



OKO® BEARINGS CATALOGUE

This OKO® catalogue has been completely revised and contains considerable alternations and supplementary information.

Products that are not shown may be available, but this should be checked in each case.

The OKO® data in this catalogue are based on current production, in accordance with JIS standard.

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Catalogue OKO® 2005

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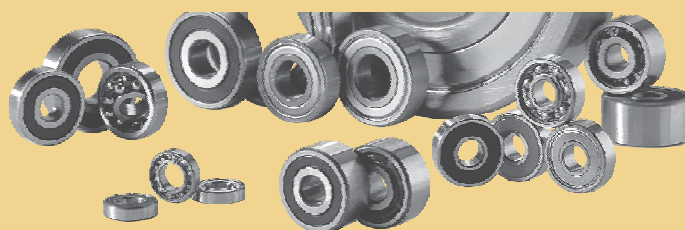
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TECHNICAL INFORMATION

1. Materials for Outer Ring, Inner Ring & Rolling Elements



The most common through-hardening steel used for rolling bearing of OKO® used is a carbon chromium steel containing approximately 1% carbon and 1.5% chromium. Below table 1.1 which shown G Cr15 -- the main material that OKO® used for producing bearings and with its interchangeable materials in other nations. (Please refer to Table 1.1 to Table 1.2).

Table 1.1 Materials



Name	Standard	Chemical Composition (%)					
		C	Mn	Si	Cr	S ≤	P ≤
G Cr15	OKO®	0,95~1,05	0,20~0,40	0,15~0,35	1,30~1,65	0,020	0,027
SUJ 2	JIS G 4805	0,95~1,10	0,50 ≤	0,15~0,35	1,30~1,60	0,025	0,025
DIN	100Cr6	0,95~1,10	0,50 ≤	0,15~0,35	1,30~1,60	0,025	0,025
E52100	AISI	0,95~1,10	0,50 ≤	0,15~0,35	1,30~1,60	0,025	0,025
ISO	683/XVII	0,95~1,10	0,50 ≤	0,15~0,35	1,30~1,60	0,025	0,025
SKF	-	0,95~1,10	0,50 ≤	0,15~0,35	1,30~1,60	0,025	0,025

Note: OKO® supplies all general bearings with material of G Cr15 as normal products, unless otherwise specified by customer for special usage before ordering. i.e. Pure carbon or stainless steel etc.

Table 1.2 For making of the body for the adapters



Name	Standard	Chemical Composition (%)					
		C	Mn	Si	Cr	S ≤	P ≤
S35C	JIS.G4051	0,32~0,38	0,60~0,90	0,15~0,35	≤0,20	0,035	0,03

2. Materials for Bearing's Retainers



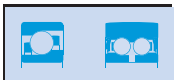
2.1 The retainer is demanded to bear hitting load and have the lowest friction with the rolling elements when OKO® bearing is working. So, low carbon steel is adopted (Please refer to Table 2.1).

Table 2.1 Materials for bearing's retainers



Name	Standard	Chemical Composition (%)				
		C	Mn	Si	S ≤	P ≤
10F	OKO®	0,05~0,11	0,25~0,50	0,07 ≤	0,035	0,035
SPCC	OKO®	0,12 ≤	0,50 ≤	-	0,045	0,040

Note: OKO® supplies bearings with retainer's material of 10F as normal products, unless otherwise specified by customers for special usage before ordering. i.e corrosion proof , poor agricultural requirement and water resistant etc.



2.2 When we supply Track Roller Bearings, Angular Contact Double Row Ball Bearings and Linear Ball Bearings, the common material Nylon (Pa66) are adopted for making of their retainers. This material is suitable for bearings' working temperature not higher than 80°C. So, if higher working temperature is needed, you should give out your specified request before ordering.

3. Materials for Seals/shields



3.1 The OKO® seals are made of two parts, NBR rubber seal with steel frame, called "RS" and "UU".

3.2 The OKO® shields are made with material of 10F, called "Z".

4. Tolerances



4.1 The accuracy of a bearing are both on dimensional and running of the bearing. It has been standardised internationally. Here we give out a interchangeable precision class standard table which is equal to OKO® (Please refer to Table 4.1).

Table 4.1 Comparison of international standard



Selection	Classification standard				
OKO®	ABEC-1	ABEC-3	ABEC-5	—	—
ISO	Class 6X	Class 6	Class 5	Class 4	Class 2
Japan Industrial	Class 0	Class 6	Class 5	Class 4	Class 2
Germany	P0	P6	P5	P4	P2
United States	ABEC-1	ABEC-3	ABEC-5	ABEC-7	ABEC-9

4.2 Normal tolerances of Deep Groove Ball Bearings, Self-aligning Ball Bearings, Angular Contact Ball Bearings, Cylindrical Roller Bearings, Spherical Roller Bearings (Please refer to Table 4.2.1 [Page 9] up to Table 4.6.2 [Page 18], tolerances for tapered bore, taper 1:12, please refer to Table 4.7 [Page 19]).

Table 4.2.1 Inner ring



(Unit: μm)

Nominal bore diameter d mm		Deviation of the mean bore diameter from the nominal Δd_{mp}					
Over	Incl.	ABEC-1		ABEC-3		ABEC-5	
		High	Low	High	Low	High	Low
0,6	2,5	0	-8	0	-7	0	-5
2,5	10	0	-8	0	-7	0	-5
10	18	0	-8	0	-7	0	-5
18	30	0	-10	0	-8	0	-6
30	50	0	-12	0	-10	0	-8
50	80	0	-15	0	-12	0	-9
80	120	0	-20	0	-15	0	-10
120	150	0	-25	0	-18	0	-13
150	180	0	-25	0	-18	0	-13
180	250	0	-30	0	-22	0	-15
250	315	1	-35	0	-25	0	-18
315	400	0	-40	0	-30	0	-23

(Unit: μm)

Nominal bore diameter d mm		Deviation of the bore diameter								
Over	Incl.	Diameter series 9			Diameter series 0, 1			Diameter series 2, 3, 4		
		ABEC-1	ABEC-3	ABEC-5	ABEC-1	ABEC-3	ABEC-5	ABEC-1	ABEC-3	ABEC-5
0,6	2,5	10	9	5	8	7	4	6	5	4
2,5	10	10	9	5	8	7	4	6	5	4
10	18	10	9	5	8	7	4	6	5	4
18	30	13	10	6	10	8	5	8	6	5
30	50	15	13	8	12	10	6	9	8	6
50	80	19	15	9	19	15	7	11	9	7
80	120	25	19	10	25	19	8	15	11	8
120	150	31	23	13	31	23	10	19	14	10
150	180	31	23	13	31	23	10	19	14	10
180	250	38	28	15	38	28	12	23	17	12
250	315	44	31	18	44	31	14	26	19	14
315	400	50	38	23	50	38	18	30	23	18

Symbols: Δd_{mp} : deviation of the mean bore diameter from the nominal ($\Delta d_{mp} = d_{mp} - d$).

Vdp: bore diameter variation, difference between the largest and smallest single bore diameters in one plane.

(Unit: μm)

Nominal bore diameter d mm		Mean deviation of the bore diameter Vdmp			Radial run out Kia			Side run out Sd	Axial run out Sia
Over	Incl.	ABEC-1	ABEC-3 Max.	ABEC-5	ABEC-1	ABEC-3 Max.	ABEC-5	ABEC-5 Max.	ABEC-5 Max.
0,6	2,5	6	5	3	10	5	4	7	7
2,5	10	6	5	3	10	6	4	7	7
10	18	6	5	3	10	7	4	7	7
18	30	8	6	3	13	8	4	8	8
30	50	9	8	4	15	10	5	8	8
50	80	11	9	5	20	10	5	8	8
80	120	15	11	5	25	13	6	9	9
120	150	19	14	7	30	18	8	10	10
150	180	19	14	7	30	18	8	10	10
180	250	23	17	8	40	20	10	11	13
250	315	26	19	9	50	25	13	13	15
315	400	30	23	12	60	30	15	15	20

(Unit: μm)

Nominal bore diameter d mm		Deviation of the width ΔB_s								Parallel deviation between end surfaces VBs		
Over	Incl.	For single bearing				For pair bearing				ABEC-1	ABEC-3 Max.	ABEC-5
		ABEC-1,3 High	ABEC-1,3 Low	ABEC-5 High	ABEC-5 Low	ABEC-1,3 High	ABEC-1,3 Low	ABEC-5 High	ABEC-5 Low			
0,6	2,5	0	-40	0	-40	—	—	0	-250	12	12	5
2,5	10	0	-120	0	-40	0	-250	0	-250	15	15	5
10	18	0	-120	0	-80	0	-250	0	-250	20	20	5
18	30	0	-120	0	-120	0	-250	0	-250	20	20	5
30	50	0	-120	0	-120	0	-250	0	-250	20	20	5
50	80	0	-150	0	-150	0	-380	0	-250	25	25	5
80	120	0	-200	0	-200	0	-380	0	-380	25	25	7
120	150	0	-250	0	-250	0	-500	0	-380	30	30	8
150	180	0	-250	0	-250	0	-500	0	-380	30	30	8
180	250	0	-300	0	-300	0	-500	0	-500	30	30	10
250	315	0	-350	0	-350	1	-500	0	-500	35	35	13
315	400	0	-400	0	-400	0	-630	0	-630	40	40	15

Symbols: Vdmp: mean bore diameter variation; difference between the largest and smallest mean bore diameters of one ring or washer.
 Kia: radial runout of assembled bearing inner ring and assembled bearing outer ring, respectively.
 Sd: side face runout with reference to bore (of inner ring).
 Sia: side face runout of assembled bearing inner ring and assembled bearing outer ring, respectively.
 ΔB_s : deviation of single inner ring width or single outer ring width from the nominal ($\Delta B_s = B_s - B$ etc.)
 VBs: ring width variation; difference between the largest and smallest single widths of inner ring and of outer ring, respectively.

※ Values for larger sizes on request.

Table 4.2.2 Outer ring

(Unit: μm)

Nominal outer ring diameter D		Deviation of the mean outer ring diameter from the nominal ΔDmp					
mm		ABEC-1		ABEC-1		ABEC-1	
Over	Incl.	High	Low	High	Low	High	Low
2,5	6	0	-8	0	-7	0	-5
6	18	0	-8	0	-7	0	-5
18	30	0	-9	0	-8	0	-6
30	50	0	-11	0	-9	0	-7
50	80	0	-13	0	-11	0	-9
80	120	0	-15	0	-13	0	-10
120	150	0	-18	0	-15	0	-11
150	180	0	-25	0	-18	0	-13
180	250	0	-30	0	-20	0	-15
250	315	0	-35	0	-25	0	-18
315	400	1	-40	0	-28	0	-20
400	500	0	-45	0	-33	0	-23

(Unit: μm)

Nominal outer ring diameter D		Deviation of the outer ring diameter VDp								
mm		Diameter series 9			Diameter series 0, 1			Diameter series 2, 3, 4		
Over	Incl.	ABEC-1	ABEC-3 Max.	ABEC-5	ABEC-1	ABEC-3 Max.	ABEC-5	ABEC-1	ABEC-3 Max.	ABEC-5
2,5	6	10	9	5	8	7	4	6	5	4
6	18	10	9	5	8	7	4	6	5	4
18	30	12	10	6	9	8	5	7	6	5
30	50	14	11	7	11	9	5	8	7	5
50	80	16	14	9	13	11	7	10	8	7
80	120	19	16	10	19	16	8	11	10	8
120	150	23	19	11	23	19	8	14	11	8
150	180	31	23	13	31	23	10	19	14	10
180	250	38	25	15	38	25	11	23	15	11
250	315	44	31	18	44	31	14	26	19	14
315	400	50	35	20	50	35	15	30	21	15
400	500	56	41	23	56	41	17	34	25	17

Symbols: ΔDmp : deviation of the mean outside diameter from the nominal ($\Delta\text{Dmp} = \text{Dmp} - \text{D}$).

VDp: outside diameter variation; difference between the largest and smallest single outside diameters in one plane.

(Unit: μm)

Nominal outer ring diameter D mm Over Incl.		Deviation of the outer ring diameter (with seals & shields) Vdp 2, 3, 4 0, 1, 2, 3, 4 ABEC-1 ABEC-3 Max.		Mean deviation of the outer ring diameter VDmp ABEC-1 ABEC-3 ABEC-5 Max.			Radial run out Kea ABEC-1 ABEC-3 ABEC-5 Max.		
2,5	6	10	9	6	5	3	15	8	5
6	18	10	9	6	5	3	15	8	5
18	30	12	10	7	6	3	15	9	6
30	50	16	13	8	7	4	20	10	7
50	80	20	16	10	8	5	25	13	8
80	120	26	20	11	10	5	35	18	10
120	150	30	25	14	11	6	40	20	11
150	180	38	30	19	14	7	45	23	13
180	250	—	—	23	15	8	50	25	15
250	315	—	—	26	19	9	60	30	18
315	400	—	—	30	21	10	70	35	20
400	500	—	—	34	25	12	80	40	23

(Unit: μm)

Nominal outer ring diameter D mm Over Incl.		Side run out SD ABEC-5 Max.	Axial run out Sea ABEC-5 Max.	Deviation of the width ΔCs For all classes	Parallel deviation between end surfaces VCs ABEC-1,3 ABEC-5 Max.
2,5	6	8	8		5
6	18	8	8		5
18	30	8	8		5
30	50	8	8		5
50	80	8	10	With "d" of the same model	6
80	120	9	11	bearing, and refer to relative	8
120	150	10	13	value of ΔBs	8
150	180	10	14		8
180	250	11	15		10
250	315	13	18		11
315	400	13	20		13
400	500	15	23		15

Symbols: Vdp: bore diameter variation; difference between the largest and smallest single bore diameters in one plane.
VDmp: mean outside diameter variation; difference between the largest and smallest mean outside diameters of one ring or washer.
Kea: radial runout of assembled bearing inner ring and assembled bearing outer ring, respectively.
SD: outside inclination variation: variation in inclination of outside cylindrical surface to outer ring side face.
Sea: side face runout of assembled bearing inner ring and assembled bearing outer ring, respectively.
 ΔCs : deviation of single inner ring width or single outer ring width from the nominal ($\Delta\text{Bs} = \text{Bs} - \text{B}$ etc.)
VCs: ring width variation; difference between the largest and smallest single widths of inner ring and of outer ring, respectively.

