



Spherical roller bearings

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Spherical roller bearings

The spherical roller bearings (SRBs) manufactured by RKB are engineered to withstand high radial forces and moderate axial forces acting in both directions. RKB SRBs can dynamically accommodate misalignments due to shaft bending. They are produced with cylindrical or tapered bore, in open or sealed execution. Depending on application requirements, RKB Bainite Hardening Treatment (HB) and High Temperature Dimensional Stabilization (S) can be applied on bearing rings and rollers. Moreover, as for dimensions, RKB spherical roller bearings are manufactured according to ISO/ABMA/GOST specifications. As a consequence, they are fully interchangeable with all the bearings that meet the relevant international standards.



SRB: a complete range

The range of RKB spherical roller bearings covers most requirements of standard and special industrial applications, in severe and critical working conditions. RKB offers a wide portfolio of open and sealed SRBs in all diameter and width series. While the narrow low-section bearings (e.g. 238 series) feature

high speed capabilities as well as low weight and minimum space dimensions, the wide high-section bearings (e.g. 233 series) have higher load carrying capacities. All RKB SRBs put together experience in design with proven performance in all major industries.

Tailor made solutions

Besides the main spherical roller bearing designs, RKB has developed new solutions according to specific application requirements. The special designs include SEALED SRBs, for smooth operation in contaminated environments, ROVSX type, expressly designed for vibratory equipment, WOR execution, suitable for gear output shaft of truck concrete mixers, and SPLIT bearings to make maintenance operations easier at hard-to-reach positions. If duly applied, these special designs are cost effective for the customer, since they allow increased bearing life expectancy and reduced machine downtime.

Internal clearance

Spherical roller bearings are produced as standard with Normal radial internal clearance CN, but they are also available with C2, C3, C4 and C5 radial internal clearance, in accordance with the ISO 5753:2009.

Spherical roller bearings for vibratory applications are produced as standard with C4 radial clearance.

The radial internal clearances are reported for bearing with:

- cylindrical bore in the **Tab. 1 page 473**;
- tapered bore in the **Tab. 2 page 474**;

and they are valid only for bearing unmounted and unloaded.

d [mm]		Radial internal clearance [μm]							
		C2		CN		C3		C4	
over	incl.	min.	max.	min.	max.	min.	max.	min.	max.
14	18	10	20	20	35	35	45	45	60
18	24	10	20	20	35	35	45	45	60
24	30	15	25	25	40	40	55	55	75
30	40	15	30	30	45	45	60	60	80
40	50	20	35	35	55	55	75	75	100
50	65	20	40	40	65	65	90	90	120
65	80	30	50	50	80	80	110	110	145
80	100	35	60	60	100	100	135	135	180
100	120	40	75	75	120	120	160	160	210
120	140	50	95	95	145	145	190	190	240
140	160	60	110	110	170	170	220	220	280
160	180	65	120	120	180	180	240	240	310
180	200	70	130	130	200	200	260	260	340
200	225	80	140	140	220	220	290	290	380
225	250	90	150	150	240	240	320	320	420
250	280	100	170	170	260	260	350	350	460
280	315	110	190	190	280	280	370	370	500
315	355	120	200	200	310	310	410	410	550
355	400	130	220	220	340	340	450	450	600
400	450	140	240	240	370	370	500	500	660
450	500	140	260	260	410	410	550	550	720
500	560	150	280	280	440	440	600	600	780
560	630	170	310	310	480	480	650	650	850
630	710	190	350	350	530	530	700	700	920
710	800	210	390	390	580	580	770	770	1 010
800	900	230	430	430	650	650	860	860	1 120
900	1 000	260	480	480	710	710	930	930	1 220
1 000	1 120	290	530	530	770	770	1 050	1 050	1 430
1 120	1 250	320	580	580	840	840	1 140	1 140	1 560
1 250	1 400	350	630	630	910	910	1 240	1 240	1 700
1 400	1 600	380	700	700	1 020	1 020	1 390	1 390	1 890
1 600	1 800	420	780	780	1 140	1 140	1 550	1 550	2 090
1 800	2 000	460	860	860	1 260	1 260	1 710	1 710	2 300
2 000	2 250	500	950	950	1 400	1 400	1 900	1 900	2 540
2 250	2 500	550	1 050	1 050	1 550	1 550	2 100	2 100	2 790

Tab. 1 - Radial internal clearance of spherical roller bearings with cylindrical bore

d [mm]		Radial internal clearance [μm]							
		C2		CN		C3		C4	
over	incl.	min.	max.	min.	max.	min.	max.	min.	max.
18	24	15	25	25	35	35	45	45	60
24	30	20	30	30	40	40	55	55	75
30	40	25	35	35	50	50	65	65	85
40	50	30	45	45	60	60	80	80	100
50	65	40	55	55	75	75	95	95	120
65	80	50	70	70	95	95	120	120	150
80	100	55	80	80	110	110	140	140	180
100	120	65	100	100	135	135	170	170	220
120	140	80	120	120	160	160	200	200	260
140	160	90	130	130	180	180	230	230	300
160	180	100	140	140	200	200	260	260	340
180	200	110	160	160	220	220	290	290	370
200	225	120	180	180	250	250	320	320	410
225	250	140	200	200	270	270	350	350	450
250	280	150	220	220	300	300	390	390	490
280	315	170	240	240	330	330	430	430	540
315	355	190	270	270	360	360	470	470	590
355	400	210	300	300	400	400	520	520	650
400	450	230	330	330	440	440	570	570	720
450	500	260	370	370	490	490	630	630	790
500	560	290	410	410	540	540	680	680	870
560	630	320	460	460	600	600	760	760	980
630	710	350	510	510	670	670	850	850	1 090
710	800	390	570	570	750	750	960	960	1 220
800	900	440	640	640	840	840	1 070	1 070	1 370
900	1 000	490	710	710	930	930	1 190	1 190	1 520
1 000	1 120	540	780	780	1 020	1 020	1 300	1 300	1 650
1 120	1 250	600	860	860	1 120	1 120	1 420	1 420	1 800
1 250	1 400	660	940	940	1 220	1 220	1 550	1 550	1 960
1 400	1 600	740	1 060	1 060	1 380	1 380	1 750	1 750	2 200
1 600	1 800	820	1 180	1 180	1 540	1 540	1 950	1 950	2 500
1 800	2 000	910	1 310	1 310	1 710	1 710	2 150	2 150	2 750
2 000	2 250	1 000	1 450	1 450	1 900	1 900	2 400	2 400	3 050
2 250	2 500	1 100	1 600	1 600	2 100	2 100	2 650	2 650	3 350

Tab. 2 - Radial internal clearance of spherical roller bearings with tapered bore

Misalignment

The internal design of the spherical roller bearings can accommodate some misalignment between inner ring and outer ring without affecting negatively the bearing life. If the misalignment is constant respect the outer ring and if the condition are relatively safety ($C/P > 10$) the misalignments reported onto the table are valid, however, depending on the configuration and the working conditions, the values given on the **Tab. 3** have to be properly reduced. In presence of the sealed bearing or in application where the misalignment is not constant like:

- vibration screens where the load is rotating on the outer ring and fixed on the inner ring (eccentric masses) that generates a bending on the shaft;
- deflection - compensation rolls of paper machines where the stationary shaft is bent.

It is suggested do not exceed a few tenths of degree, since the rolling element may be affected by possible sliding movements. Consequently, due to the friction between rolling elements and raceways, an increasing of temperature will be generated.

For the sealed versions, in order to guarantee the efficiency of the seals, a permissible misalignment value of approximatively 0.5° between inner ring and outer ring has to be considered.

Bearing series	Maximum misalignment for $P < 0.1 \cdot C_r$
238	$\pm 1^\circ$
213, 222, 230, 239, 240, 248, 249	$\pm 1.5^\circ$
223, 231, 232, 233, 241	$\pm 2^\circ$

Tab. 3 - SRBs max permissible angular misalignment

Minimum load

A minimum radial load is requested for a spherical roller bearings, like for all ball and roller bearings, in order to operate correctly an adequate operation condition, especially in critical working conditions: high speed, high acceleration and sudden changes of rotating direction. In these operating conditions a skidding between rollers and raceways can be generated by the inertial forces, influencing negatively the bearing life. Minimum radial load can be estimated using the following formula:

$$\frac{F_{rm}}{C_r} > 0,015$$

Where:

- F_{rm} minimum radial load, [kN];
- C_r basic dynamic radial load, [kN].

Internal clearance and axial drive-up for spherical roller bearings with tapered bore

Specific and recommended values for radial clearance reduction and axial drive-up can be provided upon request. However, in the following tables (**Tab. 4 page 476**) is reported radial internal clearance reduction for general application, featuring solid steel shaft or hallow shaft with internal bore diameter lower than shaft diameter.

For additional information please consult the RKB application engineering services.

Bore diameter d [mm]		Radial internal clearance reduction [mm]		Minimum radial internal clearance after mounting		
				CN	C3	C4
				min. [mm]	min. [mm]	min. [mm]
over	incl.	min.	max.			
24	30	0,015	0,02	0,015	0,02	0,035
30	40	0,02	0,025	0,015	0,025	0,04
40	50	0,025	0,03	0,02	0,03	0,05
50	65	0,03	0,04	0,025	0,035	0,055
65	80	0,04	0,05	0,025	0,04	0,07
80	100	0,045	0,06	0,035	0,05	0,08
100	120	0,05	0,07	0,05	0,065	0,01
120	140	0,065	0,09	0,055	0,08	0,11
140	160	0,075	0,1	0,055	0,09	0,13
160	180	0,08	0,11	0,06	0,1	0,15
180	200	0,09	0,13	0,07	0,1	0,16
200	225	0,1	0,14	0,08	0,12	0,18
225	250	0,11	0,15	0,09	0,13	0,2
250	280	0,12	0,17	0,1	0,14	0,22
280	315	0,13	0,19	0,11	0,15	0,24
315	355	0,15	0,21	0,12	0,17	0,26
355	400	0,17	0,23	0,13	0,19	0,29
400	450	0,2	0,26	0,13	0,2	0,31
450	500	0,21	0,28	0,16	0,23	0,35
500	560	0,24	0,32	0,17	0,25	0,36
560	630	0,26	0,35	0,2	0,29	0,41
630	710	0,3	0,4	0,21	0,31	0,45
710	800	0,34	0,45	0,23	0,35	0,51
800	900	0,37	0,5	0,27	0,39	0,57
900	1000	0,41	0,55	0,3	0,43	0,64
1000	1120	0,45	0,6	0,32	0,48	0,7
1120	1250	0,49	0,65	0,34	0,54	0,77
1250	1400	0,55	0,72	0,36	0,59	0,84
1400	1600	0,62	0,81	0,44	0,66	0,94
1600	1800	0,69	0,93	0,48	0,73	1,02
1800	2000	0,77	1,04	0,54	0,81	1,11
2000	2250	0,85	1,15	0,6	0,95	1,55
2250	2500	0,95	1,28	0,65	1,15	1,7

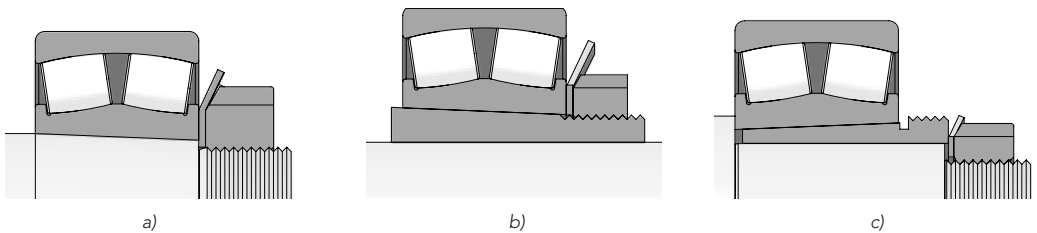
Tab. 4 - Radial internal clearance reduction for SRB bearings with tapered bore

Mounting procedures for bearing with tapered bore

Spherical roller bearing with tapered bore have to be mounted always with a specific interference fit. Small and even medium size bearings may be driven up directly onto a tapered shaft using a locknut. The locknut and hookspanner are used for driving small bearings onto the tapered seat of the adapter sleeve (**figure 16b**). Locknuts are also a convenient solution for pressing small withdrawal sleeves into the space between bearing inner ring and shaft (**figure 16c**). Larger bearings with tapered bore are mounted using the hydraulic method because the fitting force is considerably large. In this case, hydraulic nuts (**figure 17a**) should be used in order to provide the drive-up force. The oil is pumped into the nut and the piston is pushed out with the right requisite force

for the bearing mounting. **Figure 17b** shows a mounting method during which a special sleeve and hydraulic pressure are used. This special sleeve is provided with holes, through which oil is pumped under pressure, in order to reach the bearing seat. The bearing is subjected to a radial expansion, and the sleeve is introduced axially by means of adjusting bolts. Feeding oil under pressure underneath the inner ring also helps the bearing mounting using hydraulic nut (**figure 17a**).

