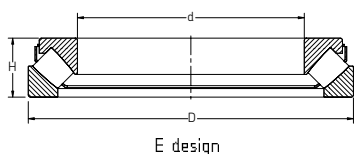
Spherical roller thrust bearings
Standard
Series: 29230 E – 292/800 EM
Size: 150 mm – 800 mm
5.9055 in – 31.4961 in



Designation	Principal dimensions						Basic load ratings				Minimum load factor A	Speed rating		Mass	
	Bore d		Outside diameter D		Height H		Dynamic C		Static C ₀			Refer- ence speed r/min	Limiting speed r/min	kg	lb
	mm	in	mm	in	mm	in	N	lbf	N	lbf					
29230 E	150	5.9055	215	8.4646	39	1.5354	408 000	91 700	1 600 000	359 600	240	1 800	2 800	4.3	9.5
29236 E	180	7.0866	250	9.8425	42	1.6535	495 000	111 200	2 040 000	458 400	400	1 600	2 600	5.8	12.8
29240 E	200	7.8740	280	11.0236	48	1.8898	656 000	147 400	2 650 000	595 500	670	1 400	2 200	9.3	20.5
29244 E	220	8.6614	300	11.8110	48	1.8898	690 000	155 100	3 000 000	674 200	860	1 300	2 200	10.0	22.1
29248	240	9.4488	340	13.3858	60	2.3622	799 000	179 600	3 450 000	775 300	1 100	1 100	1 800	16.5	36.4
29252	260	10.2362	360	14.1732	60	2.3622	817 000	183 600	3 650 000	820 200	1 300	1 100	1 700	18.5	40.8
29256	280	11.0236	380	14.9606	60	2.3622	863 000	193 900	4 000 000	898 900	1 500	1 000	1 700	19.5	43.0
29260	300	11.8110	420	16.5354	73	2.8740	1 070 000	240 400	4 800 000	1 078 700	2 200	900	1 400	30.5	67.3
29264	320	12.5984	440	17.3228	73	2.8740	1 110 000	249 400	5 100 000	1 146 100	2 500	850	1 400	33.0	72.8
29268	340	13.3858	460	18.1102	73	2.8740	1 130 000	253 900	5 400 000	1 213 500	2 800	850	1 300	33.5	73.9
29272	360	14.1732	500	19.6850	85	3.3465	1 460 000	328 100	6 800 000	1 528 100	4 400	750	1 200	52.0	114.7
29276	380	14.9606	520	20.4724	85	3.3465	1 580 000	355 100	7 650 000	1 719 100	5 600	700	1 100	53.0	116.9
29280	400	15.7480	540	21.2598	85	3.3465	1 610 000	361 800	8 000 000	1 797 800	6 100	700	1 100	55.5	122.4
29284	420	16.5354	580	22.8346	95	3.7402	1 990 000	447 200	9 800 000	2 202 200	9 100	630	1 000	75.5	166.5
29288	440	17.3228	600	23.6220	95	3.7402	2 070 000	465 200	10 400 000	2 337 100	10 000	630	1 000	78.0	172.0
29292	460	18.1102	620	24.4094	95	3.7402	2 070 000	465 200	10 600 000	2 382 000	11 000	600	950	81.0	178.6
29296	480	18.8976	650	25.5906	103	4.0551	2 350 000	528 100	11 800 000	2 651 700	13 000	560	900	98.0	216.1
292/500	500	19.6850	670	26.3780	103	4.0551	2 390 000	537 100	12 500 000	2 809 000	15 000	560	900	100.0	220.5
292/530 EM	530	20.8661	710	27.9528	109	4.2913	3 110 000	698 900	15 300 000	3 438 200	22 000	530	850	115.0	253.6
292/560	560	22.0472	750	29.5276	115	4.5276	2 990 000	671 900	16 000 000	3 595 500	24 000	480	800	140.0	308.7
292/600 EM	600	23.6220	800	31.4961	122	4.8031	3 740 000	840 400	18 600 000	4 179 800	33 000	450	700	170.0	374.9
292/630 EM	630	24.8031	850	33.4646	132	5.1969	4 770 000	1 071 900	23 600 000	5 303 400	53 000	400	670	210.0	463.1
292/800 EM	800	31.4961	1 060	41.7323	155	6.1024	6 560 000	1 474 200	34 500 000	7 752 800	110 000	320	530	380.0	837.9

Consult SKF USA Inc. prior to design change or order placement.