4.3 Tolerances of Thrust Ball Bearings (Please refer to Table 4.3.1 to Table 4.3.3) .

Table 4.3.1 Inner rings

(Unit: μm)

Nominal bore diameter d mm		Single plane mean bore diameter deviation Δdmp , Δd2mp				Single radial plane bore diameter variation Vdp, Vd2p		Thrust ball bearing shaft washer raceway (or center washer raceway) thickness variation Si			
Over	Incl.	Class 0, 6, 5		Class 4		Class 0, 6, 5	Class 4	Class 0	Class 6	Class 5	Class 4
		High	Low	High	Low						
—	18	0	-8	0	-7	6	5	10	5	3	2
18	30	0	-10	0	-8	8	6	10	5	3	2
30	50	0	-12	0	-10	9	8	10	6	3	2
50	80	0	-15	0	-12	11	9	10	7	4	3
80	120	0	-20	0	-15	15	11	15	8	4	3
120	180	0	-25	0	-18	19	14	15	9	5	4
180	250	0	-30	0	-22	23	17	20	10	5	4
250	315	0	-35	0	-25	26	19	25	13	7	5

Table 4.3.2 Outer rings

(Unit: μm)

Nominal outside diameter D mm		Single plane mean outside diameter deviation ΔDmp				Single radial plane outside diameter variation VDp		Thrust ball bearings housing washer raceway thickness variation Se			
Over	Incl.	Class 0, 6, 5		Class 4		Class 0, 6, 5	Class 4	Class 0	Class 6	Class 5	Class 4
		High	Low	High	Low						
18	30	0	-13	0	-8	10	6				
30	50	0	-16	0	-9	12	7				
50	80	0	-19	0	-11	14	8	According to the tolerance of S1 against "d" or "d2" of the same bearings			
80	120	0	-22	0	-13	17	10				
120	180	0	-25	0	-15	19	11				
180	250	0	-30	0	-20	23	15				
250	315	0	-35	0	-25	26	19				
315	400	0	-40	0	-28	30	21				

Symbols: Δdmp : deviation of the mean bore diameter from the nominal ($\Delta\text{dmp} = \text{dmp} - d$).

Vdp: bore diameter variation; difference between the largest and smallest single bore diameters in one plane.

Si: thickness variation, measured from middle of raceway to back (seating) face of shaft washer and of housing washer, respectively (axial runout).

 ΔDmp : deviation of the mean outside diameter from the nominal ($\Delta\text{Dmp} = \text{Dmp} - D$).

VDp: bore diameter variation; difference between the largest and smallest single bore diameters in one plane.

Se: thickness variation, measured from middle of raceway to back (seating) face of shaft washer and of housing washer, respectively (axial runout).

Table 4.3.3 Height of bearings and the medial ring height

 (Unit: μm)

Nominal bore diameter		Height deviation for single direction type bearings		Bearing height deviation		Height deviation for two way bearing, It's height from both end surface of outer rings (medial ring included)		Height deviation for the medial ring	
d mm		ΔT_s		ΔT_{1s}		ΔT_{2s}		ΔB_s	
Over	Incl.	High	Low	High	Low	High	Low	High	Low
—	30	0	-75	+50	-150	0	-75	0	-50
30	50	0	-100	+75	-200	0	-100	0	-75
50	80	0	-125	+100	-250	0	-125	0	-100
80	120	0	-150	+125	-300	0	-150	0	-125
120	180	0	-175	+150	-350	0	-175	0	-150
180	250	0	-200	+175	-400	0	-200	0	-175
250	315	0	-225	+200	-450	0	-225	0	-200
315	400	0	-300	+250	-600	0	-300	0	-250

4.4 Tolerances of Spherical Roller Thrust Bearings (Please refer to Table 4.4.1 and Table 4.4.2) .

Table 4.4.1 Inner rings

 (Unit: μm)

Nominal bore diameter		Single plane mean bore diameter deviation		Single radial plane bore diameter variation	Face runout with bore	Height deviation	
d mm		Δd_{mp}		Vdp	Sd	ΔT_s	
Over	Incl.	High	Low	Max.	Max.	High	Low
50	80	0	-15	11	25	+150	-150
80	120	0	-20	15	25	+200	-200
120	180	0	-25	19	30	+250	-250
180	250	0	-30	23	30	+300	-300
250	315	0	-35	26	35	+350	-350
315	400	0	-40	30	40	+400	-400
400	500	0	-45	34	45	+450	-450

Symbols: ΔT_s : 1. deviation of single width of taper roller bearing from the nominal ($\Delta T_s = T_s - T$ etc.)
 2. deviation of single height of thrust bearings from the nominal.
 ΔT_{1s} : 1. deviation of single width of taper roller bearing from the nominal ($\Delta T_s = T_s - T$ etc.)
 2. deviation of single height of thrust bearings from the nominal.
 ΔT_{2s} : 1. single width of cup assembled with master cone of taper roller bearing.
 2. single height (H) of double direction thrust bearing.
 ΔB_s : deviation of single inner ring width or single outer ring width from the nominal ($\Delta B_s = B_s - B$ etc.)
 Δd_{mp} : deviation of the mean bore diameter from the nominal ($\Delta d_{mp} = d_{mp} - d$).
 Vdp: bore diameter variation; difference between the largest and smallest single bore diameters in one plane.
 Sd: side face runout with reference to bore (of inner ring).

Table 4.4.2 Outer rings

(Unit: μm)

Nominal outside diameter		Single plane mean outside diameter deviation	
d mm		Δdmp	
Over	Incl.	High	Low
120	180	0	-25
180	250	0	-30
250	315	0	-35
315	400	0	-40
400	500	0	-45
500	630	0	-50
630	800	0	-75
800	1000	0	-100

4.5 Tolerances of Taper Roller Bearings (Please refer to Table 4.5.1 to Table 4.5.3) .

Table 4.5.1 Inner rings

(Unit: μm)

Nominal bore diameter		Single plane mean bore diameter deviation				Single radial plane bore diameter variation				Mean single plane bore diameter variation			
d mm		Δdmp				Vdp				Vdmp			
		Class 0, 6X	Class 5, 6	Class 4		Class 0, 6x	Class 6	Class 5	Class 4	Class 0, 6X	Class 6	Class 5	Class 4
Over	Incl.		Max.				Max.				Max.		
10	18	0 -12	0 -7	0 -5		12	7	5	4	9	5	5	4
18	30	0 -12	0 -8	0 -6		12	8	6	5	9	6	5	4
30	50	0 -12	0 -10	0 -8		12	10	8	6	9	8	5	5
50	80	0 -15	0 -12	0 -9		15	12	9	7	11	9	6	5
80	120	0 -20	0 -15	0 -10		20	15	11	8	15	11	8	5
120	180	0 -25	0 -18	0 -13		25	18	14	10	19	14	9	7
180	250	0 -30	0 -22	0 -15		30	22	17	11	23	16	11	8
250	315	0 -35	— —	— —		35	—	—	—	26	—	—	—

Symbols: Δdmp : deviation of the mean bore diameter from the nominal ($\Delta\text{dmp} = \text{dmp} - d$).

Vdp: bore diameter variation; difference between the largest and smallest single bore diameters in one plane.

Vdmp: mean bore diameter variation; difference between the largest and smallest mean bore diameters of one ring or washer.

(Unit: μm)

Nominal bore diameter		Inner ring radial runout				Face runout with bore		Inner ring axial runout (with side)	Inner ring width deviation					
d mm		Kia				Sd		Sia	△Bs					
		Class 0, 6X	Class 6	Class 5	Class 4	Class 5	Class 4	Class 4	Class 0, 6	Class 6X		Class 4, 5		
Over	Incl.	Max.				Max.		Max.	High	Low	High	Low	High	Low
10	18	15	7	5	3	7	3	3	0	-120	0	-50	0	-200
18	30	18	8	5	3	8	4	4	0	-120	0	-50	0	-200
30	50	20	10	6	4	8	4	4	0	-120	0	-50	0	-240
50	80	25	10	7	4	8	5	4	0	-150	0	-50	0	-300
80	120	30	13	8	5	9	5	5	0	-200	0	-50	0	-400
120	180	35	18	11	6	10	6	7	0	-250	0	-50	0	-500
180	250	50	20	13	8	11	7	8	0	-300	0	-50	0	-600
250	315	60	—	—	—	—	—	—	0	-350	0	-50	—	—

(Unit: μm)

Nominal bore diameter d mm		Overall width deviation of assembled single row tapered roller bearing, or height deviation ΔTs					
		Class 0, 6		Class 6X		Class 4, 5	
		High	Low	High	Low	High	Low
10	18	+200	0	+100	0	+200	-200
18	30	+200	0	+100	0	+200	-200
30	50	+200	0	+100	0	+200	-200
50	80	+200	0	+100	0	+200	-200
80	120	+200	-200	+100	0	+200	-200
120	180	+350	-250	+150	0	+350	-250
180	250	+350	-250	+150	0	+350	-250
250	315	+350	-250	+200	0	—	—

Symbols: Kia: radial runout of assembled bearing inner ring and assembled bearing outer ring, respectively.
 Sd: side face runout with reference to bore (of inner ring).
 Sia: side face runout of assembled bearing inner ring and assembled bearing outer ring, respectively.
 ΔBs : deviation of single inner ring width or single outer ring width from the nominal ($\Delta\text{Bs} = \text{Bs} - \text{B}$ etc.)
 ΔTs : 1. deviation of single width of taper roller bearing from the nominal ($\Delta\text{Ts} = \text{Ts} - \text{T}$ etc.)
 2. deviation of single height of thrust bearings from the nominal.

Table 4.5.2 Outer rings

(Unit: μm)

Nominal outside diameter		Single plane mean outside diameter deviation						Single radial plane Outside diameter variation				Mean single plane Outside diameter variation			
D mm		ΔD_{mp}						V _{Dp}				V _{Dmp}			
		Class 0, 6X		Class 5, 6		Class 4		Class 0, 6X	Class 6	Class 5	Class 4	Class 0, 6X	Class 6	Class 5	Class 4
Over	Incl.	High	Low	High	Low	High	Low	Max.				Max.			
30	50	0	-14	0	-9	0	-7	14	9	7	5	11	9	7	5
50	80	0	-16	0	-11	0	-9	16	11	8	7	12	11	8	7
80	120	0	-18	0	-13	0	-10	18	13	10	8	14	13	10	8
120	150	0	-20	0	-15	0	-11	20	15	11	8	15	15	11	8
150	180	0	-25	0	-18	0	-13	25	18	14	10	19	18	14	10
180	250	0	-30	0	-20	0	-15	30	20	15	11	23	20	15	11
250	315	0	-35	0	-25	0	-18	35	25	19	14	26	25	19	14
315	400	0	-40	0	-28	0	-20	40	28	22	15	30	28	22	15
400	500	0	-45	—	—	—	—	45	—	—	—	34	—	—	—

(Unit: μm)

Nominal outside diameter		Outer ring radial runout				Outside surface inclination		Outer ring axial runout	Outer ring width deviation			
D mm		K _{ea}				S _D		S _{ea}	ΔC_s			
		Class 0,6x	Class 6	Class 5	Class 4	Class 5	Class 4	Class 4	Class 0, 6, 5, 4	Class 6X		
Over	Incl.	Max.				Max.		Max.	Sup.	Inf.	Sup.	Inf.
50	50	20	10	7	5	8	4	5			0	-100
80	80	25	13	8	5	8	4	5			0	-100
120	120	35	18	10	6	9	5	6			0	-100
180	150	40	20	11	7	10	5	7	Identical to ΔB_s		0	-100
150	180	45	23	13	8	10	5	8	inner ring of same		0	-100
180	250	50	25	15	10	11	7	10	bearing		0	-100
250	315	60	30	18	11	13	8	10			0	-100
315	400	70	35	20	13	13	10	13			0	-100
400	500	80	—	—	—	—	—	—			—	—

Symbols: ΔD_{mp} : deviation of the mean outside diameter from the nominal ($\Delta D_{mp} = D_{mp} - D$).

V_{Dp}: bore diameter variation; difference between the largest and smallest single bore diameters in one plane.

V_{Dmp}: mean outside diameter variation; difference between the largest and smallest mean outside diameters of one ring or washer.

K_{ea}: radial runout of assembled bearing inner ring and assembled bearing outer ring, respectively.

S_D: outside inclination variation: variation in inclination of outside cylindrical surface to outer ring side face.

S_{ea}: side face runout of assembled bearing inner ring and assembled bearing outer ring, respectively.

ΔC_s : deviation of single inner ring width or single outer ring width from the nominal ($\Delta B_s = B_s - B$ etc.)

Table 4.5.3 Effective width of outer and inner rings with roller



(Unit: μm)

Nominal bore diameter		Effective width deviation of roller and inner ring assembly of tapered roller bearing				Tapered roller bearing outer ring effective width deviation			
d mm		$\Delta T1s$				$\Delta T2s$			
		Class 0		Class 6X		Class 0		Class 6X	
Over	Incl.	High	Low	High	Low	High	Low	High	Low
10	18	+100	0	+50	0	+100	0	+50	0
18	30	+100	0	+50	0	+100	0	+50	0
30	50	+100	0	+50	0	+100	0	+50	0
50	80	+100	0	+50	0	+100	0	+50	0
80	120	+100	-100	+50	0	+100	-100	+50	0
120	180	+150	-150	+50	0	+200	-100	+100	0
180	250	+150	-150	+50	0	+200	-100	+100	0
250	315	+150	-150	+100	0	+200	-100	+100	0

4.6 Tolerances for dimensional, shape and positional of the Adapter Sleeves (Please refer to Table 4.6.1 and Table 4.6.2) .

Table 4.6.1 Tolerances for width of the sleeve (Bi) , length of its thread (a) and width of its locking gap (b①, f②)



(Unit: μm)

Bi、a、b、f mm		Tolerances							
		$\Delta B1s$		Δas		Δbs		Δfs	
Over	Incl.	High	Low	High	Low	High	Low	High	Low
18	30	+420	-420	+420	-420	+330	0	-	-
30	50	+500	-500	+500	-500	+390	0	-	-
50	80	+600	-600	+600	-600	+460	0	-	-
80	120	+700	-700	+700	-700	-	-	-	-
120	180	+800	-800	-	-	-	-	-	-
180	250	+925	-925	-	-	-	-	-	-
250	315	+1050	-1050	-	-	-	-	-	-

Symbols: $\Delta T1s$: 1. deviation of single width of taper roller bearing from the nominal ($\Delta Ts = Ts - T$ etc.)

2. deviation of single height of thrust bearings from the nominal.

$\Delta T2s$: 1. single width of cup assembled with master cone of taper roller bearing.

2. single height (H) of double direction thrust bearing.

※ ① "b" indicates wide gap. ② "f" indicates narrow gap

Table 4.6.2 Tolerances for internal diameter of the sleeve (d1mp), for thread, for diameter of taper (D1s) and the run-out (KDo) of the tapered surface.



(Unit: μm)

d1 mm		Tolerance									
		$\Delta d1mp$		Vd1mp Max.	$\Delta D1s$		Vdop Max.	$\Delta D1mp - \Delta d1mp$		Tolerances for thread	KDo Max.
		High	Low		High	Low		High	Low		
Over	Incl.										
18	30	+42	-42	33	+39	0	13	+21	0	For general	25
30	50	+50	-50	39	+46	0	15	+25	0	thread 6g	30
50	80	+60	-60	46	+54	0	20	+30	0	tolerance is	40
80	120	+70	-70	54	+63	0	25	+35	0	adopted. For	40
120	180	+80	-80	63	+72	0	31	+40	0	"T" type thread	50
180	250	+92	-92	72	+81	0	38	+46	0	6e tolerance	50
250	315	+105	-105	81	+89	0	44	+52	0	is adopted	60
315	400	+115	-115	89	+97	0	50	+57	0		60

Note: The items d1mp、Vd1mp、Vdop are checked before the gap being machined.