Fig.16



Mounting tapered bore bearings using locknuts:

a) press-fitting a bearing directly on the shaft b) press-fitting an adapter sleeve c) press-fitting a withdrawal sleeve

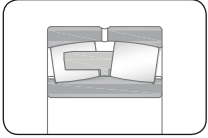
Fig.17



Hydraulic methods for mounting tapered bore bearings: a) hydraulic nut b) special sleeve

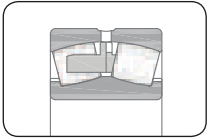
Designs and variants

Type CA/CAF



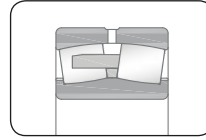
- Design used for large size bearings, withstanding high radial loads and moderate axial loads in both directions
- Inner ring with integral side ribs
- Symmetrical roller profile
- One-piece double pronged machined brass or steel (CAF) cage with integral slinger guided on the inner ring
- Lubrication groove and holes in the outer ring
- Available with lubrication groove and three lubrication holes in the outer ring and six lubrication holes in the inner ring (W513)
- Available with tapered bore (K/K30 suffixes)

Type MA



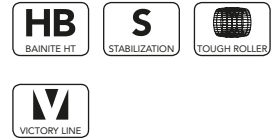
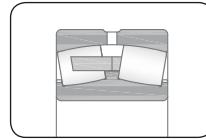
- Design used for medium and large size bearings
- Inner ring with integral side ribs
- Symmetrical roller profile
- Two-piece machined brass cage guided on the outer ring
- Lubrication groove and holes in the outer ring
- Optimized separable cage for better performance in case of different rolling element speed
- Available with lubrication groove and three lubrication holes in the outer ring and six lubrication holes in the inner ring (W513)
- Available with tapered bore (K/K30 suffixes)

Type ECA



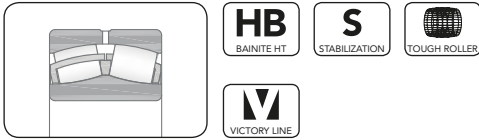
- Design used for large size bearings, based on CA design, with optimized roller set
- Inner ring with integral side ribs
- Symmetrical roller profile
- One-piece double pronged machined brass cage with or without separated slinger guided on the inner ring
- Lubrication groove and holes in the outer ring
- Available with lubrication groove and three lubrication holes in the outer ring and six lubrication holes in the inner ring (W513)
- Available with tapered bore (K/K30 suffixes)

Type MB



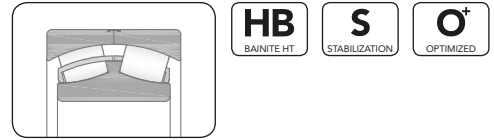
- Design used for medium size bearings operating at medium to high speeds, featuring high load carrying capacities
- Inner ring with integral side and central ribs
- Two-piece machined brass cage guided on the inner ring
- Lubrication groove and holes in the outer ring
- Available with lubrication groove and three lubrication holes in the outer ring and six lubrication holes in the inner ring (W513)
- Available with tapered bore (K/K30 suffixes)

Type CC



- Design used for medium size bearings operating at medium to high speeds and featuring high load carrying capacities
- Ribless inner ring
- Symmetrical roller profile
- Two-piece window type pressed steel cage guided on the inner ring
- Lubrication groove and holes in the outer ring
- Available with lubrication groove and three lubrication holes in the outer ring and six lubrication holes in the inner ring (W513)
- Available with tapered bore (K/K30 suffixes)

Type WOR



- Design used for gear output shaft of truck concrete mixers
- Inner ring with integral central rib
- Symmetrical or asymmetrical roller profile
- Two-piece pressed steel window type cage guided on the inner ring
- Wider outer ring (WOR) in one piece or split into two halves
- Permissible misalignment greater than standard execution
- Available with two-piece machined brass cage guided on the inner ring

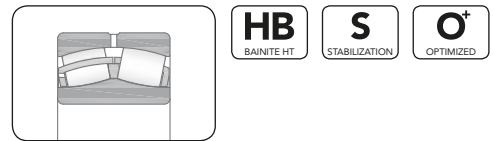
Special designs and variants

Sealed type

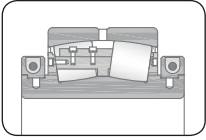


- Design used for medium and large size bearings operating at medium speeds
- Inner ring with integral side ribs
- Symmetrical roller profile
- One-piece double pronged machined brass cage with integral slinger guided on the inner ring
- Integral rubber seals on both bearing sides for harsh working conditions (2CZ)
- Lubrication groove and holes in the outer ring
- Available with plugged lubrication holes in the outer ring (W77)
- Available with two-piece window type pressed steel cage guided on the inner ring

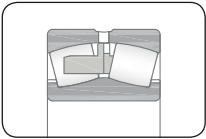
Type ECCS



- Design used for small to medium size bearings
- Ribless inner ring
- Symmetrical roller profile
- Two-piece pressed steel window type cage with slotted open face to improve lubricant flow and separated slinger guided on the inner ring
- Lubrication groove and six holes in the outer ring (W33X)
- Suitable for harsh environments
- Available with lubrication groove, three lubrication holes in the outer ring and six lubrication holes in the inner ring (W513)

Split type SSRB

- Design used for medium and large size bearings
- Wider inner ring with integral side ribs
- Symmetrical roller profile
- Two-piece bolted double pronged machined brass cage guided on the inner ring
- Engineered for hard-to-reach positions (e.g. bucket wheel excavators)
- Design for easy mounting, dismantling and maintenance to reduced machine downtime
- Available in tailor-made dimension

Type ROVSX/KROVSX

- Design used for vibratory equipment
- Inner ring with integral side ribs
- Symmetrical roller profile
- Two-piece machined brass cage guided on the outer ring
- Radial internal clearance higher than normal CN
- Running accuracy higher than standard execution
- Available with lubrication groove, three lubrication holes in the outer ring and six lubrication holes in the inner ring (W513)
- Available both with cylindrical and tapered bore (K/K30 suffixes)

Suffixes	Internal design
WOR	Wider outer ring. The value immediately following the WOR gives the width of the outer ring in mm
ROVS/ROVSX	Bearing for vibratory equipment
ID	Special inner diameter. The value immediately following the ID gives the inner diameter in mm
E	Optimized internal design for increased load ratings
SP	Special or non-standard bearing

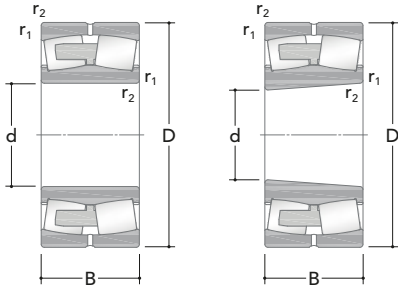
Suffixes	Cage and design
M	Machined brass cage guided on rollers
MA	Machined brass cage guided on outer ring
MB	Machined brass cage guided on inner ring
CA	Double pronged machined brass cage
CAF	Double pronged machined steel cage
CAB	Steel pin-type cage with or without separate guiding slinger and pierced rollers
CC	Pressed steel cage
CCE1	Pressed steel cage, floating slinger centred on outer ring
CCS	Pressed steel cage and axial lubrication grooves

Suffixes	Accuracy, clearance, running
ST	Special tolerance

Suffixes	Lubrication
W33	Annular groove and three lubrication holes in outer ring
W33X	Annular groove and more than three lubrication holes in outer ring
W513	W33 + six lubrication holes in inner ring
W513B	W33 + annular groove and six lubrication holes in inner ring
W513BX	W33X + annular groove and six lubrication holes in inner ring
W77	Annular groove and plugged lubrication holes in outer ring
W77X	Annular groove and more than three plugged lubrication holes in outer ring
W20	Three lubrication holes in the outer ring
WI	Lubrication grooves in side face of inner ring
G/R3	Filled with exceptionally good low noise profile and long life grease usable over a wide range of temperatures
G/R4	Filled with good low noise profile and high temperature, high speed and long life grease
C7A	Annular groove, seven lubrication holes and one blind counterbored hole in outer ring

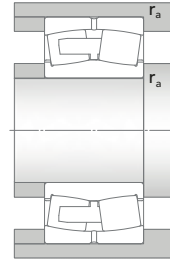
Suffixes	External design
2CZ	Bearing with NBR/FKM seal on both sides and filled with EP lithium base grease
2CS	Bearing with NBR/FKM seal on both sides and filled with EP lithium base grease (BS2 series)
ZZ or 2Z	Shield on both sides
K	Tapered bore, taper 1:12
K30	Tapered bore, taper
N1	One locating slot in outer ring
N2I	Two slots in inner ring
N4I	Four slots in inner ring

Prefixes	Alternative designation
BS2	Spherical roller bearing followed by size indication
SRB	Out of standard spherical roller bearing followed by drawing number
SSRB	Out of standard split spherical roller bearing followed by drawing number

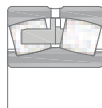
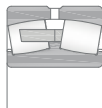
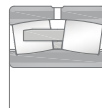


CA/CAF

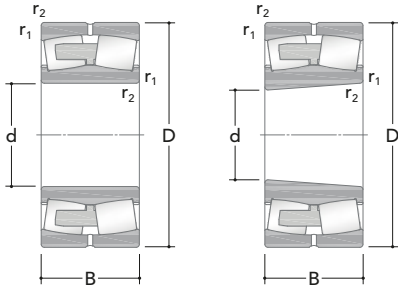
K/K30



Main dimensions			Basic load ratings		Fatigue load limit	Speed ratings		Designation
d	D	B	Dynamic C	Static C ₀	C _u	Reference	Limiting	Standard design
[mm]			[kN]			[rpm]		
20	52	18	49,1	43,8	4,7	12200	15100	22205/20
25	52	18	49,1	43,8	4,7	12200	15100	22205
	62	17	48,8	41,2	4,5	8700	10500	21305
30	62	20	65,6	59,6	6,4	9300	12400	22206
	72	19	64,5	60,8	6,8	7600	8900	21306
35	72	23	87,9	83,4	9,1	8100	10200	22207
	80	21	79,0	70,9	8	6700	8400	21307
40	80	23	97,2	88,2	9,6	7200	9500	22208
	90	23	109	108	11,8	6200	8200	21308
	90	33	153	140	15	5400	6900	22308
45	85	23	103,5	97,9	10,8	7000	8800	22209
	100	25	127	125	13,5	5800	7300	21309
	100	36	187	183	19,6	4900	6000	22309
50	90	23	109	107	11,7	6500	8100	22210
	110	27	159	163	18,3	5200	6600	21310
	110	40	225	224	24	4500	5400	22310
55	100	25	131	127	13,7	5700	7400	22211
	120	29	159	163	18,3	5200	6700	21311
	120	43	279	279	29,9	4000	4900	22311
60	110	28	162	164	18,4	5100	6500	22212
	130	31	217	239	26,4	4400	5600	21312
	130	46	326	333	36	3600	4700	22312
65	100	35	137	172	20,3	4000	5600	24013
	120	31	195	213	23,7	4700	6100	22213