Spherical roller thrust bearings
 Standard and *SKF Explorer*
 Series: 29317 E – 293/800 EM
 Size: 85 mm – 800 mm
 3.3465 in – 31.4961 in



Designation	Principal dimensions						Basic load ratings				Minimum load factor A	Speed rating		Mass	
	Bore d		Outside diameter D		Height H		Dynamic C		Static C ₀			Refer- ence speed	Limiting speed	kg	lb
	mm	in	mm	in	mm	in	N	lbf	N	lbf		r/min	r/min		
29317 E	85	3.3465	150	5.9055	39	1.5354	380 000	85 400	1 060 000	238 200	110	2 400	4 000	2.8	6.1
29318 E	90	3.5433	155	6.1024	39	1.5354	400 000	89 900	1 080 000	242 700	110	2 400	4 000	2.9	6.3
29320 E	100	3.9370	170	6.6929	42	1.6535	465 000	104 500	1 290 000	289 900	160	2 200	3 600	3.7	8.0
29322 E	110	4.3307	190	7.4803	48	1.8898	610 000	137 100	1 730 000	388 800	280	1 900	3 200	5.3	11.7
29324 E	120	4.7244	210	8.2677	54	2.1260	765 000	171 900	2 120 000	476 400	430	1 700	2 800	7.4	16.2
29326 E	130	5.1181	225	8.8583	58	2.2835	865 000	194 400	2 500 000	561 800	590	1 600	2 600	9.0	19.8
29328 E	140	5.5118	240	9.4488	60	2.3622	980 000	220 200	2 850 000	640 400	770	1 500	2 600	10.5	23.2
29330 E	150	5.9055	250	9.8425	60	2.3622	1 000 000	224 700	2 850 000	640 400	770	1 500	2 400	11.0	24.3
29332 E	160	6.2992	270	10.6299	67	2.6378	1 180 000	265 200	3 450 000	775 300	1 100	1 300	2 200	14.5	32.0
29334 E	170	6.6929	280	11.0236	67	2.6378	1 200 000	269 700	3 550 000	797 800	1 200	1 300	2 200	15.0	33.1
29336 E	180	7.0866	300	11.8110	73	2.8740	1 430 000	321 300	4 300 000	966 300	1 800	1 200	2 000	19.5	43.0
29338 E	190	7.4803	320	12.5984	78	3.0709	1 630 000	366 300	4 750 000	1 067 400	2 100	1 100	1 900	23.5	51.8
29340 E	200	7.8740	340	13.3858	85	3.3465	1 860 000	418 000	5 500 000	1 236 000	2 900	1 000	1 700	28.4	62.6
29344 E	220	8.6614	360	14.1732	85	3.3465	2 000 000	449 400	6 300 000	1 415 700	3 800	1 000	1 700	31.2	68.8