4.7 Tolerances of Self-aligning Ball Bearings and Spherical Roller Bearings for tapered bore, taper 1:12 (Please refer to Table 4.7).

Table 4.7 Tolerances for tapered bore, taper 1:12



(Unit: μm)

d mm		Tolerance classes ABEC-1, ABEC-3					Tolerance classes ABEC-5				
		Δdmp		Vdp ¹⁾ Max.	$\Delta d1mp$		Δdmp		Vdp ¹⁾ Max.	$\Delta d1mp$	
		High	Low		High	Low	High	Low		High	Low
Over	Incl.										
18	30	+21	0	13	+21	0	+13	0	13	13	0
30	50	+25	0	15	+25	0	+16	0	15	15	0
50	80	+30	0	19	+30	0	+19	0	19	19	0
80	120	+35	0	25	+35	0	+22	0	22	22	0
120	180	+40	0	31	+40	0	+25	0	25	25	0
180	250	+46	0	38	+46	0	+29	0	29	29	0
250	315	+52	0	44	+52	0	+32	0	32	32	0
315	400	+57	0	50	+57	0	+36	0	36	36	0

Symbols: Δdmp : deviation of the mean bore diameter from the nominal ($\Delta dmp = dmp - d$).

$\Delta d1mp$: deviation of the mean bore diameter at the theoretical large end of a tapered bore from the nominal ($\Delta d1mp = \Delta d1mp - d1$).

5. Clearance



5.1 Radial clearance for OKO® Deep Groove Ball Bearings & Track Roller Bearings (Please refer to Table 5.1) .

Table 5.1 Radial clearance



(Unit: μm)

Nominal bore diameter d (mm)		Radial clearance									
		C2		CN		C3		C4		C5	
Over	Incl.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
2,5	10	0	7	2	13	8	23	14	29	20	37
10	18	0	9	3	18	11	25	18	33	25	45
18	24	0	10	5	20	13	28	20	36	28	48
24	30	1	11	5	20	13	28	23	41	30	53
30	40	1	11	6	20	15	33	28	46	40	64
40	50	1	11	6	23	18	36	30	51	45	73
50	65	1	15	8	28	23	43	38	61	55	90
65	80	1	15	10	30	25	51	46	71	65	105
80	100	1	18	12	36	30	58	53	84	75	120
100	120	2	20	15	41	36	66	61	97	90	140
120	140	2	23	18	48	41	81	71	114	105	160
140	160	2	23	18	53	46	91	81	130	120	180
160	180	2	25	20	61	53	102	91	147	135	200
180	200	2	30	25	71	63	117	107	163	150	230
200	225	2	35	25	85	75	140	125	195	175	265
225	250	2	40	30	95	85	160	145	225	205	300
250	280	2	45	35	105	90	170	155	245	225	340
280	315	2	55	40	115	100	190	175	270	245	370

Note: Values for larger sizes on request.

5.2 Radial clearance of OKO® Self-aligning Ball Bearings (Please refer to Table 5.2.1 and 5.2.2).

Table 5.2.1 Radial clearance for bearing with cylindrical bore



(Unit: μm)

Nominal bore diameter d (mm)		Radial clearance									
		C2		CN		C3		C4		C5	
Over	Incl.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
6	10	2	9	6	17	12	25	19	33	27	42
10	14	2	10	6	19	13	26	21	35	30	48
14	18	3	12	8	21	15	28	23	37	32	50
18	24	4	14	10	23	17	30	25	39	34	52
24	30	5	16	11	24	19	35	29	46	40	58
30	40	6	18	13	29	23	40	34	53	46	66
40	50	6	19	14	31	25	44	37	57	50	71
50	65	7	21	16	36	30	50	45	69	62	88
65	80	8	24	18	40	35	60	54	83	76	108
80	100	9	27	22	48	42	70	64	96	89	124

Table 5.2.2 Radial clearance for bearing with tapered bore



(Unit: μm)

Nominal bore diameter d (mm)		Radial clearance									
		C2		CN		C3		C4		C5	
Over	Incl.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
6	10	-	-	-	-	-	-	-	-	-	-
10	14	-	-	-	-	-	-	-	-	-	-
14	18	-	-	-	-	-	-	-	-	-	-
18	24	7	17	13	26	20	33	28	42	37	55
24	30	9	20	15	28	23	39	33	50	44	62
30	40	12	24	19	35	29	46	40	59	52	72
40	50	14	27	22	39	33	52	45	65	58	79
50	65	18	32	27	47	41	61	56	80	73	99
65	80	23	39	35	57	50	75	69	98	91	123
80	100	29	47	42	68	62	90	84	116	109	144

Note: Values for larger sizes on request.

5.3 Internal clearance of OKO® Angular Contact Ball Bearings (single row) is depend on its contact angle, which is ensured during production process (Please refer to Table 5.3) .

Table 5.3 Clearance



(Unit: μm)

Nominal bore diameter d (mm)		C1		C2		Normal		C3		C4	
Over	Incl.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
-	10	3	8	6	12	8	15	15	22	22	30
10	18	3	8	6	12	8	15	15	24	30	40
18	30	3	10	6	12	10	20	20	32	40	55
30	50	3	10	8	14	14	25	25	40	55	75
50	80	3	11	11	17	17	32	32	50	75	95
80	100	3	13	13	22	22	40	40	60	95	120
100	120	3	15	15	30	30	50	50	75	110	140
120	150	3	16	16	33	35	55	55	80	130	170
150	180	3	18	18	35	35	60	60	90	150	200
180	200	3	20	20	40	40	65	65	100	180	240

5.4 Radial internal clearance of OKO® Cylindrical Roller Bearings-non-interchangeable (Please refer to Table 5.4) .

Table 5.4 Radial clearance



(Unit: μm)

Nominal bore diameter d (mm)		C2		CN		C3		C4		C5	
Over	Incl.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
10	24	0	25	20	45	35	60	50	75	65	90
24	30	0	25	20	45	35	60	50	75	70	95
30	40	5	30	25	50	45	70	60	85	80	105
40	50	5	35	30	60	50	80	70	100	95	125
50	65	10	40	40	70	60	90	80	110	110	140
65	80	10	45	40	75	65	100	90	125	130	165
80	100	15	50	50	85	75	110	105	140	155	190
100	120	15	55	50	90	85	125	125	165	180	220
120	140	15	60	60	105	100	145	145	190	200	245
140	160	20	70	70	120	115	165	165	215	225	275
160	180	25	75	75	125	120	170	170	220	250	300
180	200	35	90	90	145	140	195	195	250	275	330
200	225	45	105	105	165	160	220	220	280	305	365
225	250	45	110	110	175	170	235	235	300	330	395
250	280	55	125	125	195	190	260	260	330	370	440
280	315	55	130	130	205	200	275	275	350	410	485

5.5 Radial clearance of OKO® Spherical Roller Bearings (Please refer to Table 5.5.1 and Table 5.5.2) .

Table 5.5.1 Radial clearance for bearing with cylindrical bore



(Unit: μm)

Nominal bore diameter d (mm)		Radial clearance									
		C2		CN		C3		C4		C5	
Over	Incl.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
24	30	15	25	25	40	40	55	55	75	75	95
30	40	15	30	30	45	45	60	60	80	80	100
40	50	20	35	35	55	55	75	75	100	100	125
50	65	20	40	40	65	65	90	90	120	120	150
65	80	30	50	50	80	80	110	110	145	145	180
80	100	35	60	60	100	100	135	135	180	180	225
100	120	40	75	75	120	120	160	160	210	210	260
120	140	50	95	95	145	145	190	190	240	240	300
140	160	60	110	110	170	170	220	220	280	280	350
160	180	65	120	120	180	180	240	240	310	310	390
180	200	70	130	130	200	200	260	260	340	340	430
200	225	80	140	140	220	220	290	290	380	380	470
225	250	90	150	150	240	240	320	320	420	420	520
250	280	100	170	170	260	260	350	350	460	460	570
280	315	110	190	190	280	280	370	370	500	500	630
315	355	120	200	200	310	310	410	410	550	550	690
355	400	130	220	220	340	340	450	450	600	600	750

Table 5.5.2 Radial clearance for bearing with taper bore

 (Unit: μm)

Nominal bore diameter d (mm)		Radial clearance									
		C2		CN		C3		C4		C5	
Over	Incl.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
30	40	25	35	35	50	50	65	65	85	85	105
40	50	30	45	45	60	60	80	80	100	100	130
50	65	40	55	55	75	75	95	95	120	120	160
65	80	50	70	70	95	95	120	120	150	150	200
80	100	55	80	80	110	110	140	140	180	180	230
100	120	65	100	100	135	135	170	170	220	220	280
120	140	80	120	120	160	160	200	200	260	260	330
140	160	90	130	130	180	180	230	230	300	300	380
160	180	100	140	140	200	200	260	260	340	340	430
180	200	110	160	160	220	220	290	290	370	370	470
200	225	120	180	180	250	250	320	320	410	410	520
225	250	140	200	200	270	270	350	350	450	450	570
250	280	150	220	220	300	300	390	390	490	490	620
280	315	170	240	240	330	330	430	430	540	540	680
315	355	190	270	270	360	360	470	470	590	590	740
355	400	210	300	300	400	400	520	520	650	650	820

Note: Values for larger sizes on request.

6. Lubrication(Grease A dopted)



6.1 OKO® supplies bearings when filled with grease, Alvania RL as normal standard, OKO® can also supply various kind of greases mainly for Deep Groove Ball Bearings (OEM business), (Please refer to Table 6.1), the optional lubrication grease for selection (Please refer to Table 6.2).

7. Vibration and Noise Value



OKO® also supplies bearings for air conditioners, washing machines, electric motor. As a rule, the vibration or noise level of these bearings should be carefully controlled and checked. To be a part of our quality control system, OKO® well equipped with two types of testing instrument S0910-1 and BVT 1-1A. Relatively, here it gives out both vibration and noise standard of these bearings for your reference (Please refer to Table 7.1)

Table 7.1 Specifications of vibration and noise. The vibration and noise of bearings are classified in three classes as Z1, Z2 and Z3, it is measured by the instruments of S09 10-1, for special requirement, it is measured by BVT-1 A and the bearings are also classified in three classes as V1, V2 and V3. Details please find in the following table: .

Bore (mm)	S0910-1(dB)			BVT-1 (0.001/s)								
	Z1≤	Z2≤	Z3≤	V1≤			V2≤			V3≤		
				Low	Medium	High	L	M	H	L	M	H
4	34	32	28	90	60	50	58	36	30	35	21	18
5	36	34	30	90	60	50	58	36	30	35	21	18
6	36	34	30	90	60	50	58	36	30	35	21	18
7	37	34	32	110	80	65	72	48	40	44	28	24
8	38	35	33	110	80	65	72	48	40	44	28	24
9	40	36	34	110	80	65	72	48	40	44	28	24
10	41	38	35	140	100	85	90	60	50	55	35	30
12	43	39	35	140	100	85	90	60	50	55	35	30
15	44	40	35	180	130	100	110	78	60	65	46	35
17	45	41	36	180	130	100	110	78	60	65	46	35
20	46	42	37	220	160	125	130	100	75	80	60	45
25	47	43	40	220	160	125	130	100	75	80	60	45
30	48	44	41	250	200	160	150	120	100	90	75	60
35	49	45	43	250	200	160	150	120	100	90	75	60
40	51	46	44	300	250	220	180	150	130	110	90	80
45	53	48	45	300	250	220	180	150	130	110	90	80
50	54	50	47	350	270	270	210	160	160	125	100	100
55	56	52	49	350	300	300	210	180	180	125	110	110
60	58	54	51	400	300	370	240	180	220	145	110	130

8. Basic Rating Life Equation and Equivalent Dynamic Bearing Load



8.1 Basic rating life equation

Bearing life can be calculated with various degrees of sophistication, it is depend on the accuracy with which the operating conditions can be defined.

The most simple method of life calculation is to use the ISO equation for basic rating life which is

$$L_{10} = \left(\frac{C}{P}\right)^{\frac{1}{p}} \text{ or } \frac{C}{P} = L_{10}^{1/p}$$

where

L_{10} = basic rating life, millions of revolutions

C = basic dynamic load rating, N

P = equivalent dynamic bearing load, N

p = exponent of the life equation

p = 3 for ball bearings

p = 10/3 for roller bearings

The related values of load ratio C/P and life L_{10} are set out in the life calculation chart opposite, and in Table 8.1.1 For bearings operating at constant speed it may be more convenient to deal with a basic rating life expressed in operating hours using the equation

$$L_{10h} = \frac{1000000}{60 n} \left(\frac{C}{P}\right)^{\frac{1}{p}} \text{ or } L_{10h} = \frac{1000000}{60 n} L_{10}^{1/p}$$

where L_{10h} = basic rating, operating hours

n = rotational speed, r/min

Values of L_{10h} as a function of load ratio C/P and speed n can be found in the chart opposite ball bearings and roller bearings (Please refer to Table 8.1.1 to Table 8.1.4) .