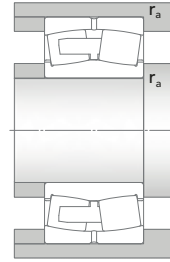
**MA****MB****ECA****CC**

Dimensions			Calculation	Mass	Designation	
d	r _{1,2min}	r _{amax}	factor		Cylindrical bore	Tapered bore
[mm]			e			
20	1	1	0,35	0,28	22205/20	-
25	1	1	0,35	0,26	22205	22205 K
	1,1	1	0,3	0,28	21305	-
30	1	1	0,31	0,29	22206	22206 K
	1,1	1	0,27	0,41	21306	21306 K
35	1,1	1	0,31	0,45	22207	22207 K
	1,5	1,5	0,28	0,55	21307	21307 K
40	1,1	1	0,28	0,53	22208	22208 K
	1,5	1,5	0,24	0,75	21308	21308 K
	1,5	1,5	0,37	1,05	22308	22308 K
45	1,1	1	0,26	0,58	22209	22209 K
	1,5	1,5	0,24	0,99	21309	21309 K
	1,5	1,5	0,37	1,4	22309	22309 K
50	1,1	1	0,24	0,63	22210	22210 K
	2	2	0,24	1,35	21310	21310 K
	2	2	0,37	1,9	22310	22310 K
55	1,5	1,5	0,24	0,84	22211	22211 K
	2	2	0,24	1,7	21311	21311 K
	2	2	0,35	2,45	22311	22311 K
60	1,5	1,5	0,24	1,15	22212	22212 K
	2,1	2	0,22	2,1	21312	21312 K
	2,1	2	0,35	3,1	22312	22312 K
65	1,1	1	0,27	0,95	24013	24013 K30
	1,5	1,5	0,24	1,55	22213	22213 K

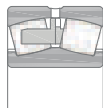
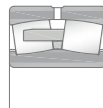


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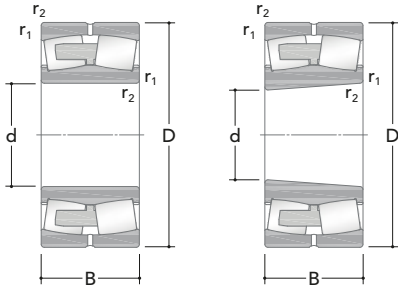
K/K30



Main dimensions			Basic load ratings		Fatigue load limit	Speed ratings		Designation
d	D	B	Dynamic C	Static C ₀	C _u	Reference	Limiting	Standard design
[mm]			[kN]			[rpm]		
65	140	33	239	267	28,7	3900	5200	21313
(cont.)	140	48	361	353	37,3	3500	4300	22313
70	125	31	212	226	25,3	4700	5900	22214
	150	35	291	321	34,1	3700	4800	21314
	150	51	419	427	44,7	3100	3900	22314
75	115	40	178	229	28,1	3500	4700	24015
	130	31	216	240	26,5	4500	5400	22215
	160	37	289	321	34,1	3700	5000	21315
	160	55	470	474	47,9	3000	3800	22315
80	140	33	239	265	28,5	3900	5400	22216
	170	39	329	374	38,9	3400	4700	21316
	170	58	514	536	54,6	2700	3400	22316
85	150	36	287	323	34,3	3600	5000	22217
	180	41	327	371	38,6	3500	4700	21317
	180	60	586	617	60,7	2600	3400	22317
90	160	40	328	373	38,8	3500	4700	22218
	160	52,4	369	437	47,7	2500	3300	23218
	190	43	392	441	44,6	3300	4100	21318
	190	64	638	690	66,5	2400	3200	22318
95	170	43	387	446	45,1	3200	4200	22219
	200	45	430	488	48,8	3100	4000	21319
	200	67	693	762	73,2	2400	2900	22319
100	150	50	290	408	44,7	2600	3500	24020
	165	52	391	483	52,2	2800	3400	23120
	165	65	461	631	67	2200	2800	24120
	180	46	431	482	48,2	3100	4000	22220

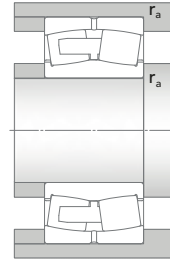
**MA****MB****ECA****CC**

Dimensions			Calculation	Mass	Designation	
d	r _{1,2min}	r _{amax}	factor		Cylindrical bore	Tapered bore
[mm]			e			
65	2,1	2	0,22	2,55	21313	21313 K
(cont.)	2,1	2	0,35	3,75	22313	22313 K
70	1,5	1,5	0,23	1,55	22214	22214 K
	2,1	2	0,22	3,1	21314	21314 K
	2,1	2	0,33	4,55	22314	22314 K
75	1,1	1	0,28	1,55	24015	24015 K30
	1,5	1,5	0,22	1,7	22215	22215 K
	2,1	2	0,22	3,75	21315	21315 K
	2,1	2	0,35	5,55	22315	22315 K
80	2	2	0,22	2,1	22216	22216 K
	2,1	2	0,24	4,45	21316	21316 K
	2,1	2	0,35	6,6	22316	22316 K
85	2	2	0,22	2,7	22217	22217 K
	3	2,5	0,24	5,2	21317	21317 K
	3	2,5	0,33	7,65	22317	22317 K
90	2	2	0,24	3,4	22218	22218 K
	2	2	0,31	4,65	23218	23218 K
	3	2,5	0,24	6,1	21318	21318 K
	3	2,5	0,33	9,05	22318	22318 K
95	2,1	2	0,24	4,15	22219	22219 K
	3	2,5	0,24	7,05	21319	21319 K
	3	2,5	0,33	10,5	22319	22319 K
100	1,5	1,5	0,28	3,15	24020	24020 K30
	2	2	0,3	4,55	23120	23120 K
	2	2	0,37	5,65	24120	24120 K30
	2,1	2	0,24	4,9	22220	22220 K

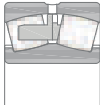
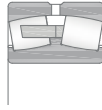
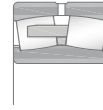
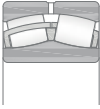


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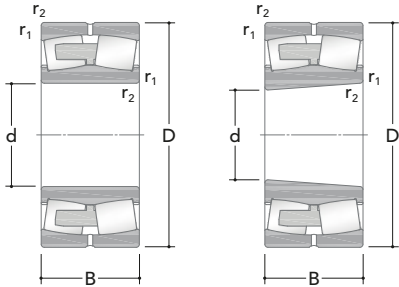
K/K30



Main dimensions			Basic load ratings		Fatigue load limit	Speed ratings		Designation
d	D	B	Dynamic C	Static C ₀	C _u	Reference	Limiting	Standard design
[mm]			[kN]			[rpm]		
100 (cont.)	180	60,3	502	590	62	2200	3000	23220
	215	47	432	486	48,6	2700	3850	21320
	215	73	860	948	87,8	2200	2700	22320
110	170	45	330	432	45,7	3100	3800	23022
	170	60	439	619	66,9	2200	3100	24022
	180	56	452	578	60,3	2600	3200	23122
	180	69	545	741	77,1	1800	2700	24122
	200	53	577	629	61,9	2800	3400	22222
	200	69,8	625	759	75,9	2000	2800	23222
	240	80	985	1100	98,2	1800	2500	22322
120	180	46	366	508	52,8	3000	3500	23024
	180	60	461	662	67,2	2200	2900	24024
	200	62	543	683	69,8	2400	2900	23124
	200	80	679	940	94	1700	2300	24124
	205	68	528	863	91,3	2300	-	231581
	215	58	660	753	72,3	2600	3300	22224
	215	76	745	912	91,2	1800	2500	23224
	260	86	1030	1110	99,1	1850	2300	22324
130	200	52	448	610	61	2600	3200	23026
	200	69	568	814	81,4	1800	2600	24026
	210	64	595	766	76,6	2200	2800	23126
	210	80	703	985	98,5	1500	2100	24126
	230	64	753	920	87,1	2400	3200	22226
	230	64	657	920	87,1	2200	-	29226
	230	80	827	1050	103	1700	2300	23226
	280	93	1178	1324	114	1650	2100	22326
140	210	53	486	672	67,2	2400	2900	23028
	210	69	610	890	87	1800	2500	24028
	225	68	663	898	87,8	2000	2500	23128
	225	85	811	1140	110	1500	1900	24128

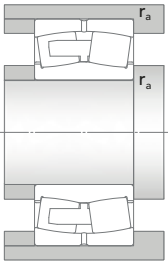
**MA****MB****ECA****CC**

Dimensions			Calculation	Mass	Designation	
d	r _{1,2min}	r _{amax}	factor		Cylindrical bore	Tapered bore
[mm]			e			
100	2,1	2	0,33	6,85	23220	23220 K
(cont.)	3	2,5	0,24	8,6	21320	21320 K
	3	2,5	0,33	13,5	22320	22320 K
110	2	2	0,23	3,8	23022	23022 K
	2	2	0,33	5	24022	24022 K30
	2	2	0,3	5,75	23122	23122 K
	2	2	0,37	7,1	24122	24122 K30
	2,1	2	0,25	7	22222	22222 K
	2,1	2	0,33	9,85	23222	23222 K
	3	2,5	0,33	18,5	22322	22322 K
120	2	2	0,22	4,2	23024	23024 K
	2	2	0,3	5,45	24024	24024 K30
	2	2	0,28	8	23124	23124 K
	2	2	0,37	10,5	24124	24124 K30
	2,1	2	0,31	9,2	231581	-
	2,1	2	0,26	8,7	22224	22224 K
	2,1	2	0,35	12	23224	23224 K
	3	2,5	0,35	23	22324	22324 K
130	2	2	0,23	6	23026	23026 K
	2	2	0,31	8,05	24026	24026 K30
	2	2	0,28	8,8	23126	23126 K
	2	2	0,35	11	24126	24126 K30
	3	2,5	0,27	11	22226	22226 K
	3	2,5	0,27	11	29226	29226 K
	3	2,5	0,33	14,5	23226	23226 K
	4	3	0,35	29	22326	22326 K
140	2	2	0,22	6,55	23028	23028 K
	2	2	0,3	8,55	24028	24028 K30
	2,1	2	0,28	10,5	23128	23128 K
	2,1	2	0,35	13,5	24128	24128 K30

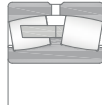
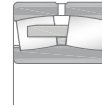
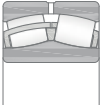


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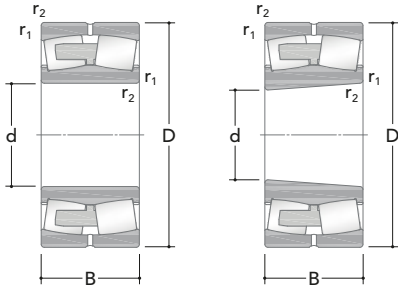
K/K30



Main dimensions			Basic load ratings		Fatigue load limit	Speed ratings		Designation
d	D	B	Dynamic C	Static C ₀	C _u	Reference	Limiting	Standard design
[mm]			[kN]			[rpm]		
140	250	68	743	893	85,8	2200	2800	22228
(cont.)	250	88	964	1240	119	1500	2100	23228
	300	102	1434	1540	130	1500	1900	22328
150	225	56	538	749	73,5	2200	2800	23030
	225	75	682	1030	100	1600	2300	24030
	250	80	890	1190	114	1800	2300	23130
	250	100	1036	1510	146	1300	1800	24130
	270	73	905	1070	102	2000	2600	22230
	270	96	1135	1457	137	1500	1900	23230
	320	108	1523	1740	146	1500	1800	22330
160	220	60	413	840	85	1700	-	24932
	240	60	613	879	83	2200	2600	23032
	240	80	777	1180	114	1500	2100	24032
	270	86	1035	1360	129	1700	2100	23132
	270	109	1229	1750	163	1200	1700	24132
	290	80	1048	1280	118	1800	2500	22232
	290	104	1263	1650	153	1400	1900	23232
	340	114	1694	1950	160	1400	1700	22332
170	260	67	743	1040	98	2000	2400	23034
	260	90	973	1440	135	1500	2100	24034
	280	88	1102	1490	136	1600	2100	23134
	280	109	1271	1890	173	1100	1600	24134
	310	86	1176	1450	131	1700	2300	22234
	310	110	1481	1910	171	1300	1700	23234
	360	120	1894	2130	174	1300	1600	22334
180	250	52	512	821	76	2300	2500	23936
	280	74	884	1240	113	1800	2300	23036
	280	100	1131	1710	154	1400	1900	24036
	300	96	1247	1730	157	1500	1900	23136