29348 E	240	9.4488	380	14.9606	85	3.3465	2 040 000	458 400	6 550 000	1 471 900	4 100	1 000	1 600	35.5	78.3
29352 E	260	10.2362	420	16.5354	95	3.7402	2 550 000	573 000	8 300 000	1 865 200	6 500	850	1 400	49.0	108.0
29356 E	280	11.0236	440	17.3228	95	3.7402	2 550 000	573 000	8 650 000	1 943 800	7 100	850	1 400	53.0	116.9
29360 E	300	11.8110	480	18.8976	109	4.2913	3 100 000	696 600	10 600 000	2 382 000	11 000	750	1 200	75.0	165.4
29364 E	320	12.5984	500	19.6850	109	4.2913	3 350 000	752 800	11 200 000	2 516 900	12 000	750	1 200	78.0	172.0
29368	340	13.3858	540	21.2598	122	4.8031	2 710 000	609 000	11 000 000	2 471 900	11 000	600	1 100	105.0	231.5
29372	360	14.1732	560	22.0472	122	4.8031	2 760 000	620 200	11 600 000	2 606 700	13 000	600	1 100	110.0	242.6
29376	380	14.9606	600	23.6220	132	5.1969	3 340 000	750 600	14 000 000	3 146 100	19 000	530	1 000	140.0	308.7
29380	400	15.7480	620	24.4094	132	5.1969	3 450 000	775 300	14 600 000	3 280 900	20 000	530	950	150.0	330.8
29384	420	16.5354	650	25.5906	140	5.5118	3 740 000	840 400	16 000 000	3 595 500	24 000	500	900	170.0	374.9
29388 EM	440	17.3228	680	26.7717	145	5.7087	5 200 000	1 168 500	19 300 000	4 337 100	34 000	530	850	180.0	396.9
29392	460	18.1102	710	27.9528	150	5.9055	4 310 000	968 500	19 000 000	4 269 700	34 000	450	800	215.0	474.1
293 / 500	500	19.6850	750	29.5276	150	5.9055	4 490 000	1 009 000	20 400 000	4 584 300	40 000	430	800	235.0	518.2
293 / 530 EM	530	20.8661	800	31.4961	160	6.2992	5 870 000	1 319 100	26 500 000	5 955 100	67 000	400	750	265.0	584.3
293 / 630 EM	630	24.8031	950	37.4016	190	7.4803	8 450 000	1 898 900	38 000 000	8 539 300	140 000	320	600	485.0	1069.4
293 / 710 EM	710	27.9528	1 060	41.7323	212	8.3465	9 950 000	2 236 000	45 500 000	10 224 700	200 000	280	500	610.0	1345.1
293 / 800 EM	800	31.4961	1 180	46.4567	230	9.0551	11 300 000	2 539 300	55 000 000	12 359 600	290 000	240	450	810.0	1786.1