Table 8.1.1 Life calculation chart

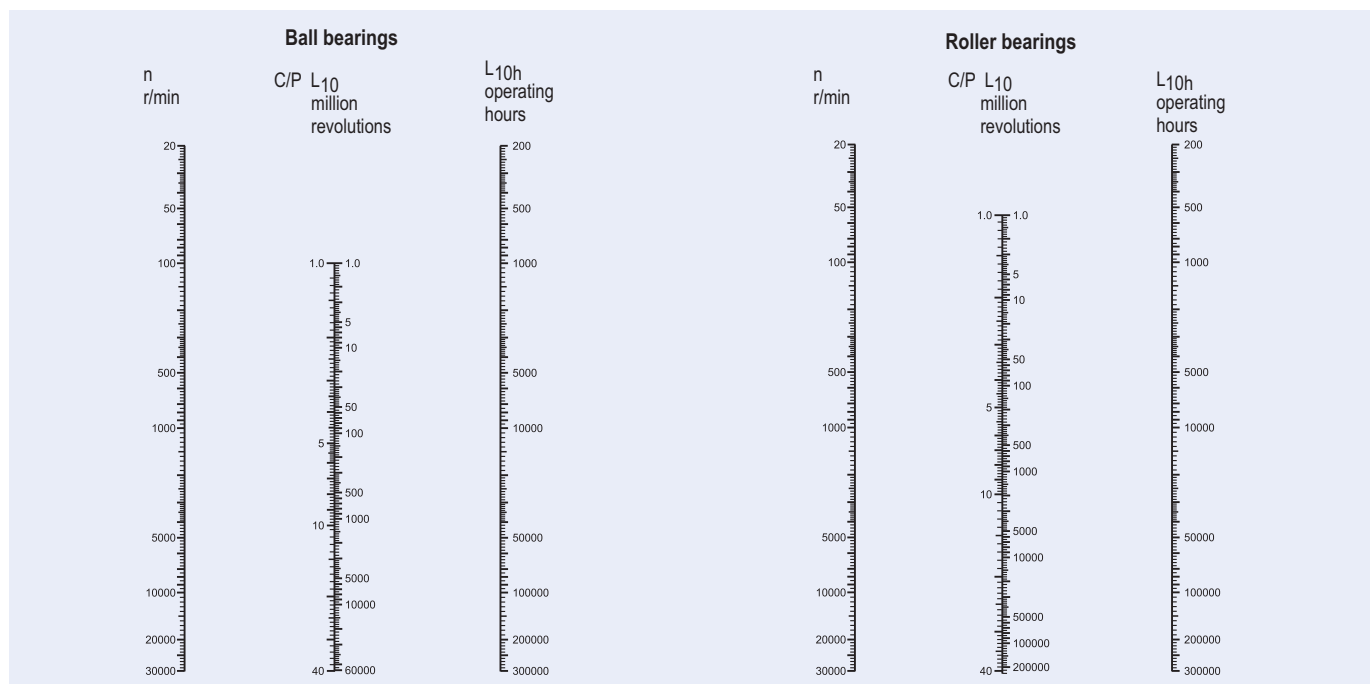


Table 8.3.1 Load ratio C/P for different lives L₁₀ (millions of revolutions)

Ball bearings				Roller bearings			
L ₁₀	C/P	L ₁₀	C/P	L ₁₀	C/P	L ₁₀	C/P
0,50	0,793	600	8,43	0,50	0,812	600	6,81
0,75	0,909	650	8,66	0,75	0,917	650	6,98
1,00	1,000	700	8,88	1,00	1,000	700	7,14
1,50	1,140	750	9,09	1,50	1,130	750	7,29
2,00	1,260	800	9,28	2,00	1,240	800	7,43
3,00	1,440	850	9,47	3,00	1,390	850	7,56
4,00	1,590	900	9,65	4,00	1,520	900	7,70
5,00	1,710	950	9,83	5,00	1,620	950	7,82
6,00	1,820	1.000	10,00	6,00	1,710	1.000	7,94
8,00	2,000	1.100	10,30	8,00	1,870	1.100	8,17
10,00	2,150	1.200	10,60	10,00	2,000	1.200	8,39
12,00	2,290	1.300	10,90	12,00	2,110	1.300	8,59
14,00	2,410	1.400	11,20	14,00	2,210	1.400	8,79
16,00	2,520	1.500	11,40	16,00	2,300	1.500	8,97
18,00	2,620	1.600	11,70	18,00	2,380	1.600	9,15
20,00	2,710	1.700	11,90	20,00	2,460	1.700	9,31
25,00	2,920	1.800	12,20	25,00	2,630	1.800	9,48
30,00	3,110	1.900	12,40	30,00	2,770	1.900	9,63
35,00	3,270	2.000	12,60	35,00	2,910	2.000	9,78
40,00	3,420	2.200	13,00	40,00	3,020	2.200	10,10
45,00	3,560	2.400	13,40	45,00	3,130	2.400	10,30
50,00	3,680	2.600	13,80	50,00	3,230	2.600	10,60
60,00	3,910	2.800	14,10	60,00	3,420	2.800	10,80
70,00	4,120	3.000	14,40	70,00	3,580	3.000	11,00
80,00	4,310	3.200	14,70	80,00	3,720	3.200	11,30
90,00	4,480	3.400	15,00	90,00	3,860	3.400	11,50
100,00	4,640	3.600	15,30	100,00	3,980	3.600	11,70
120,00	4,930	3.800	15,60	120,00	4,200	3.800	11,90
140,00	5,190	4.000	15,90	140,00	4,400	4.000	12,00
160,00	5,430	4.500	16,50	160,00	4,580	4.500	12,50
180,00	5,650	5.000	17,10	180,00	4,750	5.000	12,90
200,00	5,850	5.500	17,70	200,00	4,900	5.500	13,20
220,00	6,040	6.000	18,20	220,00	5,040	6.000	13,60
240,00	6,210	6.500	18,70	240,00	5,180	6.500	13,90
260,00	6,380	7.000	19,10	260,00	5,300	7.000	14,20
280,00	6,540	7.500	19,60	280,00	5,420	7.500	14,50
300,00	6,690	8.000	20,00	300,00	5,540	8.000	14,80
320,00	6,840	8.500	20,40	320,00	5,640	8.500	15,10
340,00	6,980	9.000	20,80	340,00	5,750	9.000	15,40
360,00	7,110	9.500	21,20	360,00	5,850	9.500	15,60
380,00	7,240	10.000	21,50	380,00	5,940	10.000	15,80
400,00	7,370	12.000	22,90	400,00	6,030	12.000	16,70

Ball bearings				Roller bearings			
L10	C/P	L10	C/P	L10	C/P	L10	C/P
420,00	7,490	14.000	24,10	420,00	6,120	14.000	17,50
440,00	7,610	16.000	25,20	440,00	6,210	16.000	18,20
460,00	7,720	18.000	26,20	460,00	6,290	18.000	18,90
480,00	7,830	20.000	27,10	480,00	6,370	20.000	19,50
500,00	7,940	25.000	29,20	500,00	6,430	25.000	20,90
550,00	8,190	30.000	31,10	550,00	6,640	30.000	22,00

Table 8.1.2 Ball bearings - load ratio C/P for different lives L10h (operating hours) at different speeds n (r/min)

L10hm	C/P When n =														
L10h	50	100	125	150	200	250	300	400	500	600	750	900	1000	1200	1500
100	0,67	0,84	0,91	0,97	1,06	1,14	1,22	1,34	1,44	1,53	1,65	1,75	1,82	1,93	2,08
500	1,14	1,44	1,55	1,65	1,82	1,96	2,08	2,29	2,47	2,62	2,82	3,00	3,11	3,30	3,56
1.000	1,44	1,82	1,96	2,08	2,29	2,47	2,62	2,88	3,11	3,30	3,56	3,78	3,91	4,16	4,48
1.250	1,55	1,96	2,11	2,24	2,47	2,66	2,82	3,11	3,35	3,56	3,83	4,07	4,22	4,48	4,83
1.600	1,69	2,13	2,29	2,43	2,68	2,88	3,07	3,37	3,63	3,86	4,16	4,42	4,58	4,87	5,24
2.000	1,82	2,29	2,47	2,62	2,88	3,11	3,30	3,63	3,91	4,16	4,48	4,76	4,93	5,24	5,65
2.500	1,96	2,47	2,66	2,82	3,11	3,35	3,56	3,91	4,22	4,48	4,83	5,13	5,31	5,65	6,08
3.200	2,13	2,68	2,88	3,07	3,37	3,63	3,86	4,25	4,58	4,87	5,24	5,57	5,77	6,13	6,60
4.000	2,29	2,88	3,11	3,30	3,63	3,91	4,16	4,58	4,93	5,24	5,65	6,00	6,21	6,60	7,11
5.000	2,47	3,11	3,35	3,56	3,91	4,22	4,48	4,93	5,31	5,65	6,08	6,46	6,69	7,11	7,66
6.300	2,66	3,36	3,62	3,84	4,23	4,55	4,84	5,33	5,74	6,10	6,57	6,98	7,23	7,68	8,28
8.000	2,88	3,63	3,91	4,16	4,58	4,93	5,24	5,77	6,21	6,60	7,11	7,56	7,83	8,32	8,96
10.000	3,11	3,91	4,22	4,48	4,93	5,31	5,65	6,21	6,69	7,11	7,66	8,14	8,43	8,96	9,65
12.500	3,35	4,22	4,54	4,83	5,31	5,72	6,08	6,69	7,21	7,66	8,25	8,77	9,09	9,65	10,4
16.000	3,63	4,58	4,93	5,24	5,77	6,21	6,60	7,27	7,83	8,32	8,96	9,52	9,86	10,5	11,3
20.000	3,91	4,93	5,31	5,65	6,21	6,69	7,11	7,83	8,43	8,96	9,65	10,3	10,6	11,3	12,2
25.000	4,22	5,31	5,72	6,08	6,69	7,21	7,66	8,43	9,09	9,65	10,4	11,1	11,4	12,2	13,1
32.000	4,58	5,77	6,21	6,60	7,27	7,83	8,32	9,16	9,86	10,5	11,3	12,0	12,4	13,2	14,2
40.000	4,93	6,21	6,69	7,11	7,83	8,43	8,96	9,86	10,6	11,3	12,2	12,9	13,4	14,2	15,3
50.000	5,31	6,69	7,21	7,66	8,43	9,09	9,65	10,6	11,4	12,2	13,1	13,9	14,4	15,3	16,5
63.000	5,74	7,23	7,79	8,28	9,11	9,81	10,4	11,5	12,4	13,1	14,2	15,0	15,6	16,6	17,8
80.000	6,21	7,83	8,43	8,96	9,86	10,6	11,3	12,4	13,4	14,2	15,3	16,3	16,9	17,9	19,3
100.000	6,69	8,43	9,09	9,65	10,6	11,4	12,2	13,4	14,4	15,3	16,5	17,5	18,2	19,3	20,8
200.000	8,43	10,60	11,4	12,2	13,4	14,4	15,3	16,9	18,2	19,3	20,8	22,1	22,9	24,3	26,2

L _{10h}	C/P When n =														
	1800	2000	2500	3000	3600	4000	5000	6000	8000	10000	12000	15000	20000	30000	40000
100	2,21	2,29	2,47	2,62	2,78	2,88	3,11	3,30	3,63	3,91	4,16	4,48	4,93	5,65	6,21
500	3,78	3,91	4,22	4,48	4,76	4,93	5,31	5,65	6,21	6,69	7,11	7,66	8,43	9,65	10,6
1.000	4,76	4,93	5,31	5,65	6,00	6,21	6,69	7,11	7,83	8,43	8,96	9,65	10,6	12,2	13,4
1.250	5,13	5,31	5,72	6,08	6,46	6,69	7,21	7,66	8,43	9,09	9,65	10,4	11,4	13,1	14,4
1.600	5,57	5,77	6,21	6,60	7,02	7,27	7,83	8,32	9,16	9,86	10,5	11,3	12,4	14,2	15,7
2.000	6,00	6,21	6,69	7,11	7,56	7,83	8,43	8,96	9,86	10,6	11,3	12,2	13,4	15,3	16,9
2.500	6,46	6,69	7,21	7,66	8,14	8,43	9,09	9,65	10,6	11,4	12,2	13,1	14,4	16,5	18,2
3.200	7,02	7,27	7,83	8,32	8,84	9,16	9,86	10,5	11,5	12,4	13,2	14,2	15,7	17,9	19,7
4.000	7,56	7,83	8,43	8,96	9,52	9,86	10,6	11,3	12,4	13,4	14,2	15,3	16,9	19,3	21,3
5.000	8,14	8,43	9,09	9,65	10,3	10,6	11,4	12,2	13,4	14,4	15,3	16,5	18,2	20,8	22,9
6.300	8,80	9,11	9,81	10,4	11,1	11,5	12,4	13,1	14,5	15,6	16,6	17,8	19,6	22,5	24,7
8.000	9,52	9,86	10,6	11,3	12,0	12,4	13,4	14,2	15,7	16,9	17,9	19,3	21,3	24,3	26,8
10.000	10,3	10,6	11,4	12,2	12,9	13,4	14,4	15,3	16,9	18,2	19,3	20,8	22,9	26,2	28,8
12.500	11,1	11,4	12,3	13,1	13,9	14,4	15,5	16,5	18,2	19,6	20,8	22,4	24,7	28,2	31,1
16.000	12,0	12,4	13,4	14,2	15,1	15,7	16,9	17,9	19,7	21,3	22,6	24,3	26,8	30,7	33,7
20.000	12,9	13,4	14,4	15,3	16,3	16,9	18,2	19,3	21,3	22,9	24,3	26,2	28,8	33,0	36,3
25.000	13,9	14,4	15,5	16,5	17,5	18,2	19,6	20,8	22,9	24,7	26,2	28,2	31,1	35,6	39,1
32.000	15,1	15,7	16,9	17,9	19,0	19,7	21,3	22,6	24,9	26,8	28,5	30,7	33,7	38,6	42,5
40.000	16,3	16,9	18,2	19,3	20,5	21,3	22,9	24,3	26,8	28,8	30,7	33,0	36,3	41,6	45,8
50.000	17,5	18,2	19,6	20,8	22,1	22,9	24,7	26,1	28,8	31,1	33,0	35,6	39,1	44,8	49,3
63.000	18,9	19,6	21,1	22,5	23,9	24,7	26,6	28,3	31,2	33,6	35,7	38,4	42,3	48,4	53,3
80.000	20,5	21,3	22,9	24,3	25,9	26,8	28,8	30,7	33,7	36,3	38,6	41,6	45,8	52,4	57,7
100.000	22,1	22,9	24,7	26,2	27,8	28,8	31,1	33,0	36,3	39,1	41,6	44,8	49,3	56,5	62,1
200.000	27,8	28,8	31,1	33,0	35,1	36,3	39,1	41,6	45,8	49,3	52,4	56,5	62,1	71,1	78,3

Table 8.1.3 Roller bearings - load ratio C/P for different lives L10h (operating hours) at different speeds n (r/min)

L10hm	C/P When n =														
L10h	50	100	125	150	200	250	300	400	500	600	750	900	1000	1200	1500
100	0,70	0,86	0,92	0,97	1,06	1,13	1,19	1,30	1,39	1,47	1,57	1,66	1,71	1,81	1,93
500	1,13	1,39	1,49	1,57	1,71	1,83	1,93	2,11	2,25	2,38	2,54	2,69	2,77	2,93	3,13
1.000	1,39	1,71	1,83	1,93	2,11	2,25	2,38	2,59	2,77	2,93	3,13	3,31	3,42	3,61	3,86
1.250	1,49	1,83	1,96	2,07	2,25	2,41	2,54	2,77	2,97	3,13	3,35	3,54	3,65	3,86	4,12
1.600	1,60	1,97	2,11	2,23	2,43	2,59	2,74	2,99	3,19	3,37	3,61	3,81	3,93	4,15	4,44
2.000	1,71	2,11	2,25	2,38	2,59	2,77	2,93	3,19	3,42	3,61	3,86	4,07	4,20	4,44	4,75
2.500	1,83	2,25	2,41	2,54	2,77	2,97	3,13	3,42	3,65	3,86	4,12	4,36	4,50	4,75	5,08
3.200	1,97	2,43	2,59	2,74	2,99	3,19	3,37	3,68	3,93	4,15	4,44	4,69	4,84	5,11	5,47
4.000	2,11	2,59	2,77	2,93	3,19	3,42	3,61	3,93	4,20	4,44	4,75	5,02	5,18	5,47	5,85
5.000	2,25	2,77	2,97	3,13	3,42	3,65	3,86	4,20	4,50	4,75	5,08	5,36	5,54	5,85	6,25
6.300	2,42	2,97	3,18	3,36	3,66	3,91	4,13	4,51	4,82	5,09	5,44	5,75	5,93	6,27	6,70
8.000	2,59	3,19	3,42	3,61	3,93	4,20	4,44	4,84	5,18	5,47	5,85	6,18	6,37	6,73	7,20
10.000	2,77	3,42	3,65	3,86	4,20	4,50	4,75	5,18	5,54	5,85	6,25	6,60	6,81	7,20	7,70
12.500	2,97	3,65	3,90	4,12	4,50	4,81	5,08	5,54	5,92	6,25	6,68	7,06	7,29	7,70	8,23
16.000	3,19	3,93	4,20	4,44	4,84	5,18	5,47	5,96	6,37	6,73	7,20	7,60	7,85	8,29	8,86
20.000	3,42	4,20	4,50	4,75	5,18	5,54	5,85	6,37	6,81	7,20	7,70	8,13	8,39	8,86	9,48
25.000	3,65	4,50	4,81	5,08	5,54	5,92	6,25	6,81	7,29	7,70	8,23	8,69	8,97	9,48	10,1
32.000	3,93	4,84	5,18	5,47	5,96	6,37	6,73	7,34	7,85	8,29	8,86	9,36	9,66	10,2	10,9
40.000	4,20	5,18	5,54	5,85	6,37	6,81	7,20	7,85	8,39	8,86	9,48	10,0	10,3	10,9	11,7
50.000	4,50	5,54	5,92	6,25	6,81	7,29	7,70	8,39	8,97	9,48	10,1	10,7	11,0	11,7	12,5
63.000	4,82	5,93	6,34	6,70	7,30	7,81	8,25	8,99	9,61	10,2	10,9	11,5	11,8	12,5	13,4
80.000	5,18	6,37	6,81	7,20	7,85	8,39	8,86	9,66	10,3	10,9	11,7	12,3	12,7	13,4	14,4
100.000	5,54	6,81	7,29	7,70	8,39	8,97	9,48	10,3	11,0	11,7	12,5	13,2	13,6	14,4	15,4
200.000	6,81	8,39	8,97	9,48	10,3	11,0	11,7	12,7	13,6	14,4	15,4	16,2	16,7	17,7	18,9