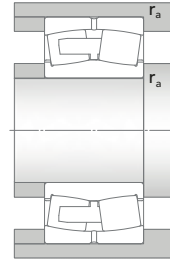
**MA****MB****ECA****CC**

Dimensions			Calculation	Mass	Designation	
d	r _{1,2min}	r _{amax}	factor		Cylindrical bore	Tapered bore
[mm]			e			
140	3	2,5	0,26	14	22228	22228 K
(cont.)	3	2,5	0,33	19	23228	23228 K
	4	3	0,35	36,5	22328	22328 K
150	2,1	2	0,22	7,95	23030	23030 K
	2,1	2	0,3	10,5	24030	24030 K30
	2,1	2	0,3	16	23130	23130 K
	2,1	2	0,37	20	24130	24130 K30
	3	2,5	0,26	18	22230	22230 K
	3	2,5	0,35	24,5	23230	23230 K
	4	3	0,35	43,5	22330	22330 K
160	2	2	0,24	6,85	24932	-
	2,1	2	0,22	9,7	23032	23032 K
	2,1	2	0,3	13	24032	24032 K30
	2,1	2	0,3	20,5	23132	23132 K
	2,1	2	0,4	25	24132	24132 K30
	3	2,5	0,26	22,5	22232	22232 K
	3	2,5	0,35	31	23232	23232 K
	4	3	0,35	52	22332	22332 K
170	2,1	2	0,23	13	23034	23034 K
	2,1	2	0,33	17,5	24034	24034 K30
	2,1	2	0,3	22	23134	23134 K
	2,1	2	0,37	27,5	24134	24134 K30
	4	3	0,27	28,5	22234	22234 K
	4	3	0,35	37,5	23234	23234 K
	4	3	0,33	61	22334	22334 K
180	2	2	0,18	7,9	23936	23936 K
	2,1	2	0,24	17	23036	23036 K
	2,1	2	0,33	23	24036	24036 K30
	3	2,5	0,3	28	23136	23136 K

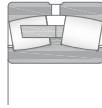
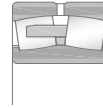
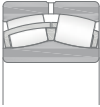


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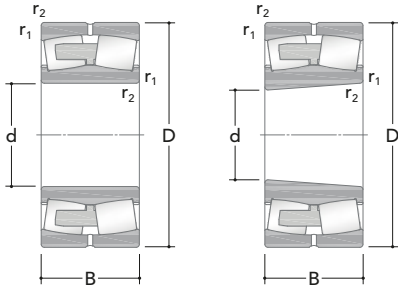
K/K30



Main dimensions			Basic load ratings		Fatigue load limit	Speed ratings		Designation
d	D	B	Dynamic C	Static C ₀	C _u	Reference	Limiting	Standard design
[mm]			[kN]			[rpm]		
180 (cont.)	300	118	1464	2150	195	1000	1400	24136
	320	86	1218	1540	138	1600	2300	22236
	320	112	1554	2110	185	1200	1700	23236
	380	126	2110	2420	191	1200	1500	22336
190	260	52	490	791	76	2200	2300	23938
	290	75	931	1330	121	1700	2100	23038
	290	100	1186	1770	160	1300	1700	24038
	320	104	1454	2060	181	1400	1800	23138
	320	128	1621	2470	209	1000	1300	24138
	340	92	1320	1680	148	1500	2100	22238
	340	120	1788	2359	204	1200	1600	23238
	400	132	2267	2640	207	1100	1400	22338
200	280	60	658	1020	91	2000	2100	23940
	310	82	1058	1500	134	1600	1900	23040
	310	109	1355	2090	183	1200	1700	24040
	340	112	1679	2350	203	1400	1700	23140
	340	140	1896	2750	228	900	1200	24140
	360	98	1505	1920	165	1500	1900	22240
	360	128	1921	2690	227	1100	1500	23240
	420	138	2450	2890	223	1100	1300	22340
220	300	60	664	1060	91	1800	1900	23944
	340	90	1256	1830	160	1500	1700	23044
	340	118	1656	2560	209	1100	1500	24044
	370	120	1879	2740	231	1200	1500	23144
	370	150	2159	3330	283	790	1050	24144
	400	108	1813	2350	195	1400	1700	22244
	400	144	2534	3420	283	1000	1300	23244
	460	145	2834	3400	256	940	1200	22344
240	320	60	688	1182	100	1750	1800	23948

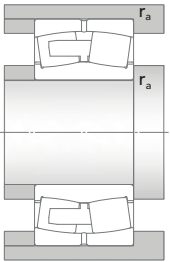
**MA****MB****ECA****CC**

Dimensions			Calculation	Mass	Designation	
d	r _{1,2min}	r _{amax}	factor		Cylindrical bore	Tapered bore
[mm]			e			
180	3	2,5	0,37	34,5	24136	24136 K30
(cont.)	4	3	0,26	29,5	22236	22236 K
	4	3	0,35	39,5	23236	23236 K
	4	3	0,35	71,5	22336	22336 K
	4	3	0,35	71,5	22336	22336 K
190	2	2	0,16	8,3	23938	23938 K
	2,1	2	0,23	18	23038	23038 K
	2,1	2	0,31	24,5	24038	24038 K30
	3	2,5	0,31	35	23138	23138 K
	3	2,5	0,4	43	24138	24138 K30
	4	3	0,26	36,5	22238	22238 K
	4	3	0,35	48	23238	23238 K
	5	4	0,35	82,5	22338	22338 K
200	2,1	2	0,19	11,5	23940	23940 K
	2,1	2	0,24	23,5	23040	23040 K
	2,1	2	0,33	31	24040	24040 K30
	3	2,5	0,31	43	23140	23140 K
	3	2,5	0,4	53,5	24140	24140 K30
	4	3	0,26	43,5	22240	22240 K
	4	3	0,35	58	23240	23240 K
	5	4	0,33	95	22340	22340 K
220	2,1	2	0,16	12,5	23944	23944 K
	3	2,5	0,24	30,5	23044	23044 K
	3	2,5	0,33	40	24044	24044 K30
	4	3	0,3	53,5	23144	23144 K
	4	3	0,4	67	24144	24144 K30
	4	3	0,27	60,5	22244	22244 K
	4	3	0,35	81,5	23244	23244 K
	5	4	0,31	120	22344	22344 K
240	2,1	2	0,15	13,5	23948	23948 K

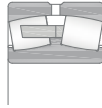
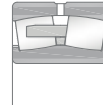


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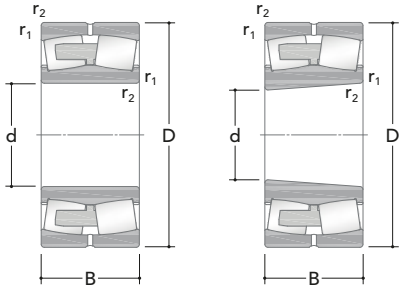
K/K30



Main dimensions			Basic load ratings		Fatigue load limit	Speed ratings		Designation
d	D	B	Dynamic C	Static C ₀	C _u	Reference	Limiting	Standard design
[mm]			[kN]			[rpm]		
240 (cont.)	360	92	1321	2040	173	1400	1700	23048
	360	118	1665	2660	225	1000	1400	24048
	400	128	2147	3180	253	1100	1400	23148
	400	160	2440	3880	318	700	940	24148
	440	120	2245	2940	240	1200	1600	22248
	440	160	3033	4250	341	880	1140	23248
	500	155	3194	3940	286	890	1140	22348
260	320	45	379	915	82	1200	-	23852
	360	75	1038	1790	155	1560	1700	23952
	360	100	1122	2453	216	1200	-	24952
	400	104	1682	2520	210	1200	1500	23052
	400	140	2165	3440	284	920	1200	24052
	440	144	2521	3694	276	1000	1250	23152
	440	180	3076	4730	374	610	810	24152
	480	130	2721	3520	283	1100	1420	22252
	480	174	3407	4720	358	790	1029	23252
	540	165	3610	4470	319	780	987	22352
280	350	52	515	1189	105	1100	-	23856
	380	75	1022	1726	140	1430	1500	23956
	380	100	1060	2455	212	1100	-	24956
	420	106	1812	2820	222	1200	1400	23056
	420	140	2234	3760	282	860	1250	24056
	460	146	2730	4208	319	900	1170	23156
	460	180	3125	5080	413	560	800	24156
	500	130	2844	3730	298	1000	1330	22256
	500	176	3453	4793	363	750	1057	23256
	580	175	4147	5130	360	730	970	22356
300	380	60	512	1196	102	790	-	23860
	420	90	1400	2490	199	1300	1400	23960
	460	118	2192	3410	262	1100	1340	23060

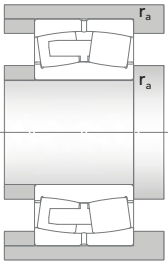
**MA****MB****ECA****CC**

Dimensions			Calculation	Mass	Designation	
d	r _{1,2min}	r _{amax}	factor		Cylindrical bore	Tapered bore
[mm]			e			
240	3	2,5	0,23	33,5	23048	23048 K
(cont.)	3	2,5	0,3	43	24048	24048 K30
	4	3	0,3	66,5	23148	23148 K
	4	3	0,4	83	24148	24148 K30
	4	3	0,27	83	22248	22248 K
	4	3	0,35	110	23248	23248 K
	5	4	0,31	155	22348	22348 K
260	2	2	0,12	8,05	23852	23852 K
	2,1	2	0,18	23,5	23952	23952 K
	2,1	2	0,24	32	24952	-
	4	3	0,23	48,5	23052	23052 K
	4	3	0,33	65,5	24052	24052 K30
	4	3	0,31	90,5	23152	23152 K
	4	3	0,4	110	24152	24152 K30
	5	4	0,27	110	22252	22252 K
	5	4	0,35	140	23252	23252 K
	6	5	0,31	190	22352	22352 K
280	2	2	0,12	12	23856	23856 K
	2,1	2	0,16	25	23956	23956 K
	2,1	2	0,23	34,5	24956	-
	4	3	0,23	52,5	23056	23056 K
	4	3	0,31	69,5	24056	24056 K30
	5	4	0,3	97	23156	23156 K
	5	4	0,4	120	24156	24156 K30
	5	4	0,26	115	22256	22256 K
	5	4	0,35	150	23256	23256 K
	6	5	0,3	235	22356	22356 K
300	2,1	2	0,13	17	23860	23860 K
	3	2,5	0,19	39,5	23960	23960 K
	4	3	0,23	71,5	23060	23060 K

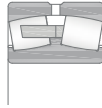
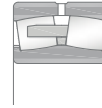
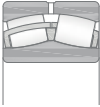


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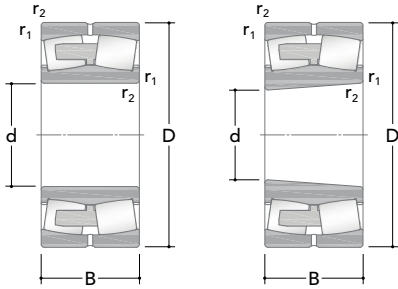
K/K30