Consult SKF USA Inc. prior to design change or order placement.

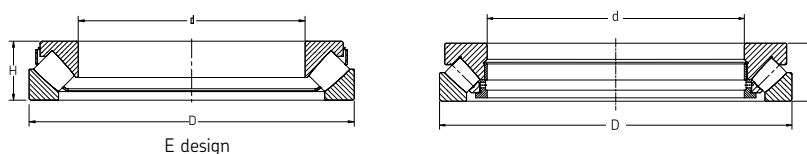
Spherical roller thrust bearings

SKF Explorer

Series: 29412 E – 29460 E

Size: 60 mm – 300 mm

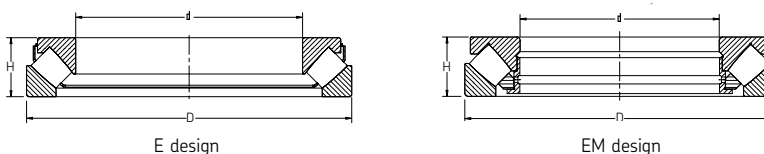
2.3622 in – 11.8110 in



Designation	Principal dimensions						Basic load ratings				Minimum load factor A	Speed rating		Mass	
	Bore d		Outside diameter D		Height H		Dynamic C		Static C ₀			Reference speed r/min	Limiting speed r/min	kg	lb
	mm	in	mm	in	mm	in	N	lbf	N	lbf					
29412 E	60	2.3622	130	5.1181	42	1.6535	390 000	87 600	915 000	205 600	80	2 800	5 000	2.6	5.7
29413 E	65	2.5591	140	5.5118	45	1.7717	455 000	102 200	1 080 000	242 700	110	2 600	4 800	3.2	7.1
29414 E	70	2.7559	150	5.9055	48	1.8898	520 000	116 900	1 250 000	280 900	150	2 400	4 300	3.9	8.6
29415 E	75	2.9528	160	6.2992	51	2.0079	600 000	134 800	1 430 000	321 300	190	2 400	4 000	4.7	10.4
29416 E	80	3.1496	170	6.6929	54	2.1260	670 000	150 600	1 630 000	366 300	250	2 200	3 800	5.6	12.3
29417 E	85	3.3465	180	7.0866	58	2.2835	735 000	165 200	1 800 000	404 500	310	2 000	3 600	6.8	14.9
29418 E	90	3.5433	190	7.4803	60	2.3622	815 000	183 100	2 000 000	449 400	380	1 900	3 400	7.8	17.1
29420 E	100	3.9370	210	8.2677	67	2.6378	980 000	220 200	2 500 000	561 800	590	1 700	3 000	10.5	23.2
29422 E	110	4.3307	230	9.0551	73	2.8740	1 180 000	265 200	3 000 000	674 200	860	1 600	2 800	13.5	29.8
29424 E	120	4.7244	250	9.8425	78	3.0709	1 370 000	307 900	3 450 000	775 300	1 100	1 500	2 600	17.5	38.6
29426 E	130	5.1181	270	10.6299	85	3.3465	1 560 000	350 600	4 050 000	910 100	1 600	1 300	2 400	22.0	48.5
29428 E	140	5.5118	280	11.0236	85	3.3465	1 630 000	366 300	4 300 000	966 300	1 800	1 300	2 400	23.0	50.7
29430 E	150	5.9055	300	11.8110	90	3.5433	1 860 000	418 000	5 100 000	1 146 100	2 500	1 200	2 200	28.0	61.7
29432 E	160	6.2992	320	12.5984	95	3.7402	2 080 000	467 400	5 600 000	1 258 400	3 000	1 100	2 000	32.0	70.6
29434 E	170	6.6929	340	13.3858	103	4.0551	2 360 000	530 300	6 550 000	1 471 900	4 100	1 100	1 900	44.5	98.1
29436 E	180	7.0866	360	14.1732	109	4.2913	2 600 000	584 300	7 350 000	1 651 700	5 100	1 000	1 800	52.5	115.8
29438 E	190	7.4803	380	14.9606	115	4.5276	2 850 000	640 400	8 000 000	1 797 800	6 100	950	1 700	60.5	133.4
29440 E	200	7.8740	400	15.7480	122	4.8031	3 200 000	719 100	9 000 000	2 022 500	7 700	850	1 600	72.0	158.8
29444 E	220	8.6614	420	16.5354	122	4.8031	3 350 000	752 800	9 650 000	2 168 500	8 800	850	1 500	75.0	165.4
29448 E	240	9.4488	440	17.3228	122	4.8031	3 400 000	764 000	10 200 000	2 292 100	9 900	850	1 500	80.0	176.4
29452 E	260	10.2362	480	18.8976	132	5.1969	4 050 000	910 100	12 900 000	2 898 900	16 000	750	1 300	105.0	231.5
29456 E	280	11.0236	520	20.4724	145	5.7087	4 900 000	1 101 100	15 300 000	3 438 200	22 000	670	1 200	135.0	297.7
29460 E	300	11.8110	540	21.2598	145	5.7087	5 000 000	1 123 600	16 600 000	3 730 300	24 000	670	1 200	140.0	308.7

Consult SKF USA Inc. prior to design change or order placement.

Spherical roller thrust bearings
 Standard and *SKF Explorer*
 Series: 29464 E – 294/1060 EF
 Size: 320 mm – 1060 mm
 12.5984 in – 41.7322 in