L _{10h}	C/P When n =														
	1800	2000	2500	3000	3600	4000	5000	6000	8000	10000	12000	15000	20000	30000	40000
100	2,04	2,11	2,25	2,38	2,51	2,59	2,77	2,93	3,19	3,42	3,61	3,86	4,20	4,75	5,18
500	3,31	3,42	3,65	3,86	4,07	4,20	4,50	4,75	5,18	5,54	5,85	6,25	6,81	7,70	8,39
1.000	4,07	4,20	4,50	4,75	5,02	5,18	5,54	5,85	6,37	6,81	7,20	7,70	8,39	9,48	10,3
1.250	4,36	4,50	4,81	5,08	5,36	5,54	5,92	6,25	6,81	7,29	7,70	8,23	8,97	10,1	11,0
1.600	4,69	4,84	5,18	5,47	5,78	5,96	6,37	6,73	7,34	7,85	8,29	8,86	9,66	10,9	11,9
2.000	5,02	5,18	5,54	5,85	6,18	6,37	6,81	7,20	7,85	8,39	8,86	9,48	10,3	11,7	12,7
2.500	5,36	5,54	5,92	6,25	6,60	6,81	7,29	7,70	8,39	8,97	9,48	10,1	11,0	12,5	13,6
3.200	5,78	5,96	6,37	6,73	7,11	7,34	7,85	8,29	9,03	9,66	10,2	10,9	11,9	13,4	14,6
4.000	6,18	6,37	6,81	7,20	7,60	7,85	8,39	8,86	9,66	10,3	10,9	11,7	12,7	14,4	15,7
5.000	6,60	6,81	7,29	7,70	8,13	8,39	8,97	9,48	10,3	11,0	11,7	12,5	13,6	15,4	16,7
6.300	7,08	7,30	7,81	8,25	8,71	8,99	9,61	10,2	11,1	11,8	12,5	13,4	14,6	16,5	17,9
8.000	7,60	7,85	8,39	8,86	9,36	9,66	10,3	10,9	11,9	12,7	13,4	14,4	15,7	17,7	19,3
10.000	8,13	8,39	8,97	9,48	10,0	10,3	11,0	11,7	12,7	13,6	14,4	15,4	16,7	18,9	20,6
12.500	8,69	8,97	9,59	10,1	10,7	11,0	11,8	12,5	13,6	14,5	15,4	16,4	17,9	20,2	22,0
16.000	9,36	9,66	10,3	10,9	11,5	11,9	12,7	13,4	14,6	15,7	16,5	17,7	19,3	21,8	23,7
20.000	10,0	10,3	11,0	11,7	12,3	12,7	13,6	14,4	15,7	16,7	17,7	18,9	20,6	23,3	25,4
25.000	10,7	11,0	11,8	12,5	13,2	13,6	14,5	15,4	16,7	17,9	18,9	20,2	22,0	24,9	27,1
32.000	11,5	11,9	12,7	13,4	14,2	14,6	15,7	16,5	18,0	19,3	20,4	21,8	23,7	26,8	29,2
40.000	12,3	12,7	13,6	14,4	15,2	15,7	16,7	17,7	19,3	20,6	21,8	23,3	25,4	28,7	31,2
50.000	13,2	13,6	14,5	15,4	16,2	16,7	17,9	18,9	20,6	22,0	23,3	24,9	27,1	30,6	33,4
63.000	14,1	14,6	15,6	16,5	17,4	17,9	19,2	20,3	22,1	23,6	24,9	26,7	29,1	32,8	35,8
80.000	15,2	15,7	16,7	17,7	18,7	19,3	20,6	21,8	23,7	25,4	26,8	28,7	31,2	35,3	38,5
100.000	16,2	16,7	17,9	18,9	20,0	20,6	22,0	23,3	25,4	27,1	28,7	30,6	33,4	37,7	41,1
200.000	20,0	20,6	22,0	23,3	24,6	25,4	27,1	28,7	31,2	33,4	35,3	37,7	41,1	46,4	50,6

8.2 Influence of operating temperature on bearing material

At elevated temperatures dynamic load carrying capacity is reduced. The reduction in dynamic load carrying capacity at different temperatures is taken into account by multiplying the basic dynamic load rating C by a temperature factor obtained from the following table

Bearing temperature(°C)	150	200	250	300
Temperature factor	1,00	0,90	0,75	0,60

The most reasonable operation of bearings at elevated temperatures also relies on whether the bearings have adequate dimensional stability for the operating temperature. OKO® rolling bearings can generally be used at operating temperatures up to +125°C. Higher than this, the bearings must be subjected to a special heat treatment so that in admissible changes in dimensions do not occur as a result of structural changes. However, the bearings should not be stabilized for a higher temperature than the expected operating temperature, whether the chosen lubricant will retain its lubricating properties.

Adjusted rating life equation

In the life equation

$$L_{10} = \left(\frac{C}{P}\right)^p$$

the influence of bearing load on the life of a given bearing is considered. Where the rolling bearings are used in conventional applications, a calculation of the basic rating life L_{10} is adequate, since the recommendations regarding requisite life are based on experience and, in fact, consider factors such as lubrication.

It may, however, be desirable to consider other factors influencing bearing life in more detail. This adjusted rating life equation is

$$L_{na} = a_1 a_2 a_3 \left(\frac{C}{P}\right)^p$$

or simply

$$L_{na} = a_1 a_2 a_3 L_{10}$$

where

L_{na} = adjusted rating life, millions of revolutions

(the index n represents the difference between the requisite reliability¹) and 100%)

a_1 = life adjustment factor for reliability

a_2 = life adjustment factor for material

a_3 = life adjustment factor for operating conditions

A calculation of the adjusted rating life assume that the operating conditions are well defined and that the bearing loads can be accurately calculated.

8.3 Equivalent dynamic bearing load

If the calculated bearing load "F" obtained using the above information is found to fulfil the requirements for the basic dynamic load rating C, i.e. The load is constant in magnitude and direction and acts radially on a radial bearing or axially and centrally on a thrust bearing, then $P = F$ and the load may be inserted directly in the life equations.

In all other cases it is first necessary to calculate the equivalent dynamic bearing load. This is defined as that hypothetical load, constant in magnitude and direction, acting radially on radial bearings or axially on thrust bearings which, if applied, would have the same influence on bearing life as the actual loads to which the bearing is subjected.

8.4 Constant bearing load

Radial bearings are often subjected to simultaneously acting radial and axial loads. If the resultant load is constant in magnitude and direction, the equivalent dynamic bearing load can be obtained from the general equation

$$P = XF_r + YF_a$$

Where

P = equivalent dynamic bearing load, N

F_r = actual radial bearing load, N

F_a = actual axial bearing load, N

X = radial load factor for the bearing

Y = axial load factor for the bearing

An additional axial load only influences the equivalent dynamic load P for a single row radial bearing if the ratio F_a / F_r exceeds a certain limiting value e . With double row radial bearings even light axial loads are significant. The same general equation is also applied for thrust bearings which can take both axial and radial loads, e.g. Spherical Roller Thrust Bearings. For Thrust Bearings which can carry only purely axial loads, e.g. Thrust Ball Bearings and Cylindrical Roller Bearings and Needle Roller Thrust Bearings, the equation can be simplified, provided the load acts centrally, viz.

$$P = F_a$$

All information and data required to calculate the equivalent dynamic bearing load will be found in the text preceding each bearing table section and in the bearing tables themselves.

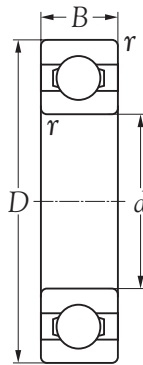


NOTE

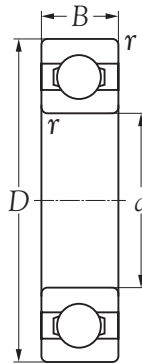


OKO® PRODUCT INFORMATION

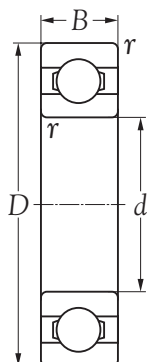
Deep Groove Ball Bearings



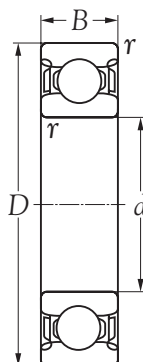
Inner bore <i>d</i> mm	Bearing number open	Principal dimensions			Basic load ratings		Max runout speed		Weight kg
		<i>D</i>	<i>B</i> mm	<i>r</i>	dynamic <i>C</i> N	static <i>C₀</i>	grease r/min	oil r/min	
10	16000	28	8	0,3	3.696	1.568	22.400	27.200	0,022
12	16001	30	8	0,3	4.056	1.888	20.800	25.600	0,023
15	16002	32	8	0,3	4.472	2.280	17.600	22.400	0,025
17	16003	35	8	0,3	4.840	2.600	15.200	19.200	0,032
20	16004	42	8	0,3	5.512	3.240	13.600	16.000	0,050
25	16005	47	8	0,3	6.088	3.800	11.200	13.600	0,060
30	16006	55	9	0,3	8.960	5.880	9.600	12.000	0,085
35	16007	62	9	0,3	9.920	6.520	8.000	10.400	0,110
40	16008	68	9	0,3	10.640	7.320	7.600	9.600	0,130
45	16009	75	10	0,6	12.480	8.640	7.200	8.800	0,170
50	16010	80	10	0,6	13.040	9.120	6.800	8.000	0,180
55	16011	90	11	0,6	15.600	11.200	6.000	7.200	0,260
60	16012	95	11	0,6	15.920	12.000	5.360	6.400	0,280
65	16013	100	11	0,6	16.960	13.280	5.040	6.000	0,300
70	16014	110	13	0,6	22.480	20.000	4.800	5.600	0,430
75	16015	115	13	0,6	22.880	21.600	4.480	5.360	0,460
80	16016	125	14	0,6	26.560	25.200	4.240	5.040	0,600
85	16017	130	14	0,6	27.040	26.800	4.000	4.800	0,630
90	16018	140	16	1,0	33.280	31.200	3.840	4.480	0,850
95	16019	145	16	1,0	33.840	33.200	3.600	4.240	0,890
100	16020	150	16	1,0	35.360	35.200	3.440	4.000	0,910
105	16021	160	18	1,0	41.600	40.800	3.200	3.840	1,200
110	16022	170	19	1,0	45.760	45.600	3.040	3.600	1,450
120	16024	180	19	1,0	48.400	51.200	2.720	3.200	1,600
130	16026	200	22	1,1	63.440	65.200	2.560	3.040	2,350
140	16028	210	22	1,1	64.480	69.200	2.400	2.880	2,500
150	16030	225	24	1,1	73.840	78.400	2.080	2.560	3,150
160	16032	240	25	1,5	79.600	86.400	1.920	2.400	3,700
170	16034	260	28	1,5	95.200	103.200	1.760	2.240	5,000
180	16036	280	31	2,0	110.400	116.800	1.600	2.080	6,600
190	16038	290	31	2,0	118.400	132.800	1.600	2.080	7,900
200	16040	310	34	2,0	134.400	152.000	1.520	1.920	8,850
220	16044	340	37	2,1	139.200	163.200	1.440	1.760	11,500
240	16048	360	37	2,1	142.400	176.000	1.360	1.600	14,500



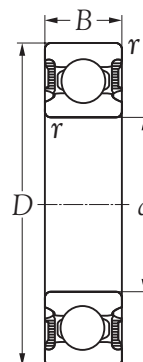
Inner bore <i>d</i> mm	Bearing number open	Principal dimensions			Basic load ratings		Max runout speed		Weight
		<i>D</i>	<i>B</i>	<i>r</i>	dynamic C	static Co	grease	oil	
N		r/min		kg					
260	16052	400	44	3,0	190.400	248.000	1.200	1.440	21,500
280	16056	420	44	3,0	193.600	268.000	1.120	1.360	23,000
300	16060	460	50	4,0	228.800	324.000	960	1.200	32,000