Main dimensions			Basic load ratings		Fatigue load limit	Speed ratings		Designation
d	D	B	Dynamic C	Static C ₀	C _u	Reference	Limiting	Standard design
[mm]			[kN]			[rpm]		
300 (cont.)	460	160	2779	4710	352	790	1050	24060
	500	160	3108	4688	348	850	1040	23160
	500	200	3825	6290	464	510	690	24160
	540	140	3228	4220	323	900	1200	22260
	540	192	4042	5810	422	700	850	23260
320	400	60	661	1656	140	1200	-	23864
	440	90	1502	2723	214	1250	1300	23964
	480	121	2328	3740	281	1000	1260	23064
	480	160	2920	5060	397	750	1080	24064
	540	176	3653	5504	400	790	960	23164
	540	218	4443	7090	509	470	610	24164
	580	150	3782	4990	382	860	1160	22264
	580	208	4623	6690	474	630	850	23264
340	420	60	699	1759	145	740	-	23868
	460	90	1485	2773	214	1200	1200	23968
	520	133	2813	4480	330	910	1110	23068
	520	180	3559	6160	472	700	950	24068
	580	190	4368	6670	474	740	860	23168
	580	243	5509	8540	622	400	540	24168
	620	224	5341	7720	544	500	690	23268
360	440	60	701	1866	153	-	-	23872
	480	90	1470	2710	217	1100	1160	23972
	540	134	2827	4790	344	890	1040	23072
	540	180	3757	6430	481	640	860	24072
	600	192	4511	6920	488	690	860	23172
	600	243	5828	9290	669	366	530	24172
	650	170	4442	6080	431	580	760	22272
	650	232	5694	8250	567	470	640	23272
380	520	106	1990	3790	284	1000	1050	23976

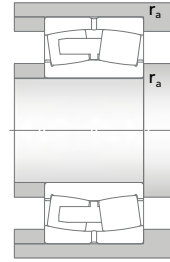
**MA****MB****ECA****CC**

Dimensions			Calculation	Mass	Designation	
d	r _{1,2min}	r _{amax}	factor		Cylindrical bore	Tapered bore
[mm]			e			
300	4	3	0,33	97	24060	24060 K30
(cont.)	5	4	0,3	125	23160	23160 K
	5	4	0,4	160	24160	24160 K30
	5	4	0,26	135	22260	22260 K
	5	4	0,35	190	23260	23260 K
320	2,1	2	0,12	17,5	23864	23864 K
	3	2,5	0,17	42	23964	23964 K
	4	3	0,23	78	23064	23064 K
	4	3	0,31	100	24064	24064 K30
	5	4	0,31	165	23164	23164 K
	5	4	0,4	210	24164	24164 K30
	5	4	0,26	175	22264	22264 K
	5	4	0,35	240	23264	23264 K
340	2,1	2	0,12	18,5	23868	-
	3	2,5	0,17	45,5	23968	23968 K
	5	4	0,24	105	23068	23068 K
	5	4	0,33	140	24068	24068 K30
	5	4	0,31	210	23168	23168 K
	5	4	0,4	280	24168	24168 K30
	6	5	0,35	295	23268	23268 K
360	2,1	1	0,11	20	23872	23872 K
	3	2,5	0,15	46	23972	23972 K
	5	4	0,23	110	23072	23072 K
	5	4	0,31	145	24072	24072 K30
	5	4	0,3	220	23172	23172 K
	5	4	0,4	280	24172	24172 K30
	6	5	0,26	255	22272	22272 K
	6	5	0,35	335	23272	23272 K
380	4	3	0,17	69	23976	23976 K

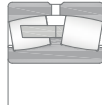
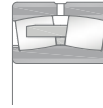
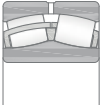


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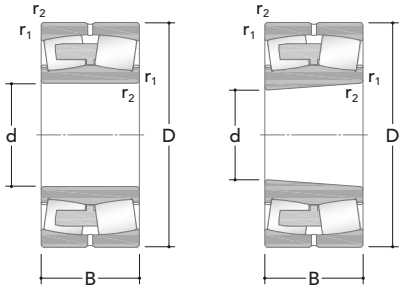
K/K30



Main dimensions			Basic load ratings		Fatigue load limit	Speed ratings		Designation
d	D	B	Dynamic C	Static C ₀	C _u	Reference	Limiting	Standard design
[mm]			[kN]			[rpm]		
380 (cont.)	560	135	2888	4920	346	840	1040	23076
	560	180	3758	6680	467	600	810	24076
	620	194	4509	7000	493	520	850	23176
	620	243	5854	9730	705	330	470	24176
	680	240	6168	9070	615	470	660	23276
400	540	106	1999	3890	289	1000	1080	23980
	600	148	3360	5750	404	790	980	23080
	600	200	4423	7840	550	580	790	24080
	650	200	4863	7500	520	480	830	23180
	650	250	6294	10390	720	310	450	24180
	720	256	6958	10280	672	430	580	23280
	820	243	7768	10380	669	400	660	22380
420	560	106	2046	4110	297	910	970	23984
	620	150	3481	5960	412	540	940	23084
	620	200	4524	8190	577	470	770	24084
	700	224	5911	9230	615	440	770	23184
	700	280	7433	12520	851	290	430	24184
	760	272	7543	11510	759	410	540	23284
440	600	118	2475	4860	342	860	880	23988
	650	157	3832	6540	449	510	900	23088
	650	212	4892	9090	626	450	740	24088
	720	226	6201	9970	668	410	760	23188
	720	280	7816	13100	893	280	390	24188
	790	280	8216	12380	792	390	520	23288
460	580	118	2042	4830	340	560	990	24892
	620	118	2521	4930	350	540	860	23992
	680	163	4142	6820	456	510	850	23092
	680	218	5359	9990	669	450	710	24092
	760	240	6773	10835	671	400	680	23192

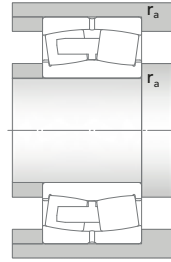
**MA****MB****ECA****CC**

Dimensions			Calculation	Mass	Designation	
d	r _{1,2min}	r _{amax}	factor		Cylindrical bore	Tapered bore
[mm]			e			
380	5	4	0,22	115	23076	23076 K
(cont.)	5	4	0,3	150	24076	24076 K30
	5	4	0,3	230	23176	23176 K
	5	4	0,37	300	24176	24176 K30
	6	5	0,35	375	23276	23276 K
400	4	3	0,16	71	23980	23980 K
	5	4	0,23	150	23080	23080 K
	5	4	0,3	205	24080	24080 K30
	6	5	0,28	265	23180	23180 K
	6	5	0,37	340	24180	24180 K30
	6	5	0,35	450	23280	23280 K
	7,5	6	0,3	650	22380	22380 K
420	4	3	0,16	74,5	23984	23984 K
	5	4	0,22	155	23084	23084 K
	5	4	0,3	210	24084	24084 K30
	6	5	0,3	350	23184	23184 K
	6	5	0,4	445	24184	24184 K30
	7,5	6	0,35	535	23284	23284 K
440	4	3	0,16	99,5	23988	23988 K
	6	5	0,22	180	23088	23088 K
	6	5	0,3	245	24088	24088 K30
	6	5	0,3	360	23188	23188 K
	6	5	0,37	460	24188	24188 K30
	7,5	6	0,35	590	23288	23288 K
460	3	2,5	0,17	75,5	24892	24892 K30
	4	3	0,16	105	23992	23992 K
	6	5	0,22	205	23092	23092 K
	6	5	0,28	275	24092	24092 K30
	7,5	6	0,3	440	23192	23192 K

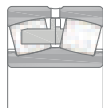
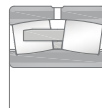


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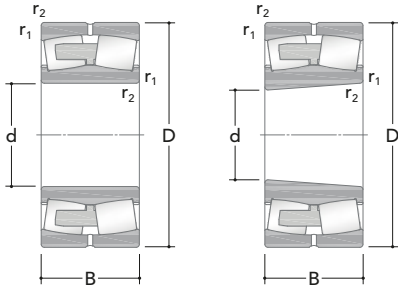
K/K30



Main dimensions			Basic load ratings		Fatigue load limit	Speed ratings		Designation
d	D	B	Dynamic C	Static C ₀	C _u	Reference	Limiting	Standard design
[mm]			[kN]			[rpm]		
460	760	300	8564	14350	983	260	380	24192
(cont.)	830	296	8837	13497	867	370	500	23292
480	600	90	1422	3790	283	480	-	23896
	650	128	2949	5630	400	520	850	23996
	700	165	3966	6770	448	490	820	23096
	700	218	5421	10300	688	420	660	24096
	790	248	7335	11950	777	370	660	23196
	790	308	9062	15520	1035	240	340	24196
	870	310	9691	14750	934	350	470	23296
500	620	90	1451	4035	293	470	-	238/500
	670	128	2960	5910	409	472	820	239/500
	720	167	4415	7710	504	450	800	230/500
	720	218	5876	10940	731	400	600	240/500
	830	264	7975	12840	826	350	620	231/500
	830	325	10163	16920	1115	240	330	241/500
	920	336	11211	17000	1042	330	440	232/500
530	650	118	2119	5230	375	490	850	248/530
	710	136	3292	6590	457	460	780	239/530
	780	185	5327	9260	607	420	680	230/530
	780	250	6904	13040	820	370	600	240/530
	870	272	8581	13740	864	330	570	231/530
	870	335	10955	18880	1212	220	320	241/530
	980	355	13324	20210	1209	300	420	232/530
560	750	140	3537	7060	490	400	750	239/560
	820	195	5693	10040	659	400	670	230/560
	820	258	7504	14590	979	350	540	240/560
	920	280	9525	15930	976	310	560	231/560
	920	355	12551	21460	1331	200	280	241/560
	1030	365	13783	21660	1300	260	380	232/560

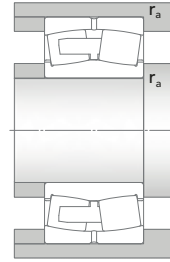
**MA****MB****ECA****CC**

Dimensions			Calculation	Mass	Designation	
d	r _{1,2min}	r _{amax}	factor		Cylindrical bore	Tapered bore
[mm]			e			
460	7,5	6	0,37	560	24192	24192 K30
(cont.)	7,5	6	0,35	695	23292	23292 K
480	3	2,5	0,13	61	23896	23896 K
	5	4	0,18	125	23996	23996 K
	6	5	0,21	215	23096	23096 K
	6	5	0,28	285	24096	24096 K30
	7,5	6	0,3	485	23196	23196 K
	7,5	6	0,37	605	24196	24196 K30
	7,5	6	0,35	800	23296	23296 K
500	3	2,5	0,12	62	238/500	238/500 K
	5	4	0,17	130	239/500	239/500 K
	6	5	0,21	225	230/500	230/500 K
	6	5	0,26	295	240/500	240/500 K30
	7,5	6	0,3	580	231/500	231/500 K
	7,5	6	0,37	700	241/500	241/500 K30
	7,5	6	0,35	985	232/500	232/500 K
530	3	2,5	0,15	86	248/530	248/530 K30
	5	4	0,17	155	239/530	239/530 K
	6	5	0,22	310	230/530	230/530 K
	6	5	0,28	410	240/530	240/530 K30
	7,5	6	0,3	645	231/530	231/530 K
	7,5	6	0,37	830	241/530	241/530 K30
	9,5	8	0,35	1200	232/530	232/530 K
560	5	4	0,16	175	239/560	239/560 K
	6	5	0,22	355	230/560	230/560 K
	6	5	0,28	465	240/560	240/560 K30
	7,5	6	0,3	740	231/560	231/560 K
	7,5	6	0,35	985	241/560	241/560 K30
	9,5	8	0,35	1350	232/560	232/560 K

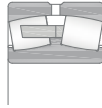
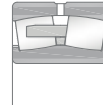


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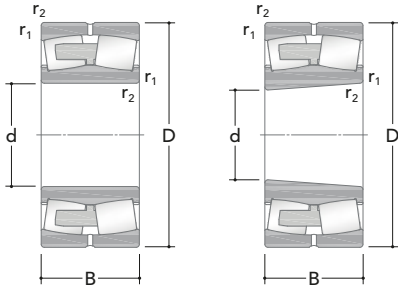
K/K30