Designation	Principal dimensions						Basic load ratings				Minimum load factor A	Speed rating		Mass	
	Bore d		Outside diameter D		Height H		Dynamic C		Static C ₀			Reference speed r/min	Limiting speed r/min	kg	lb
	mm	in	mm	in	mm	in	N	lbf	N	lbf					
29464 E	320	12.5984	580	22.8346	155	6.1024	5 700 000	1 280 900	19 000 000	4 269 700	32 000	600	1 100	175.0	385.9
29468 E	340	13.3858	620	24.4094	170	6.6929	6 700 000	1 505 600	22 400 000	5 033 700	46 000	560	1 000	220.0	485.1
29472 EM	360	14.1732	640	25.1969	170	6.6929	6 200 000	1 393 300	21 200 000	4 764 000	41 000	560	950	230.0	507.2
29476 EM	380	14.9606	670	26.3780	175	6.8898	6 800 000	1 528 100	24 000 000	5 393 300	53 000	530	900	260.0	573.3
29480 EM	400	15.7480	710	27.9528	185	7.2835	7 650 000	1 719 100	26 500 000	5 955 100	62 000	480	850	310.0	683.6
29484 EM	420	16.5354	730	28.7402	185	7.2835	7 800 000	1 752 800	27 500 000	6 179 800	69 000	480	850	325.0	716.6
29488 EM	440	17.3228	780	30.7087	206	8.1102	9 000 000	2 022 500	32 000 000	7 191 000	91 000	430	750	410.0	904.1
29492 EM	460	18.1102	800	31.4961	206	8.1102	9 300 000	2 089 900	33 500 000	7 528 100	100 000	430	750	425.0	937.1
29496 EM	480	18.8976	850	33.4646	224	8.8189	9 550 000	2 146 100	39 000 000	8 764 000	140 000	340	670	550.0	1212.8
294/500 EM	500	19.6850	870	34.2520	224	8.8189	9 370 000	2 105 600	40 000 000	8 988 800	150 000	340	670	560.0	1234.8
294/530 EM	530	20.8661	920	36.2205	236	9.2913	10 500 000	2 359 600	44 000 000	9 887 600	180 000	320	630	650.0	1433.3
294/560 EM	560	22.0472	980	38.5827	250	9.8425	12 000 000	2 696 600	51 000 000	11 460 700	250 000	300	560	810.0	1786.1
294/600 EM	600	23.6220	1 030	40.5512	258	10.1575	13 100 000	2 943 800	56 000 000	12 584 300	300 000	280	530	845.0	1863.2
294/630 EM	630	24.8031	1 090	42.9134	280	11.0236	14 400 000	3 236 000	62 000 000	13 932 600	370 000	260	500	1040.0	2293.2
294/670 EM	670	26.3780	1 150	45.2756	290	11.4173	15 400 000	3 460 700	68 000 000	15 280 900	440 000	240	450	1210.0	2668.1
294/710 EF	710	27.9528	1 220	48.0315	308	12.1260	17 600 000	3 955 100	76 500 000	17 191 000	560 000	220	430	1500.0	3307.5
294/750 EF	750	29.5276	1 280	50.3937	315	12.4016	18 700 000	4 202 200	85 000 000	19 101 100	690 000	200	400	1650.0	3638.3
294/800 EF	800	31.4961	1 360	53.5433	335	13.1890	20 200 000	4 539 300	93 000 000	20 898 900	820 000	190	360	2025.0	4465.1
294/850 EF	850	33.4646	1 440	56.6929	354	13.9370	23 900 000	5 370 800	108 000 000	24 269 700	1 100 000	170	340	2390.0	5270.0
294/900 EF	900	35.4331	1 520	59.8425	372	14.6457	26 700 000	6 000 000	122 000 000	27 415 700	1 400 000	160	300	2650.0	5843.3
294/950 EF	950	37.4016	1 600	62.9921	390	15.3543	28 200 000	6 337 100	132 000 000	29 662 900	1 700 000	140	280	3065.0	6758.3
294/1000 EF	1 000	39.3701	1 670	65.7480	402	15.8268	31 100 000	6 988 800	140 000 000	31 460 700	1 900 000	130	260	3383.0	7459.5
294/1060 EF	1 060	41.7323	1 770	69.6850	426	16.7717	33 400 000	7 505 600	156 000 000	35 056 200	2 300 000	120	240	4280.0	9437.4

Consult SKF USA Inc. prior to design change or order placement.