Open

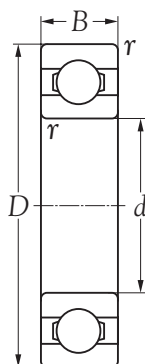


Shields-2Z

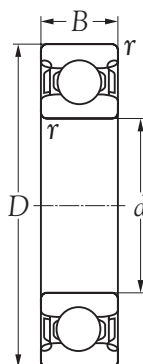


Seals-2RS

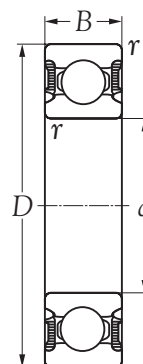
Inner bore <i>d</i> mm	open	Bearing number		Principal dimensions			Basic load ratings		Max runout speed		Weight kg
		with shields	with seals	<i>D</i>	<i>B</i> mm	<i>r</i>	dynamic <i>C</i> N	static <i>C</i> ₀	grease r/min	oil r/min	
4	604			12	4	0,2	645	224	42.400	50.400	0,002
7	607	607 2Z		19	6	0,3	1.376	496	30.400	36.000	0,008
			607 2RS	19	6	0,3	1.376	496	17.600	-	0,008
8	608	608 2Z		22	7	0,3	2.600	1.096	28.800	34.400	0,012
			608 2RS	22	7	0,3	2.600	1.096	16.000	-	0,012
9	609	609 2Z		24	7	0,3	2.968	1.328	25.600	30.400	0,014
			609 2RS	24	7	0,3	2.968	1.328	15.200	-	0,014
10	6000	6000 2Z		26	8	0,3	3.696	1.568	24.000	28.800	0,019
			6000 2RS	26	8	0,3	3.696	1.568	15.200	-	0,019
12	6001	6001 2Z		28	8	0,3	4.056	1.888	20.800	25.600	0,022
			6001 2RS	28	8	0,3	4.056	1.888	13.600	-	0,022
15	6002	6002 2Z		32	9	0,3	4.472	2.280	17.600	22.400	0,030
			6002 2RS	32	9	0,3	4.472	2.280	11.200	-	0,030
17	6003	6003 2Z		35	10	0,3	4.840	2.600	15.200	19.200	0,039
			6003 2RS	35	10	0,3	4.840	2.600	10.400	-	0,039
20	6004	6004 2Z		42	12	0,6	7.488	4.000	13.600	16.000	0,069
			6004 2RS	42	12	0,6	7.488	4.000	8.800	-	0,069
25	6005	6005 2Z		47	12	0,6	8.960	5.240	12.000	14.400	0,080
			6005 2RS	47	12	0,6	8.960	5.240	7.600	-	0,080
30	6006	6006 2Z		55	13	1,0	10.640	6.640	9.600	12.000	0,120
			6006 2RS	55	13	1,0	10.640	6.640	6.400	-	0,120
35	6007	6007 2Z		62	14	1,0	12.720	8.160	8.000	10.400	0,160
			6007 2RS	62	14	1,0	12.720	8.160	5.600	-	0,160
40	6008	6008 2Z		68	15	1,0	13.440	9.280	7.600	9.600	0,190
			6008 2RS	68	15	1,0	13.440	9.280	5.040	-	0,190
45	6009	6009 2Z		75	16	1,0	16.640	11.680	7.200	8.800	0,250
			6009 2RS	75	16	1,0	16.640	11.680	4.480	-	0,250
50	6010	6010 2Z		80	16	1,0	17.280	12.800	6.800	8.000	0,260
			6010 2RS	80	16	1,0	17.280	12.800	4.000	-	0,260
55	6011	6011 2Z		90	18	1,1	22.480	16.960	6.000	7.200	0,390
			6011 2RS	90	18	1,1	22.480	16.960	3.600	-	0,390
60	6012	6012 2Z		95	18	1,1	23.680	18.560	5.360	6.400	0,420
			6012 2RS	95	18	1,1	23.680	18.560	3.440	-	0,420



Open

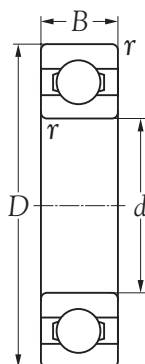


Shields-2Z

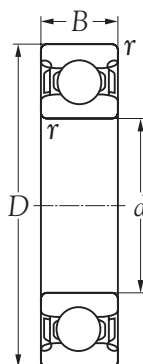


Seals-2RS

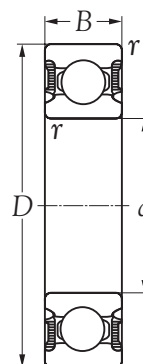
Inner bore <i>d</i> mm	Bearing number			Principal dimensions			Basic load ratings		Max runout speed		Weight kg
	open	with shields	with seals	<i>D</i>	<i>B</i> mm	<i>r</i>	dynamic <i>C</i> N	static <i>C</i> ₀	grease r/min	oil r/min	
65	6013	6013 2Z		100	18	1,1	24.560	20.000	5.040	6.000	0,440
			6013 2RS	100	18	1,1	24.560	20.000	3.200	-	0,440
70	6014	6014 2Z		110	20	1,1	30.160	24.800	4.800	5.600	0,600
			6014 2RS	110	20	1,1	30.160	24.800	2.880	-	0,600
75	6015	6015 2Z		115	20	1,1	31.760	26.800	4.480	5.360	0,640
			6015 2RS	115	20	1,1	31.760	26.800	2.720	-	0,640
80	6016	6016 2Z		125	22	1,1	38.000	32.000	4.240	5.040	0,850
			6016 2RS	125	22	1,1	38.000	32.000	2.560	-	0,850
85	6017	6017 2Z		130	22	1,1	39.520	34.400	4.000	4.800	0,890
			6017 2RS	130	22	1,1	39.520	34.400	2.400	-	0,890
90	6018	6018 2Z		140	24	1,5	46.800	40.000	3.840	4.480	1,150
			6018 2RS	140	24	1,5	46.800	40.000	2.240	-	1,150
95	6019	6019 2Z		145	24	1,5	48.400	43.200	3.600	4.240	1,200
			6019 2RS	145	24	1,5	48.400	43.200	2.240	-	1,200
100	6020	6020 2Z		150	24	1,5	48.400	43.200	3.440	4.000	1,250
			6020 2RS	150	24	1,5	48.400	43.200	2.080	-	1,250
105	6021	6021 2Z		160	26	2,0	58.240	52.400	3.200	3.840	1,600
			6021 2RS	160	26	2,0	58.240	52.400	1.920	-	1,600
110	6022	6022 2Z		170	28	2,0	65.520	58.800	3.040	3.600	1,950
			6022 2RS	170	28	2,0	65.520	58.800	1.920	-	1,950
120	6024	6024 2Z		180	28	2,0	68.160	64.000	2.720	3.200	2,050
			6024 2RS	180	28	2,0	68.160	64.000	1.760	-	2,050
130	6026	6026 2Z		200	33	2,0	84.800	80.000	2.560	3.040	3,150
			6026 2RS	200	33	2,0	84.800	80.000	1.600	-	3,150
140	6028	6028 2Z		210	33	2,0	88.800	86.400	2.400	2.880	3,350
			6028 2RS	210	33	2,0	88.800	86.400	1.440	-	3,350
150	6030	6030 2Z		225	35	2,1	100.000	100.000	2.080	2.560	4,800
			6030 2RS	225	35	2,1	100.000	100.000	1.360	-	4,800
160	6032	6032 2Z		240	38	2,1	114.400	114.400	1.920	2.400	5,900
			6032 2RS	240	38	2,1	114.400	114.400	1.208	-	5,900
170	6034			260	42	2,1	134.400	138.400	1.760	2.240	7,900
180	6036			280	46	2,1	152.000	160.000	1.600	2.080	10,500
190	6038			290	46	2,1	156.000	172.800	1.600	2.080	11,000
200	6040			310	51	2,1	172.800	196.000	1.520	1.920	14,000



Open

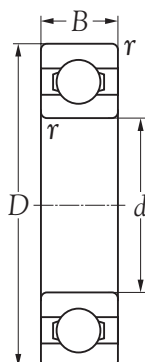


Shields-2Z

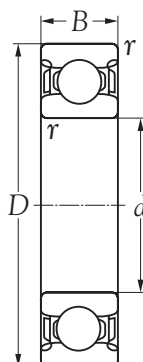


Seals-2RS

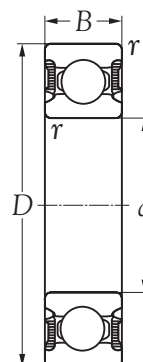
Inner bore d mm	open	Bearing number		Principal dimensions			Basic load ratings		Max runout speed		Weight kg
		with shields	with seals	D	B mm	r	dynamic C N	static C_0	grease oil r/min	oil	
220	6044			340	56	3,0	197.600	232.000	1.440	1.760	18,500
240	6048			360	56	3,0	204.000	252.000	1.360	1600	19,500
260	6052			400	65	4,0	232.800	300.000	1.200	1.440	29,500
280	6056			420	65	4,0	241.600	324.000	1.120	1.360	31,000
300	6060			460	74	4,0	286.400	400.000	960	1.200	44,000



Open

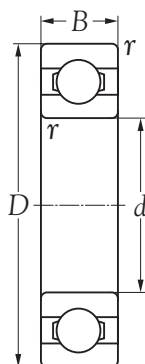


Shields-2Z

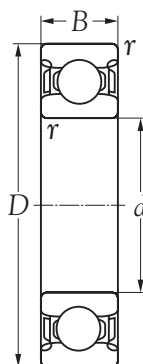


Seals-2RS

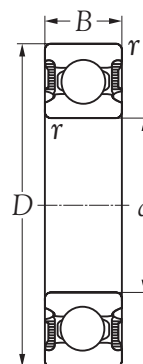
Inner bore <i>d</i> mm	Bearing number			Principal dimensions			Basic load ratings		Max runout speed		Weight kg
	open	with shields	with seals	<i>D</i>	<i>B</i> mm	<i>r</i>	dynamic <i>C</i> N	static <i>C</i> ₀	grease r/min	oil r/min	
3	623	623 2Z		10	4	0,15	390	117	48.000	56.000	0,002
4	624	624 2Z		13	5	0,20	780	244	38.400	44.800	0,003
5	625	625 2Z		16	5	0,30	888	304	34.400	40.000	0,005
6	626	626 2Z		19	6	0,30	1.376	496	28.800	34.400	0,008
			626 2RS	19	6	0,30	1.376	496	17.600	-	0,008
7	627	627 2Z		22	7	0,30	2.600	1.096	25.600	30.400	0,013
			627 2RS	22	7	0,30	2.600	1.096	16.000	-	0,012
9	629	629 2Z		26	8	0,30	3.696	1.568	22.400	27.200	0,020
			629 2RS	26	8	0,30	3.696	1.568	14.400	-	0,020
10	6200	6200 2Z		30	9	0,60	4.056	1.888	19.200	24.000	0,032
			6200 2RS	30	9	0,60	4.056	1.888	13.600	-	0,032
12	6201	6201 2Z		32	10	0,60	5.512	2.480	17.600	22.400	0,037
			6201 2RS	32	10	0,60	5.512	2.480	12.000	-	0,037
15	6202	6202 2Z		35	11	0,60	6.240	3.000	15.200	19.200	0,045
			6202 2RS	35	11	0,60	6.240	3.000	10.400	-	0,045
17	6203	6203 2Z		40	12	0,60	7.648	3.800	13.600	16.000	0,065
			6203 2RS	40	12	0,60	7.648	3.800	9.600	-	0,065
20	6204	6204 2Z		47	14	1,00	10.160	5.240	12.000	14.400	0,110
			6204 2RS	47	14	1,00	10.160	5.240	8.000	-	0,110
25	6205	6205 2Z		52	15	1,00	11.200	6.240	9.600	12.000	0,130
			6205 2RS	52	15	1,00	11.200	6.240	6.800	-	0,130
30	6206	6206 2Z		62	16	1,00	15.600	8.960	8.000	10.400	0,200
			6206 2RS	62	16	1,00	15.600	8.960	6.000	-	0,200
35	6207	6207 2Z		72	17	1,10	20.400	12.240	7.200	8.800	0,290
			6207 2RS	72	17	1,10	20.400	12.240	5.040	-	0,290
40	6208	6208 2Z		80	18	1,10	24.560	15.200	6.800	8.000	0,370
			6208 2RS	80	18	1,10	24.560	15.200	4.480	-	0,370
45	6209	6209 2Z		85	19	1,10	26.560	17.280	6.000	7.200	0,410
			6209 2RS	85	19	1,10	26.560	17.280	4.000	-	0,410
50	6210	6210 2Z		90	20	1,10	28.080	18.560	5.600	6.800	0,460
			6210 2RS	90	20	1,10	28.080	18.560	3.840	-	0,460
55	6211	6211 2Z		100	21	1,50	34.880	23.200	5.040	6.000	0,610
			6211 2RS	100	21	1,50	34.880	23.200	3.440	-	0,610



Open

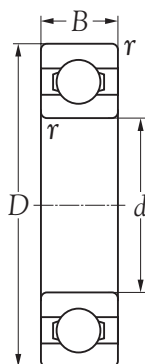


Shields-2Z

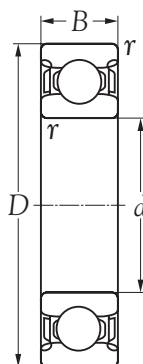


Seals-2RS

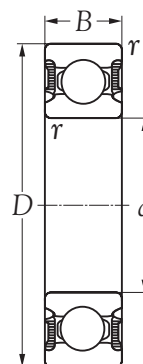
Inner bore <i>d</i> mm	Bearing number			Principal dimensions			Basic load ratings		Max runout speed		Weight kg
	open	with shields	with seals	<i>D</i>	<i>B</i> mm	<i>r</i>	dynamic <i>C</i> N	static <i>C</i> ₀	grease r/min	oil r/min	
60	6212	6212 2Z		110	22	1,50	38.000	26.000	4.800	5.600	0,780
			6212 2RS	110	22	1,50	38.000	26.000	3.200	-	0,780
65	6213	6213 2Z		120	23	1,50	44.720	32.400	4.240	5.040	0,990
			6213 2RS	120	23	1,50	44.720	32.400	2.880	-	0,990
70	6214	6214 2Z		125	24	1,50	48.400	36.000	4.000	4.800	1,050
			6214 2RS	125	24	1,50	48.400	36.000	2.720	-	1,100
75	6215	6215 2Z		130	25	1,50	53.040	39.200	4.480	5.360	1,200
			6215 2RS	130	25	1,50	53.040	39.200	2.560	-	1,200
80	6216	6216 2Z		140	26	2,00	56.160	44.000	3.600	4.240	1,400
			6216 2RS	140	26	2,00	56.160	44.000	2.400	-	1,400
85	6217	6217 2Z		150	28	2,00	66.560	51.200	3.440	4.000	1,800
			6217 2RS	150	28	2,00	66.560	51.200	2.240	-	1,800
90	6218	6218 2Z		160	30	2,00	76.480	58.800	3.040	3.600	2,150
			6218 2RS	160	30	2,00	76.480	58.800	2.080	-	2,150
95	6219	6219 2Z		170	32	2,10	86.400	65.200	2.880	3.440	2,600
			6219 2RS	170	32	2,10	86.400	65.200	1.920	-	2,600
100	6220	6220 2Z		180	34	2,10	99.200	74.400	2.720	3.200	3,150
			6220 2RS	180	34	2,10	99.200	74.400	1.920	-	3,150
105	6221	6221 2Z		190	36	2,10	106.400	83.200	2.560	3.040	3,700
			6221 2RS	190	36	2,10	106.400	83.200	1.760	-	3,700
110	6222	6222 2Z		200	38	2,10	114.400	94.400	2.400	2.880	4,350
			6222 2RS	200	38	2,10	114.400	94.400	1.600	-	4,350
120	6224	6224 2Z		215	40	2,10	116.800	94.400	2.240	2.720	5,150
			6224 2RS	215	40	2,10	116.800	94.400	1.520	-	5,150
130	6226	6226 2Z		230	40	3,00	124.800	105.600	2.080	2.560	5,800
140	6228			250	42	3,00	132.000	120.000	1.920	2.400	7,450
150	6230			270	45	3,00	139.200	132.800	1.600	2.080	9,400
160	6232			290	48	3,00	148.800	148.800	1.520	1.920	14,500
170	6234			310	52	4,00	169.600	179.200	1.520	1.920	17,500
180	6236			320	52	4,00	183.200	192.000	1.440	1.760	18,500
190	6238			340	55	4,00	204.000	224.000	1.360	1.600	23,000
200	6240			360	58	4,00	216.000	248.000	1.360	1.600	28,000
220	6244			400	65	4,00	236.800	292.000	1.200	1.440	37,000
240	6248			440	72	4,00	286.400	380.000	1.040	1.280	51,000