Main dimensions			Basic load ratings		Fatigue load limit	Speed ratings		Designation
d	D	B	Dynamic C	Static C ₀	C _u	Reference	Limiting	Standard design
[mm]			[kN]			[rpm]		
600	800	150	3955	8253	567	390	670	239/600
	870	200	6202	11250	725	370	600	230/600
	870	272	8716	16700	1061	310	500	240/600
	980	300	10814	17810	1088	290	480	231/600
	980	375	13384	23570	1458	180	270	241/600
	1090	388	15786	25430	1456	230	360	232/600
630	780	112	2502	6050	412	400	660	238/630
	850	165	4693	9660	621	370	600	239/630
	920	212	6968	12480	779	350	600	230/630
	920	290	9119	17900	1114	300	470	240/630
	1030	315	12778	20390	1196	240	470	231/630
	1030	400	15082	26730	1614	170	250	241/630
670	820	112	2592	6420	431	360	620	238/670
	900	170	5134	10760	677	330	600	239/670
	980	230	7799	14410	869	310	510	230/670
	980	308	10378	20350	1287	270	450	240/670
	1090	336	13199	22465	1324	220	430	231/670
	1090	412	16093	28910	1755	160	230	241/670
710	1220	438	19011	30260	1687	200	320	232/670
710	870	118	3049	7490	499	330	600	238/710
	950	180	5693	11840	740	310	530	239/710
	950	243	6871	15580	929	270	430	249/710
	1030	236	8521	16280	964	280	500	230/710
	1030	315	11237	22380	1404	240	390	240/710
	1150	345	14637	25600	1506	220	400	231/710
	1150	438	17613	32400	1894	150	210	241/710
	1280	450	21348	33960	1969	180	280	232/710
750	920	128	3387	8460	547	310	520	238/750
	1000	185	6164	13060	792	290	480	239/750

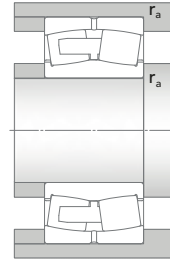
**MA****MB****ECA****CC**

Dimensions			Calculation	Mass	Designation	
d	r _{1,2min}	r _{amax}	factor		Cylindrical bore	Tapered bore
[mm]			e			
600	5	4	0,17	220	239/600	239/600 K
	6	5	0,22	405	230/600	230/600 K
	6	5	0,3	520	240/600	240/600 K30
	7,5	6	0,3	895	231/600	231/600 K
	7,5	6	0,37	1200	241/600	241/600 K30
	9,5	8	0,35	1600	232/600	232/600 K
630	4	3	0,12	120	238/630	238/630 K
	6	5	0,17	280	239/630	239/630 K
	7,5	6	0,21	485	230/630	230/630 K
	7,5	6	0,28	645	240/630	240/630 K30
	7,5	6	0,3	1050	231/630	231/630 K
	7,5	6	0,37	1400	241/630	241/630 K30
670	4	3	0,11	130	238/670	238/670 K
	6	5	0,17	315	239/670	239/670 K
	7,5	6	0,21	600	230/670	230/670 K
	7,5	6	0,28	790	240/670	240/670 K30
	7,5	6	0,3	1250	231/670	231/670 K
	7,5	6	0,37	1600	241/670	241/670 K30
	12	10	0,35	2270	232/670	232/670 K
710	4	3	0,11	153	238/710	238/710 K
	6	5	0,17	365	239/710	239/710 K
	6	5	0,22	495	249/710	249/710 K30
	7,5	6	0,21	670	230/710	230/710 K
	7,5	6	0,27	895	240/710	240/710 K30
	9,5	8	0,28	1450	231/710	231/710 K
	9,5	8	0,37	1900	241/710	241/710 K30
	12	10	0,35	2610	232/710	232/710 K
750	5	4	0,11	185	238/750	238/750 K
	6	5	0,16	420	239/750	239/750 K

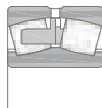
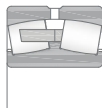
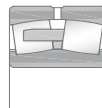


CA/CAF

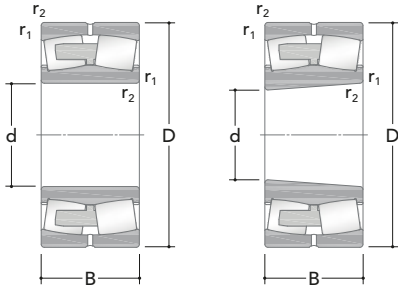
K/K30



Main dimensions			Basic load ratings		Fatigue load limit	Speed ratings		Designation
d	D	B	Dynamic C	Static C ₀	C _u	Reference	Limiting	Standard design
[mm]			[kN]			[rpm]		
750 (cont.)	1000	250	7757	17930	1096	260	410	249/750
	1090	250	9901	18290	1082	260	470	230/750
	1090	335	12054	24630	1438	220	380	240/750
	1220	365	16356	28930	1696	200	380	231/750
	1220	475	20291	37230	2144	140	190	241/750
	1360	475	21420	36390	1994	170	260	232/750
800	980	180	4811	12720	818	300	500	248/800
	1060	195	6490	14270	863	250	460	239/800
	1060	258	8123	19260	1058	220	370	249/800
	1150	258	10257	19790	1148	230	420	230/800
	1150	345	13547	28370	1652	200	340	240/800
	1280	375	18285	31400	1794	180	350	231/800
	1280	475	21893	40380	2313	130	180	241/800
	1420	488	25160	42410	2328	160	250	232/800
850	1030	136	3880	9980	629	240	470	238/850
	1120	200	7031	15420	919	240	410	239/850
	1120	272	9290	22600	1358	200	360	249/850
	1220	272	11247	21180	1226	220	400	230/850
	1220	365	15297	31230	1884	180	310	240/850
	1360	400	23963	45042	2502	121	164	231/850
	1360	500	28031	48742	2640	145	229	241/850
	1090	190	5411	15160	941	220	430	248/900
900	1180	206	7621	16920	995	220	400	239/900
	1280	280	11799	23040	1311	200	350	230/900
	1280	375	16375	34200	2022	170	300	240/900
	1420	515	25772	48900	2694	110	160	241/900
950	1250	224	8669	19320	1104	200	380	239/950
	1250	300	10561	25480	1470	160	290	249/950
	1360	300	14561	28030	1574	180	340	230/950
	1360	412	17680	38310	2200	150	270	240/950

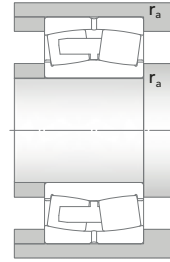
**MA****MB****ECA****CC**

Dimensions			Calculation	Mass	Designation	
d	r _{1,2min}	r _{amax}	factor		Cylindrical bore	Tapered bore
[mm]			e			
750	6	5	0,22	560	249/750	249/750 K30
(cont.)	7,5	6	0,21	795	230/750	230/750 K
	7,5	6	0,28	1070	240/750	240/750 K30
	9,5	8	0,28	1700	231/750	231/750 K
	9,5	8	0,37	2100	241/750	241/750 K30
	15	12	0,35	3050	232/750	232/750 K
800	5	4	0,15	300	248/800	248/800 K30
	6	5	0,16	470	239/800	239/800 K
	6	5	0,21	640	249/800	249/800 K30
	7,5	6	0,2	895	230/800	230/800 K
	7,5	6	0,27	1200	240/800	240/800 K30
	9,5	8	0,28	1920	231/800	231/800 K
	9,5	8	0,35	2300	241/800	241/800 K30
	15	12	0,33	3280	232/800	232/800 K
850	5	4	0,11	240	238/850	238/850 K
	6	5	0,16	560	239/850	239/850 K
	6	5	0,22	740	249/850	249/850 K30
	7,5	6	0,2	1050	230/850	230/850 K
	7,5	6	0,27	1410	240/850	240/850 K30
	12	10	0,28	2200	231/850	231/850 K
	12	10	0,35	2770	241/850	241/850 K30
900	5	4	0,14	370	248/900	248/900 K30
	6	5	0,15	605	239/900	239/900 K
	7,5	6	0,2	1200	230/900	230/900 K
	7,5	6	0,26	1570	240/900	240/900 K30
	12	10	0,35	3350	241/900	241/900 K30
950	7,5	6	0,15	755	239/950	239/950 K
	7,5	6	0,21	1020	249/950	249/950 K30
	7,5	6	0,2	1450	230/950	230/950 K
	7,5	6	0,27	1990	240/950	240/950 K30

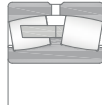
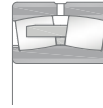


CA/CAF

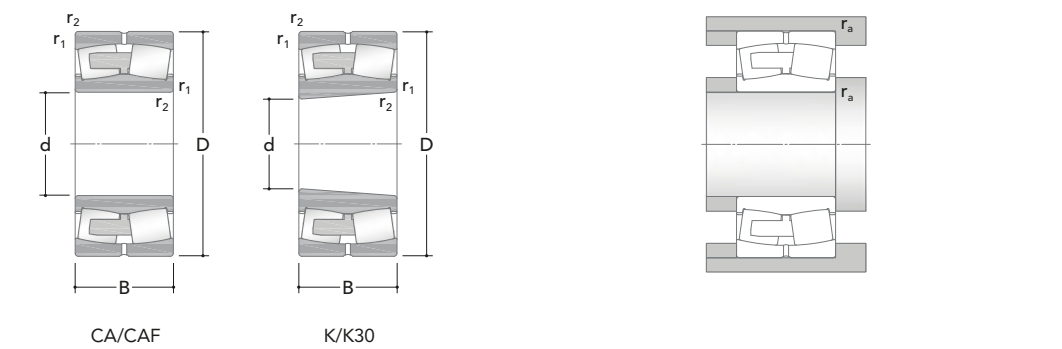
K/K30



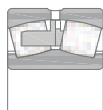
Main dimensions			Basic load ratings		Fatigue load limit	Speed ratings		Designation
d	D	B	Dynamic C	Static C ₀	C _u	Reference	Limiting	Standard design
[mm]			[kN]			[rpm]		
950	1500	545	28438	54290	2961	100	140	241/950
(cont.)								
1000	1220	165	5465	14270	848	200	340	238/1000
	1320	315	11835	28660	1443	150	280	249/1000
	1420	308	14311	30350	1692	160	320	230/1000
	1420	412	18907	40090	2217	150	240	240/1000
	1580	462	25356	47060	2500	130	250	231/1000
	1580	580	31021	61860	3342	90	130	241/1000
1060	1280	165	5638	14710	848	180	330	238/1060
	1280	218	6831	19840	1190	180	340	248/1060
	1400	250	11436	25720	1415	160	320	239/1060
	1400	335	13271	32330	1791	150	240	249/1060
	1500	325	15898	33610	1809	150	280	230/1060
	1500	438	20759	45120	2430	140	230	240/1060
1120	1360	243	8357	23910	1395	160	300	248/1120
	1460	335	13811	34240	1816	130	230	249/1120
	1580	462	22569	49160	2655	120	210	240/1120
1180	1420	180	6851	18460	1072	150	280	238/1180
	1420	243	8965	26560	1535	150	280	248/1180
	1540	272	13119	30970	1658	140	270	239/1180
	1540	355	15586	40280	2148	120	210	249/1180
	1660	475	25876	57900	3019	120	190	240/1180
1250	1750	375	21125	44100	2274	120	210	230/1250
1320	1600	280	11276	33340	1851	130	230	248/1320
	1720	400	18889	48350	2467	100	170	249/1320
1500	1820	315	14757	44140	2354	100	190	248/1500
	1950	450	20889	62830	3142	-	-	249/1500