Open

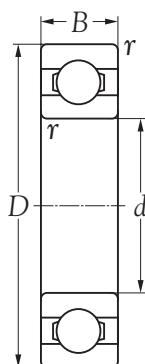


Shields-2Z

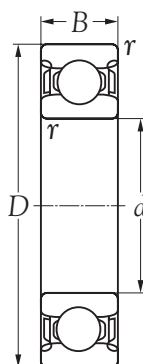


Seals-2RS

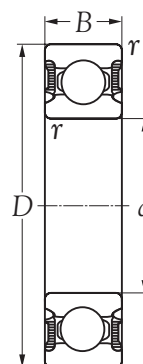
Inner bore <i>d</i> mm	Bearing number			Principal dimensions			Basic load ratings		Max runout speed		Weight kg
	open	with shields	with seals	<i>D</i>	<i>B</i> mm	<i>r</i>	dynamic <i>C</i> N	static <i>C</i> ₀	grease r/min	oil r/min	
260	6252			480	80	5,0	312.000	424.000	880	1.120	65,500
280	6256			500	80	5,0	338.400	480.000	880	1.120	71,000



Open

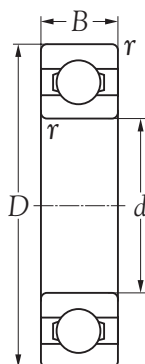


Shields-2Z

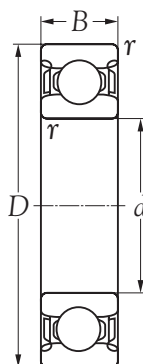


Seals-2RS

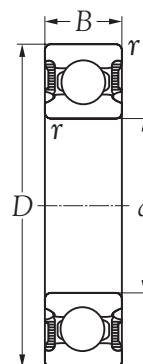
Inner bore <i>d</i> mm	Bearing number			Principal dimensions			Basic load ratings		Max runout speed		Weight kg
	open	with shields	with seals	<i>D</i>	<i>B</i> mm	<i>r</i>	dynamic <i>C</i> N	static <i>C</i> ₀	grease r/min	oil r/min	
10	6300	6300 2Z		35	11	0,6	6.448	2.720	16.000	20.800	0,053
			6300 2RS	35	11	0,6	6.448	2.720	12.000	-	0,053
12	6301	6301 2Z		37	12	1,0	7.800	3.320	15.200	19.200	0,060
			6301 2RS	37	12	1,0	7.800	3.320	11.200	-	0,060
15	6302	6302 2Z		42	13	1,0	9.120	4.320	13.600	16.000	0,082
			6302 2RS	42	13	1,0	9.120	4.320	9.600	-	0,082
17	6303	6303 2Z		47	14	1,0	10.800	5.240	12.800	15.200	0,120
			6303 2RS	47	14	1,0	10.800	5.240	8.800	-	0,120
20	6304	6304 2Z		52	15	1,1	12.720	6.240	10.400	12.800	0,140
			6304 2RS	52	15	1,1	12.720	6.240	7.600	-	0,140
25	6305	6305 2Z		62	17	1,1	18.000	9.280	8.800	11.200	0,230
			6305 2RS	62	17	1,1	18.000	9.280	6.000	-	0,230
30	6306	6306 2Z		72	19	1,1	22.480	12.800	7.200	8.800	0,350
			6306 2RS	72	19	1,1	22.480	12.800	5.040	-	0,350
35	6307	6307 2Z		80	21	1,5	26.560	15.200	6.800	8.000	0,460
			6307 2RS	80	21	1,5	26.560	15.200	4.800	-	0,460
40	6308	6308 2Z		90	23	1,5	32.800	19.200	6.000	7.200	0,630
			6308 2RS	90	23	1,5	32.800	19.200	4.000	-	0,630
45	6309	6309 2Z		100	25	1,5	42.160	25.200	5.360	6.400	0,830
			6309 2RS	100	25	1,5	42.160	25.200	3.600	-	0,830
50	6310	6310 2Z		110	27	2,0	49.440	30.400	5.040	6.000	1,050
			6310 2RS	110	27	2,0	49.440	30.400	3.440	-	1,050
55	6311	6311 2Z		120	29	2,0	57.200	36.000	4.480	5.360	1,350
			6311 2RS	120	29	2,0	57.200	36.000	3.040	-	1,350
60	6312	6312 2Z		130	31	2,1	65.520	41.600	4.000	4.800	1,700
			6312 2RS	130	31	2,1	65.520	41.600	2.720	-	1,700
65	6313	6313 2Z		140	33	2,1	73.840	48.000	3.840	4.480	2,100
			6313 2RS	140	33	2,1	73.840	48.000	2.560	-	2,100
70	6314	6314 2Z		150	35	2,1	83.200	54.400	3.600	4.240	2,500
			6314 2RS	150	35	2,1	83.200	54.400	2.400	-	2,500
75	6315	6315 2Z		160	37	2,1	91.200	61.200	3.440	4.000	3,000
			6315 2RS	160	37	2,1	91.200	61.200	2.240	-	3,000



Open

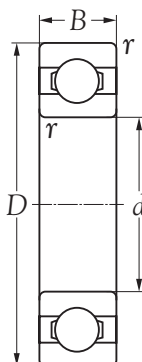


Shields-ZZ

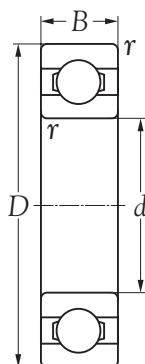


Seals-2RS

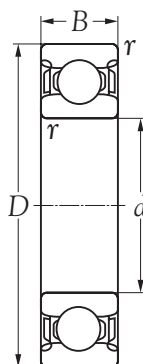
Inner bore <i>d</i> mm	Bearing number			Principal dimensions			Basic load ratings		Max runout speed		Weight kg
	open	with shields	with seals	<i>D</i>	<i>B</i> mm	<i>r</i>	dynamic <i>C</i> N	static <i>C</i> ₀	grease r/min	oil	
80	6316	6316 ZZ		170	39	2,1	99.200	69.200	3.040	3.600	3,600
			6316 2RS	170	39	2,1	99.200	69.200	2.080	-	3,600
85	6317	6317 ZZ		180	41	3,0	106.400	77.200	2.880	3.440	4,250
			6317 2RS	180	41	3,0	106.400	77.200	1.920	-	4,250
90	6318	6318 ZZ		190	43	3,0	114.400	86.400	2.720	3.200	4,900
			6318 2RS	190	43	3,0	114.400	86.400	1.920	-	4,900
95	6319	6319 ZZ		200	45	3,0	122.400	94.400	2.560	3.040	5,650
100	6320	6320 ZZ		215	47	3,0	139.200	112.000	2.400	2.880	7,000
105	6321	6321 ZZ		225	49	3,0	145.600	122.400	2.240	2.720	8,250
110	6322			240	50	3,0	162.400	144.000	2.080	2.560	9,550
120	6324			260	55	3,0	166.400	148.800	1.920	2.400	14,500
130	6326			280	58	4,0	183.200	172.800	1.760	2.240	18,000
140	6328			300	62	4,0	200.800	196.000	1.600	2.080	22,000
150	6330			320	65	4,0	220.800	228.000	1.520	1.920	26,000
160	6332			340	68	4,0	220.800	228.000	1.440	1.760	29,000
170	6334			360	72	4,0	249.600	272.000	1.360	1.600	34,500
180	6336			380	75	4,0	280.800	324.000	1.280	1.600	42,500
190	6338			400	78	5,0	296.800	344.000	1.280	1.520	49,000
200	6340			420	80	5,0	301.600	372.000	1.200	1.440	55,500
220	6344			460	88	5,0	328.000	416.000	1.040	1.280	72,500



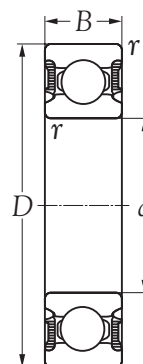
Inner bore d mm	Bearing number open	Principal dimensions			Basic load ratings		Max runout speed		Weight kg
		D	B mm	r	dynamic C N	static C_0	grease r/min	oil r/min	
17	6403	62	17	1,1	18.320	8.640	9.600	12.000	0,270
20	6404	72	19	1,1	24.560	12.000	8.000	10.400	0,400
25	6405	80	21	1,5	28.640	15.440	7.200	8.800	0,530
30	6406	90	23	1,5	34.880	18.880	6.800	8.000	0,740
35	6407	100	25	1,5	44.240	24.800	5.600	6.800	0,950
40	6408	110	27	2,0	50.960	29.200	5.360	6.400	1,250
45	6409	120	29	2,0	60.880	36.000	4.800	5.600	1,550
50	6410	130	31	2,1	69.680	41.600	4.240	5.040	1,900
55	6411	140	33	2,1	79.600	49.600	4.000	4.800	2,300
60	6412	150	35	2,1	86.400	55.600	3.840	4.480	2,750
65	6413	160	37	2,1	95.200	62.400	3.600	4.240	3,300
70	6414	180	42	3,0	114.400	8.320	3.040	3.600	4,850
75	6415	190	45	3,0	122.400	91.200	2.880	3.440	6,800
80	6416	200	48	3,0	130.400	100.000	2.720	3.200	8,000
85	6417	210	52	4,0	139.200	109.600	2.560	3.040	9,500
90	6418	225	54	4,0	148.800	120.000	2.400	2.880	11,500



Open

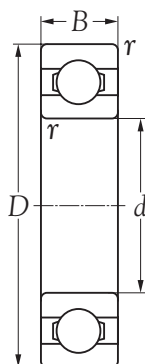
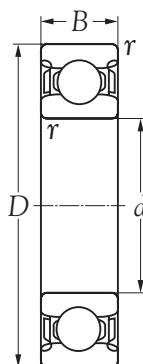
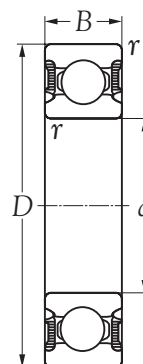


Shields-2Z

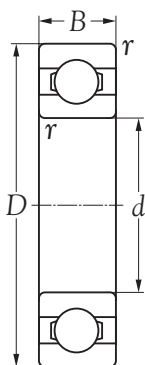
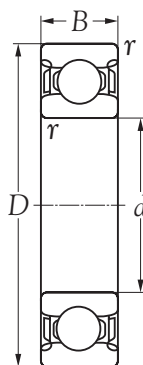
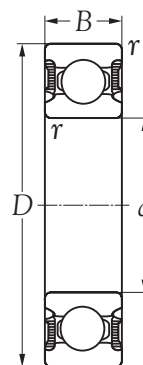


Seals-2RS

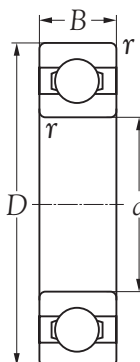
Inner bore <i>d</i> mm	Bearing number			Principal dimensions			Basic load ratings		Max runout speed		Weight kg
	open	with shields	with seals	<i>D</i>	<i>B</i> mm	<i>r</i>	dynamic <i>C</i> N	static <i>C</i> ₀	grease r/min	oil r/min	
10	61800	61800 2Z		19	5	0,3	1.104	468	28.800	34.400	0,005
			61800 2RS	19	5	0,3	1.104	468	16.000	-	0,005
12	61801	61801 2Z		21	5	0,3	1.144	536	25.600	30.400	0,006
			61801 2RS	21	5	0,3	1.144	536	15.200	-	0,006
15	61802	61802 2Z		24	5	0,3	1.248	640	22.400	27.200	0,007
			61802 2RS	24	5	0,3	1.248	640	13.600	-	0,007
17	61803	61803 2Z		26	5	0,3	1.344	744	19.200	24.000	0,008
			61803 2RS	26	5	0,3	1.344	744	12.800	-	0,008
20	61804	61804 2Z		32	7	0,3	2.160	1.200	15.200	19.200	0,018
			61804 2RS	32	7	0,3	2.160	1.200	10.400	-	0,018
25	61805	61805 2Z		37	7	0,3	3.488	2.080	13.600	16.000	0,022
			61805 2RS	37	7	0,3	3.488	2.080	8.800	-	0,022
30	61806	61806 2Z		42	7	0,3	3.592	2.320	12.000	14.400	0,027
			61806 2RS	42	7	0,3	3.592	2.320	7.600	-	0,027
35	61807	61807 2Z		47	7	0,3	3.800	2.560	10.400	12.800	0,030
			61807 2RS	47	7	0,3	3.800	2.560	6.400	-	0,030
40	61808	61808 2Z		52	7	0,3	3.952	2.760	8.800	11.200	0,034
			61808 2RS	52	7	0,3	3.952	2.760	6.000	-	0,034
45	61809	61809 2Z		58	7	0,3	4.840	3.440	7.600	9.600	0,040
			61809 2RS	58	7	0,3	4.840	3.440	5.360	-	0,040
50	61810	61810 2Z		65	7	0,3	4.992	3.800	7.200	8.800	0,052
			61810 2RS	65	7	0,3	4.992	3.800	4.800	-	0,052
55	61811	61811 2Z		72	9	0,3	6.656	4.960	6.800	8.000	0,083
			61811 2RS	72	9	0,3	6.656	4.960	4.240	-	0,083
60	61812	61812 2Z		78	10	0,3	6.968	5.360	6.000	7.200	0,110
			61812 2RS	78	10	0,3	6.968	5.360	3.840	-	0,110
65	61813	61813 2Z		85	10	0,6	9.360	7.320	5.600	6.800	0,130
			61813 2RS	85	10	0,6	9.360	7.320	3.600	-	0,130
70	61814	61814 2Z		90	10	0,6	9.680	8.000	5.360	6.400	0,140
			61814 2RS	90	10	0,6	9.680	8.000	3.440	-	0,140
75	61815	61815 2Z		95	10	0,6	10.000	8.640	5.040	6.000	0,150
			61815 2RS	95	10	0,6	10.000	8.640	3.200	-	0,150
80	61816	61816 2Z		100	10	0,6	9.920	8.640	4.800	5.600	0,150
			61816 2RS	100	10	0,6	9.920	8.640	2.880	-	0,150