**MA****MB****ECA****CC**

Dimensions			Calculation	Mass	Designation	
d	r _{1,2min}	r _{amax}	factor		Cylindrical bore	Tapered bore
[mm]			e			
950	12	10	0,35	3540	241/950	241/950 K30
(cont.)						
1000	6	5	0,12	410	238/1000	238/1000 K
	7,5	6	0,21	1200	249/1000	249/1000 K30
	7,5	6	0,19	1600	230/1000	230/1000 K
	7,5	6	0,26	2140	240/1000	240/1000 K30
	12	10	0,28	3500	231/1000	231/1000 K
	12	10	0,35	4300	241/1000	241/1000 K30
1060	6	5	0,11	435	238/1060	238/1060 K
	6	5	0,14	570	248/1060	248/1060 K30
	7,5	6	0,16	1100	239/1060	239/1060 K
	7,5	6	0,21	1400	249/1060	249/1060 K30
	9,5	8	0,19	1840	230/1060	230/1060 K
	9,5	8	0,26	2520	240/1060	240/1060 K30
1120	6	5	0,15	735	248/1120	248/1120 K30
	7,5	6	0,2	1500	249/1120	249/1120 K30
	9,5	8	0,26	2930	240/1120	240/1120 K30
1180	6	5	0,11	575	238/1180	238/1180 K
	6	5	0,14	770	248/1180	248/1180 K30
	7,5	6	0,16	1400	239/1180	239/1180 K
	7,5	6	0,2	1800	249/1180	249/1180 K30
	9,5	8	0,26	3320	240/1180	240/1180 K30
1250	9,5	8	0,19	2840	230/1250	230/1250 K
1320	6	5	0,15	1160	248/1320	248/1320 K30
	7,5	6	0,21	2500	249/1320	249/1320 K30
1500	7,5	6	0,15	1710	248/1500	248/1500 K30
	9,5	8	0,2	3550	249/1500	249/1500 K30



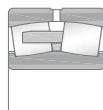
Main dimensions			Basic load ratings		Fatigue load limit	Speed ratings		Designation
d	D	B	Dynamic C	Static C ₀	C _u	Reference	Limiting	Standard design
[mm]			[kN]			[rpm]		
1800	2180	375	20274	62690	3035	70	120	248/1800



MA



MB

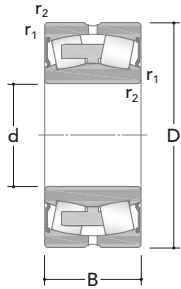


ECA

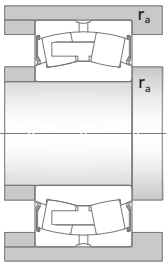


CC

Dimensions			Calculation	Mass	Designation	
d	r _{1,2min}	r _{amax}	factor		Cylindrical bore	Tapered bore
[mm]			e			
1800	9,5	8	0,15	2900	248/1800	248/1800 K30



Sealed



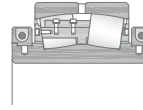
Main dimensions			Basic load ratings		Fatigue load limit C_u	Speed ratings	Designation
d	D	B	Dynamic C	Static C_0		Limiting	Standard design
[mm]			[kN]			[rpm]	
25	52	23	49,7	43,8	4,73	5300	BS2 2205
30	62	25	65,3	59,3	6,3	4580	BS2 2206
35	72	28	87,5	84,4	9,2	3760	BS2 2207
40	80	28	100,4	88,5	9,6	3360	BS2 2208
	90	38	156,3	139,0	14,9	3390	BS2 2308
45	85	28	103,1	97,7	10,8	3100	BS2 2209
	100	42	193	180	19,3	2900	BS2 2309
50	90	28	106	107	11,7	2830	BS2 2210
	110	45	228	221	23,7	2600	BS2 2310
55	100	31	129	125	13,5	2560	BS2 2211
	120	49	279	278	29,8	2500	BS2 2311
60	110	34	159	166	18,6	2400	BS2 2212
	130	53	329	329	35,8	2150	BS2 2312
65	100	35	140	172	20,3	2300	24013
	120	38	194	214	23,8	2150	BS2 2213
	140	56	353	360	38	2045	BS2 2313
70	125	38	210	224	25,1	2000	BS2 2214
	150	60	416	426	44,6	1890	BS2 2314
75	115	40	180	229	28,1	1960	24015
	130	38	219	243	26,9	1900	BS2 2215
	160	64	463	472	47,7	1830	BS2 2315
80	140	40	246	270	29	1740	BS2 2216



WOR

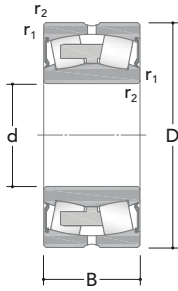


ECCS

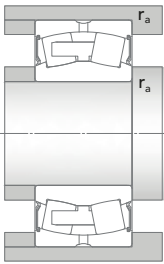


SSRB

Dimensions			Calculation factor e	Mass	Designation	
d	r _{1,2min}	r _{amax}			Cylindrical bore	Tapered bore
[mm]				[kg]		
25	1	1	0,35	0,26	BS2 2205 2CS	-
30	1	1	0,31	0,34	BS2 2206 2CS	-
35	1,1	1	0,31	0,52	BS2 2207 2CS	-
40	1,1	1	0,28	0,57	BS2 2208 2CS	BS2 2208 K2CS
	1,5	1,5	0,37	1,2	BS2 2308 2CS	-
45	1,1	1	0,26	0,66	BS2 2209 2CS	BS2 2209 K2CS
	1,5	1,5	0,37	1,6	BS2 2309 2CS	-
50	1,1	1	0,24	0,7	BS2 2210 2CS	BS2 2210 K2CS
	2	2	0,37	2,1	BS2 2310 2CS	-
55	1,5	1,5	0,24	1	BS2 2211 2CS	BS2 2211 K2CS
	2	2	0,35	2,8	BS2 2311 2CS	-
60	1,5	1,5	0,24	1,3	BS2 2212 2CS	BS2 2212 K2CS
	2,1	2	0,35	3,4	BS2 2312 2CS	-
65	1,1	1	0,27	0,95	24013 2CZ	-
	1,5	1,5	0,24	1,6	BS2 2213 2CS	BS2 2213 K2CS
	2,1	2	0,35	4,15	BS2 2313 2CS	-
70	1,5	1,5	0,23	1,8	BS2 2214 2CS	BS2 2214 K2CS
	2,1	2	0,33	5,1	BS2 2314 2CS	-
75	1,1	1	0,28	1,55	24015 2CS	-
	1,5	1,5	0,22	2,1	BS2 2215 2CS	BS2 2215 K2CS
	2,1	2	0,35	6,5	BS2 2315 2CS	-
80	2	2	0,22	2,4	BS2 2216 2CS	BS2 2216 K2CS



Sealed



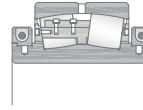
Main dimensions			Basic load ratings		Fatigue load limit C_u	Speed ratings	Designation
d	D	B	Dynamic C	Static C_0		Limiting	Standard design
[mm]			[kN]			[rpm]	
80	170	67	519	533	54,3	1800	BS2 2316
(cont.)							
85	150	44	292	321	34,1	1640	BS2 2217
90	160	48	326	372	38,7	1568	BS2 2218
	160	52,4	350	437	47,7	1491	23218
95	170	51	401	445	45	1490	BS2 2219
100	150	50	296	408	44,7	1500	24020
	165	52	391	483	52,2	1490	23120
	165	65	467	631	67	1510	24120
	180	55	432	484	48,4	1400	BS2 2220
	180	60,3	508	590	62	1400	23220
110	170	45	325	432	46	1340	23022
	170	60	437	619	67	600	24022
	180	56	460	578	60	700	23122
	180	69	549	741	77	550	24122
	200	63	566	636	63	1280	BS2 2222
	200	69,8	631	758	76	550	23222
120	180	46	369	508	53	1220	23024
	180	60	452	662	67	600	24024
	200	80	675	940	94	500	24124
	215	69	641	750	72	1220	BS2 2224
	215	76	724	912	91	530	23224
	260	86	1025	1111	99	530	22324
130	200	52	458	610	62	700	23026
	200	69	559	814	80	540	24026
	210	80	713	985	99	460	24126
	230	75	762	926	88	600	BS2 2226



WOR

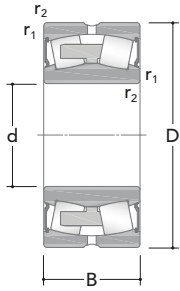


ECCS

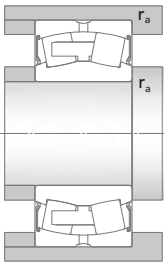


SSRB

Dimensions			Calculation factor e	Mass	Designation	
d	r _{1,2min}	r _{amax}			Cylindrical bore	Tapered bore
[mm]				[kg]		
80	2,1	2	0,35	7,2	BS2 2316 2CS	-
(cont.)						
85	2	2	0,22	3	BS2 2217 2CS	BS2 2217 K2CS
90	2	2	0,24	3,7	BS2 2218 2CS	BS2 2218 K2CS
	2	2	0,31	4,65	23218 2CZ	-
95	2,1	2	0,24	4,65	BS2 2219 2CS	BS2 2219 K2CS
100	1,5	1,5	0,28	3,15	24020 2CZ	-
	2	2	0,27	4,55	23120 2CZ	-
	2	2	0,35	5,65	24120 2CZ	-
	2,1	2	0,24	5,5	BS2 2220 2CS	BS2 2220 K2CS
	2,1	2	0,3	6,85	23220 2CZ	-
110	2	2	0,23	3,8	23022 2CZ	-
	2	2	0,33	5	24022 2CZ	-
	2	2	0,27	5,75	23122 2CZ	23122 K2CZ
	2	2	0,35	7,1	24122 2CZ	-
	2,1	2	0,25	7,6	BS2 2222 2CS	BS2 2222 K2CS
	2,1	2	0,33	9,85	23222 2CZ	23222 K2CZ
120	2	2	0,2	4,2	23024 2CZ	-
	2	2	0,28	5,45	24024 2CZ	-
	2	2	0,37	10,5	24124 2CZ	-
	2,1	2	0,26	9,75	BS2 2224 2CS	BS2 2224 K2CS
	2,1	2	0,33	12	23224 2CZ	23224 K2CZ
	3	2,5	0,33	23	22324 2CZ	22324 K2CZ
130	2	2	0,21	6	23026 2CZ	23026 K2CZ
	2	2	0,3	8,05	24026 2CZ	-
	2	2	0,33	11	24126 2CZ	-
	3	2,5	0,27	11	BS2 2226 2CS	BS2 2226 K2CS



Sealed



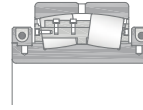
Main dimensions			Basic load ratings		Fatigue load limit C_u	Speed ratings	Designation
d	D	B	Dynamic C	Static C_0		Limiting	Standard design
[mm]			[kN]			[rpm]	
130	230	80	821	1050	103	460	23226
(cont.)	280	93	1159	1304	113	450	22326
140	210	53	477	672	67	600	23028
	210	69	596	890	87	500	24028
	225	85	783	1140	110	400	24128
	250	68	742	893	86	600	22228
	250	88	970	1240	119	430	23228
	300	102	1364	1540	130	380	22328
150	225	56	528	749	73	600	23030
	225	75	669	1030	99	460	24030
	250	80	898	1190	113	500	23130
	250	100	1061	1510	144	360	24130
	270	73	912	1070	101	560	22230
	270	96	1118	1487	140	380	23230
	320	108	1519	1730	144	350	22330
160	240	60	624	879	83	600	23032
	240	80	779	1180	112	400	24032
	270	86	1043	1378	127	470	23132
	270	109	1214	1750	162	330	24132
	290	80	1033	1280	117	520	22232
	340	114	1680	1950	159	330	22332
170	260	67	761	1071	99	560	23034
	260	90	951	1488	136	350	24034
	280	88	1079	1490	136	420	23134
	280	109	1288	1887	172	310	24134
	310	86	1189	1450	133	440	22234
180	280	74	900	1267	114	500	23036
	280	100	1155	1710	154	330	24036



WOR

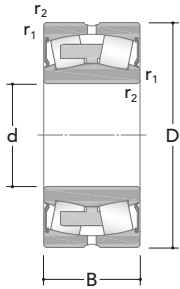


ECCS

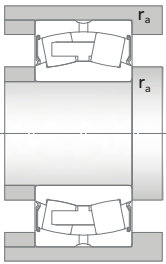


SSRB

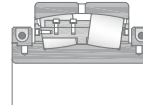
Dimensions			Calculation factor e	Mass	Designation	
d	r _{1,2min}	r _{amax}			Cylindrical bore	Tapered bore
[mm]				[kg]		
130	3	2,5	0,31	14,5	23226 2CZ	23226 K2CZ
(cont.)	4	3	0,33	29	22326 2CZ	22326 K2CZ
140	2	2	0,2	6,55	23028 2CZ	23028 K2CZ
	2	2	0,28	8,55	24028 2CZ	-
	2,1	2	0,35	13,5	24128 2CZ	-
	3	2,5	0,24	14	22228 2CZ	22228 K2CZ
	3	2,5	0,33	19	23228 2CZ	23228 K2CZ
	4	3	0,33	36,5	22328 2CZ	22328 K2CZ
150	2,1	2	0,2	7,95	23030 2CZ	23030 K2CZ
	2,1	2	0,28	10,5	24030 2CZ	-
	2,1	2	0,28	16	23130 2CZ	23130 K2CZ
	2,1	2	0,37	20	24130 2CZ	-
	3	2,5	0,24	18	22230 2CZ	22230 K2CZ
	3	2,5	0,33	24,5	23230 2CZ	23230 K2CZ
	4	3	0,33	43,5	22330 2CZ	22330 K2CZ
160	2,1	2	0,2	9,7	23032 2CZ	23032 K2CZ
	2,1	2	0,28	13	24032 2CZ	-
	2,1	2	0,28	20,5	23132 2CZ	23132 K2CZ
	2,1	2	0,37	25	24132 2CZ	-
	3	2,5	0,25	22,5	22232 2CZ	22232 K2CZ
	4	3	0,33	52	22332 2CZ	22332 K2CZ
170	2,1	2	0,22	13	23034 2CZ	23034 K2CZ
	2,1	2	0,3	17,5	24034 2CZ	-
	2,1	2	0,28	22	23134 2CZ	23134 K2CZ
	2,1	2	0,37	27,5	24134 2CZ	-
	4	3	0,25	28,5	22234 2CZ	22234 K2CZ
180	2,1	2	0,22	17	23036 2CZ	23036 K2CZ
	2,1	2	0,31	23	24036 2CZ	-



Sealed



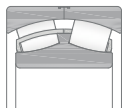
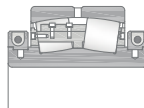
Main dimensions			Basic load ratings		Fatigue load limit C_u	Speed ratings	Designation
d	D	B	Dynamic C	Static C_0		Limiting	Standard design
[mm]			[kN]			[rpm]	
180 (cont.)	300	96	1259	1775	158	370	23136
	300	118	1424	2150	195	320	24136
	320	86	1248	1540	138	470	22236
190	320	104	1431	2060	181	350	23138
	320	128	1643	2470	209	300	24138
	340	92	1355	1680	148	430	22238
200	310	82	1060	1500	134	420	23040
	340	112	1645	2350	203	330	23140
	340	140	1899	2750	228	280	24140
	360	98	1503	1920	165	380	22240
	360	128	1917	2690	231	300	23240
220	300	60	673	1060	91	540	23944
	340	90	1240	1830	160	380	23044
	370	120	1870	2740	231	320	23144
	400	108	1828	2350	199	340	22244
	460	145	2788	3400	256	270	22344
240	360	92	1319	2040	173	360	23048
	400	128	2169	3180	253	290	23148
260	400	104	1653	2520	210	310	23052
	440	144	2621	3830	285	280	23152
280	460	146	2812	4170	329	260	23156
300	500	160	3321	5066	377	230	23160
320	540	176	3978	6186	446	230	23164
340	580	190	4411	6678	481	210	23168

**WOR****ECCS****SSRB**

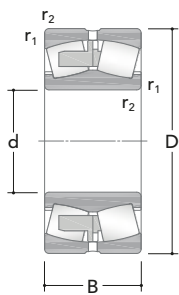
Dimensions			Calculation factor e	Mass	Designation	
d	r_{1,2min}	r_{amax}			Cylindrical bore	Tapered bore
[mm]				[kg]		
180	3	2,5	0,28	28	23136 2CZ	23136 K2CZ
(cont.)	3	2,5	0,37	34,5	24136 2CZ	-
	4	3	0,24	29	22236 2CZ	22236 K2CZ
190	3	2,5	0,3	35	23138 2CZ	23138 K2CZ
	3	2,5	0,4	43	24138 2CZ	-
	4	3	0,24	35	22238 2CZ	22238 K2CZ
200	2,1	2	0,22	22	23040 2CZ	23040 K2CZ
	3	2,5	0,3	43	23140 2CZ	23140 K2CZ
	3	2,5	0,4	53,5	24140 2CZ	-
	4	3	0,24	42	22240 2CZ	22240 K2CZ
	4	3	0,35	58	23240 2CZ	23240 K2CZ
220	2,1	2	0,15	12,5	23944 2CZ	-
	3	2,5	0,22	29	23044 2CZ	23044 K2CZ
	4	3	0,28	53,5	23144 2CZ	23144 K2CZ
	4	3	0,25	58	22244 2CZ	22244 K2CZ
	5	4	0,3	115	22344 2CZ	22344 K2CZ
240	3	2,5	0,21	32	23048 2CZ	23048 K2CZ
	4	3	0,28	66,5	23148 2CZ	23148 K2CZ
260	4	3	0,22	46	23052 2CZ	23052 K2CZ
	4	3	0,3	90,5	23152 2CZ	23152 K2CZ
280	5	4	0,28	97	23156 2CZ	23156 K2CZ
300	5	4	0,28	125	23160 2CZ	23160 K2CZ
320	5	4	0,3	165	23164 2CZ	23164 K2CZ
340	5	4	0,3	210	23168 2CZ	23168 K2CZ



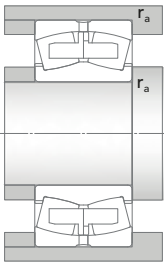
Main dimensions			Basic load ratings		Fatigue load limit	Speed ratings	Designation
d	D	B	Dynamic C	Static C ₀	C _u	Limiting	Standard design
[mm]			[kN]			[rpm]	
360	600	192	4551	6922	488	190	23172
400	650	200	4785	7509	520	130	23180

**WOR****ECCS****SSRB**

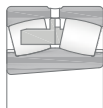
Dimensions			Calculation factor e	Mass	Designation	
d	r _{1,2min}	r _{amax}			Cylindrical bore	Tapered bore
[mm]				[kg]		
360	5	4	0,28	214	23172 2CZ	23172 K2CZ
400	6	5	0,28	255	23180 2CZ	23180 K2CZ



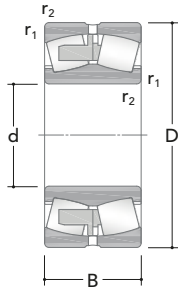
ROVSX



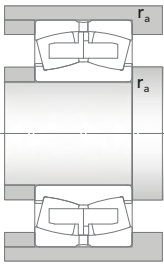
Main dimensions			Basic load ratings		Fatigue load limit C_u	Speed ratings		Designation
d	D	B	Dynamic C	Static C_0		Reference	Limiting	Standard design
[mm]			[kN]			[rpm]		
40	90	33	153	140	15	5400	7100	22308
45	100	36	187	183	19,6	4900	6300	22309
50	110	40	225	224	24	4300	5600	22310
55	120	43	279	279	29,9	3900	4800	22311
60	130	46	326	333	36,0	3600	4600	22312
65	140	48	361	353	37,3	3500	4300	22313
70	150	51	419	427	44,7	3100	3900	22314
75	160	55	470	474	47,9	3000	3800	22315
80	170	58	514	536	54,6	2800	3400	22316
85	180	60	586	617	60,7	2600	3400	22317
90	190	64	638	690	66,5	2400	3200	22318
95	200	67	693	762	73	2400	3000	22319
100	215	73	860	948	87,8	2200	2700	22320
	215	82,6	675	912	69,9	1800	2400	23320
110	240	80	985	1100	98,2	1800	2500	22322
	240	92,1	823	1100	87,6	1800	2300	23322
120	260	86	1030	1110	99,1	1850	2300	22324
	260	106	1000	1449	104	1500	2100	23324

**KROVSX**

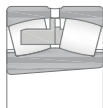
Dimensions			Calculation factor e	Mass	Designation	
d	r_{1,2min}	r_{amax}			Cylindrical bore	Tapered bore
[mm]				[kg]		
40	1,5	1,5	0,37	1,05	22308 ROVSX	22308 KROVSX
45	1,5	1,5	0,37	1,4	22309 ROVSX	22309 KROVSX
50	2	2	0,37	1,9	22310 ROVSX	22310 KROVSX
55	2	2	0,35	2,45	22311 ROVSX	22311 KROVSX
60	2,1	2	0,35	3,1	22312 ROVSX	22312 KROVSX
65	2,1	2	0,35	3,75	22313 ROVSX	22313 KROVSX
70	2,1	2	0,33	4,55	22314 ROVSX	22314 KROVSX
75	2,1	2	0,35	5,55	22315 ROVSX	22315 KROVSX
80	2,1	2	0,35	6,6	22316 ROVSX	22316 KROVSX
85	3	2,5	0,33	7,65	22317 ROVSX	22317 KROVSX
90	3	2,5	0,33	9,05	22318 ROVSX	22318 KROVSX
95	3	2,5	0,33	10,5	22319 ROVSX	22319 KROVSX
100	3	2,5	0,33	13,5	22320 ROVSX	22320 KROVSX
	3	2,5	0,43	15,5	23320 ROVSX	23320 KROVSX
110	3	2,5	0,33	18,5	22322 ROVSX	22322 KROVSX
	3	2,5	0,43	21,3	23322 ROVSX	23322 KROVSX
120	3	2,5	0,35	23	22324 ROVSX	22324 KROVSX
	3	2,5	0,45	29,1	23324 ROVSX	23324 KROVSX



ROVSX



Main dimensions			Basic load ratings		Fatigue load limit C_u	Speed ratings		Designation
d	D	B	Dynamic C	Static C_0		Reference	Limiting	Standard design
[mm]			[kN]			[rpm]		
130	280	93	1178	1324	114	1650	2100	22326
	280	112	1160	1610	109	1450	1900	23326
140	300	102	1344	1540	130	1500	1900	22328
	300	118	1294	1812	124	1400	1700	23328
150	320	108	1523	1740	146	1500	1800	22330
	320	128	1470	2101	134	1350	1700	23330
160	340	114	1694	1950	160	1400	1700	22332
	340	136	1627	2336	153	1300	1700	23332
170	360	120	1894	2130	174	1300	1600	22334
180	380	126	2110	2420	191	1200	1500	22336
190	400	132	2267	2640	207	1100	1400	22338
	400	155	2156	3256	227	800	1200	23338
200	420	138	2450	2890	223	1100	1300	22340
	420	165	2493	3651	241	650	1150	23340
220	460	145	2834	3400	256	900	1200	22344
240	500	155	3194	3940	286	850	1150	22348

**KROVSX**

Dimensions			Calculation factor e	Mass	Designation	
d	$r_{1,2min}$	r_{amax}			Cylindrical bore	Tapered bore
[mm]				[kg]		
130	4	3	0,35	29	22326 ROVSX	22327 KROVSX
	4	3	0,45	34,2	23326 ROVSX	23326 KROVSX
140	4	3	0,35	36,5	22328 ROVSX	22328 KROVSX
	4	3	0,43	40,9	23328 ROVSX	23328 KROVSX
150	4	3	0,35	43,5	22330 ROVSX	22330 KROVSX
	4	3	0,44	49,8	23330 ROVSX	23330 KROVSX
160	4	3	0,35	52	22332 ROVSX	22332 KROVSX
	4	3	0,44	61,3	23332 ROVSX	23332 KROVSX
170	4	3	0,33	61	22334 ROVSX	22334 KROVSX
180	4	3	0,35	71,5	22336 ROVSX	22336 KROVSX
190	5	4	0,35	82,5	22338 ROVSX	22338 KROVSX
	5	4	0,43	97,1	23338 ROVSX	23338 KROVSX
200	5	4	0,33	95	22340 ROVSX	22340 KROVSX
	5	4	0,43	108	23340 ROVSX	23340 KROVSX
220	5	4	0,31	120	22344 ROVSX	22344 KROVSX
240	5	4	0,31	155	22348 ROVSX	22348 KROVSX