Open

Shields-ZZ

Seals-2RS

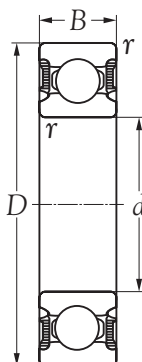
Inner bore <i>d</i> mm	Bearing number			Principal dimensions			Basic load ratings		Max runout speed		Weight kg
	open	with shields	with seals	<i>D</i>	<i>B</i> mm	<i>r</i>	dynamic <i>C</i> N	static <i>C</i> ₀	grease r/min	oil	
85	61817	61817 ZZ		110	13	1,0	15.600	13.280	4.240	5.040	0,270
			61817 2RS	110	13	1,0	15.600	13.280	2.720	-	0,270
90	61818	61818 ZZ		115	13	1,0	15.600	13.600	4.240	5.040	0,280
			61818 2RS	115	13	1,0	15.600	13.600	2.560	-	0,280
95	61819	61819 ZZ		120	13	1,0	15.920	14.080	4.000	4.800	0,300
			61819 2RS	120	13	1,0	15.920	14.080	2.400	-	0,300
100	61820	61820 ZZ		125	13	1,0	15.920	14.640	3.840	4.480	0,310
			61820 2RS	125	13	1,0	15.920	14.640	2.400	-	0,310
105	61821	61821 ZZ		130	13	1,0	16.640	15.680	3.600	4.240	0,320
			61821 2RS	130	13	1,0	16.640	15.680	2.240	-	0,320
110	61822	61822 ZZ		140	16	1,0	22.480	20.800	3.440	4.000	0,600
			61822 2RS	140	16	1,0	22.480	20.800	2.080	-	0,600
120	61824	61824 ZZ		150	16	1,0	23.280	22.400	3.040	3.600	0,650
			61824 2RS	150	16	1,0	23.280	22.400	1.920	-	0,650
130	61826	61826 ZZ		165	18	1,0	30.160	34.400	2.880	3.440	0,930
			61826 2RS	165	18	1,1	30.160	34.400	1.760	-	0,930
140	61828	61828 ZZ		175	18	1,1	31.200	37.200	2.720	3.200	0,990
			61828 2RS	175	18	1,1	31.200	37.200	1.600	-	0,990
150	61830			190	20	1,1	39.040	48.800	2.400	2.880	1,400
160	61832			200	20	1,1	39.520	51.200	2.240	2.720	1,450
170	61834			215	22	1,1	49.440	62.400	2.080	2.560	1,900
180	61836			225	22	1,1	49.920	65.200	1.920	2.400	2,000
190	61838			240	24	1,5	60.880	78.400	1.760	2.240	2,600
200	61840			250	24	1,5	60.880	81.600	1.760	2.240	2,700
220	61844			270	24	1,5	62.400	88.000	1.520	1.920	3,000
240	61848			300	28	2,0	86.400	120.000	1.440	1.760	4,500
260	61852			320	28	2,0	88.800	130.400	1.360	1.600	4,800
280	61856			350	33	2,0	110.400	160.000	1.280	1.520	7,400
300	61860			380	38	2,0	137.600	196.000	1.120	1.360	10,500


Open

Shields-ZZ

Seals-2RS

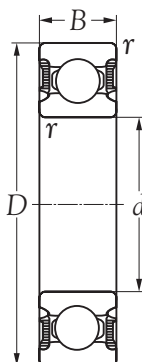
Inner bore <i>d</i> mm	open	Bearing number		Principal dimensions			Basic load ratings		Max runout speed		Weight kg
		with shields	with seals	<i>D</i>	<i>B</i> mm	<i>r</i>	dynamic <i>C</i> N	static <i>C</i> ₀	grease r/min	oil r/min	
10	61900	61900 2Z		22	6	0,3	1.560	600	27.200	32.000	0,010
			61900 2RS	22	6	0,3	1.560	600	15.200	-	0,010
12	61901	61901 2Z		24	6	0,3	1.800	784	24.000	28.800	0,011
			61901 2RS	24	6	0,3	1.800	784	14.400	-	0,011
15	61902	61902 2Z		28	7	0,3	3.224	1.632	19.200	24.000	0,016
			61902 2RS	28	7	0,3	3.224	1.632	12.800	-	0,016
17	61903	61903 2Z		30	7	0,3	3.488	1.856	17.600	22.400	0,018
			61903 2RS	30	7	0,3	3.488	1.856	11.200	-	0,018
20	61904	61904 2Z		37	9	0,3	5.096	2.920	14.400	17.600	0,038
			61904 2RS	37	9	0,3	5.096	2.920	9.600	-	0,038
25	61905	61905 2Z		42	9	0,3	5.304	3.200	12.800	15.200	0,045
			61905 2RS	42	9	0,3	5.304	3.200	8.000	-	0,045
30	61906	61906 2Z		47	9	0,3	5.824	3.640	11.200	13.600	0,051
			61906 2RS	47	9	0,3	5.824	3.640	6.800	-	0,051
35	61907	61907 2Z		55	10	0,6	7.648	4.960	8.800	11.200	0,080
			61907 2RS	55	10	0,6	7.648	4.960	6.000	-	0,080
40	61908	61908 2Z		62	12	0,6	11.040	7.440	8.000	10.400	0,120
			61908 2RS	62	12	0,6	11.040	7.440	5.360	-	0,120
45	61909	61909 2Z		68	12	0,6	8.080	5.360	7.200	8.800	0,140
			61909 2RS	68	12	0,6	8.080	5.360	4.800	-	0,140
50	61910	61910 2Z		72	12	0,6	11.680	8.320	6.800	8.000	0,140
			61910 2RS	72	12	0,6	11.680	8.320	4.480	-	0,140
55	61911	61911 2Z		80	13	1,0	12.720	9.120	6.400	7.600	0,190
			61911 2RS	80	13	1,0	12.720	9.120	4.000	-	0,190
60	61912	61912 2Z		85	13	1,0	13.200	9.600	6.000	7.200	0,200
			61912 2RS	85	13	1,0	13.200	9.600	3.600	-	0,200
65	61913	61913 2Z		90	13	1,0	13.920	10.720	5.360	6.400	0,220
			61913 2RS	90	13	1,0	13.920	10.720	3.440	-	0,220
70	61914	61914 2Z		100	16	1,0	19.040	14.640	5.040	6.000	0,350
			61914 2RS	100	16	1,0	19.040	14.640	3.200	-	0,350
75	61915	61915 2Z		105	16	1,0	19.360	15.440	4.800	5.600	0,370
			61915 2RS	105	16	1,0	19.360	15.440	2.880	-	0,370
80	61916	61916 2Z		110	16	1,0	20.080	16.320	4.480	5.360	0,400
			61916 2RS	110	16	1,0	20.080	16.320	2.720	-	0,400



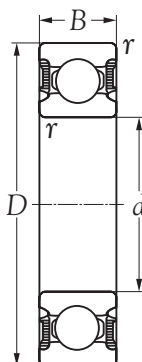
Inner bore d mm	Bearing number open	Principal dimensions			Basic load ratings		Max runout speed		Weight kg
		D	B mm	r	dynamic C N	static C_0	grease r/min	oil r/min	
85	61917	120	18	1,1	25.520	24.000	4.240	5.040	0,550
90	61918	125	18	1,1	26.560	25.200	4.000	4.800	0,590
95	61919	130	18	1,1	27.040	26.800	3.840	4.480	0,610
100	61920	140	20	1,1	33.840	33.200	3.600	4.240	0,830
105	61921	145	20	1,1	35.360	35.200	3.440	4.000	0,870
110	61922	150	20	1,1	34.880	36.000	3.200	3.840	0,900
120	61924	165	22	1,1	44.240	45.600	2.880	3.440	1,200
130	61926	180	24	1,5	52.000	53.600	2.720	3.200	1,600
140	61928	190	24	1,5	53.040	57.600	2.560	3.040	1,700
150	61930	210	28	2,0	70.720	74.400	2.240	2.720	3,050
160	61932	220	28	2,0	73.840	78.400	2.080	2.560	3,250
170	61934	230	28	2,0	74.880	84.800	1.920	2.400	3,400
180	61936	250	33	2,0	95.200	107.200	1.760	2.240	5,050
190	61938	260	33	2,0	93.600	107.200	1.760	2.240	5,250
200	61940	280	38	2,1	118.400	132.800	1.600	2.080	7,400
220	61944	300	38	2,1	120.800	144.000	1.520	1.920	8,000
240	61948	320	38	2,1	127.200	160.000	1.440	1.760	8,600
260	61952	360	46	2,1	169.600	216.000	1.280	1.520	14,500
280	61956	380	46	2,1	172.800	228.000	1.200	1.440	15,500
300	61960	420	56	3,0	216.000	300.000	1.040	1.280	24,500



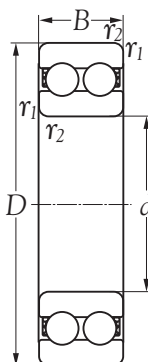
Inner bore d mm	Bearing number with seals	Principal dimensions			Basic load ratings		Max runout speed grease r/min	Weight kg
		D	B mm	r	dynamic C N	static C_0		
10	62200 2RS	30	14	0,6	4.056	1.888	13.600	0,040
12	62201 2RS	32	14	0,6	5.512	2.480	12.000	0,045
15	62202 2RS	35	14	0,6	6.240	3.000	10.400	0,054
17	62203 2RS	40	16	0,6	7.648	3.800	9.600	0,083
20	62204 2RS	47	18	1,0	10.160	5.240	8.000	0,130
25	62205 2RS	52	18	1,0	11.200	6.240	6.800	0,150
30	62206 2RS	62	20	1,0	15.600	8.960	6.000	0,240
35	62207 2RS	72	23	1,1	20.400	12.240	5.040	0,370
40	62208 2RS	80	23	1,1	24.560	15.200	4.480	0,440
45	62209 2RS	85	23	1,1	26.560	17.280	4.000	0,480
50	62210 2RS	90	23	1,1	28.080	18.560	3.840	0,520
55	62211 2RS	100	25	1,5	34.880	23.200	3.440	0,700
60	62212 2RS	110	28	1,5	38.000	26.000	3.200	0,970
65	62213 2RS	120	31	1,5	44.720	32.400	2.880	1,250
70	62214 2RS	125	31	1,5	48.400	36.000	2.720	1,300



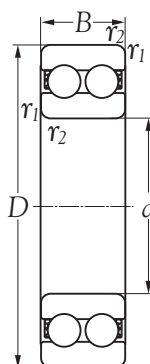
Inner bore d mm	Bearing number with seals	Principal dimensions			Basic load ratings		Max runout speed grease r/min	Weight kg
		D	B mm	r	dynamic C N	static C_0		
10	62300 2RS	35	17	0,6	6.448	2.720	12.000	0,060
12	62301 2RS	37	17	1,0	7.800	3.320	11.200	0,070
15	62302 2RS	42	17	1,0	9.120	4.320	9.600	0,110
17	62303 2RS	47	19	1,0	10.800	5.240	8.800	0,150
20	62304 2RS	52	21	1,1	12.720	6.240	7.600	0,200
25	62305 2RS	62	24	1,1	18.000	9.280	6.000	0,320
30	62306 2RS	72	27	1,1	22.480	12.800	5.040	0,480
35	62307 2RS	80	31	1,5	26.560	15.200	4.800	0,660
40	62308 2RS	90	33	1,5	32.800	19.200	4.000	0,890
45	62309 2RS	100	36	1,5	42.160	25.200	3.600	1,150
50	62310 2RS	110	40	2,0	49.440	30.400	3.440	1,550
55	62311 2RS	120	43	2,0	57.200	36.000	3.040	1,950
60	62312 2RS	130	46	2,1	65.520	41.600	2.720	2,500
65	62313 2RS	140	48	2,1	73.840	48.000	2.560	3,000
70	62314 2RS	150	51	2,1	83.200	54.400	2.400	3,550



Inner bore d mm	Bearing number with seals	Principal dimensions			Basic load ratings		Max runout speed grease r/min	Weight kg
		D	B mm	r	dynamic C N	static C_0		
10	63000 2RS	26	12	0,3	3.696	1.568	15.200	0,025
12	63001 2RS	28	12	0,3	4.056	1.888	13.600	0,029
15	63002 2RS	32	13	0,3	4.472	2.280	11.200	0,039
17	63003 2RS	35	14	0,3	4.840	2.600	10.400	0,052
20	63004 2RS	42	16	0,6	7.488	4.000	8.800	0,086
25	63005 2RS	47	16	0,6	8.960	5.240	7.600	0,100
30	63006 2RS	55	19	1,0	10.640	6.640	6.400	0,160
35	63007 2RS	62	20	1,0	12.720	8.160	5.600	0,210
40	63008 2RS	68	21	1,0	13.440	9.280	5.040	0,260
45	63009 2RS	75	23	1,0	16.640	11.680	4.480	0,340
50	63010 2RS	80	23	1,0	17.280	12.800	4.000	0,370



Inner bore <i>d</i> mm	Bearing number	Principal dimensions			Basic load ratings		Max runout speed		Weight kg
		<i>D</i>	<i>B</i> mm	<i>r</i> _{1,2} mm	dynamic <i>C</i> N	static <i>C</i> ₀	grease r/min	oil r/min	
10	4200 A	30	14	0,6	7.384	4.160	14.400	17.600	0,049
12	4201 A	32	14	0,6	8.480	4.960	13.600	16.000	0,053
15	4202 A	35	14	0,6	9.520	6.000	11.200	13.600	0,059
17	4203 A	40	16	0,6	11.840	7.600	9.600	12.000	0,090
20	4204 A	47	18	1,0	14.240	10.000	8.000	10.400	0,140
25	4205 A	52	18	1,0	15.200	11.680	7.200	8.800	0,160
30	4206 A	62	20	1,0	20.800	16.640	6.400	7.600	0,260
35	4207 A	72	23	1,1	28.080	22.800	5.360	6.400	0,400
40	4208 A	80	23	1,1	29.680	26.000	4.800	5.600	0,500
45	4209 A	85	23	1,1	31.200	28.800	4.480	5.360	0,540
50	4210 A	90	23	1,1	32.800	32.000	4.000	4.800	0,580
55	4211 A	100	25	1,5	35.920	35.200	3.840	4.480	0,800
60	4212 A	110	28	1,5	45.760	44.000	3.600	4.240	1,100
65	4213 A	120	31	1,5	54.080	53.600	3.200	3.840	1,450



Inner bore d mm	Bearing number	Principal dimensions			Basic load ratings		Max runout speed		Weight kg
		D	B mm	$r_{1,2}$ mm	dynamic C N	static C_0	grease r/min	oil r/min	
12	4301 A	37	17	1,0	10.400	6.240	12.000	14.400	0,092
15	4302 A	42	17	1,0	11.840	7.600	9.600	12.000	0,120
17	4303 A	47	19	1,0	15.600	10.560	8.000	10.400	0,160
20	4304 A	52	21	1,1	18.720	12.800	7.600	9.600	0,210
25	4305 A	62	24	1,1	25.520	17.920	6.800	8.000	0,340
30	4306 A	72	27	1,1	32.800	24.000	5.600	6.800	0,500
35	4307 A	80	31	1,5	40.560	30.400	5.040	6.000	0,690
40	4308 A	90	33	1,5	44.720	36.000	4.480	5.360	0,950
45	4309 A	100	36	1,5	55.120	44.800	4.000	4.800	1,250
50	4310 A	110	40	2,0	65.520	55.600	3.600	4.240	1,700
55	4311 A	120	43	2,0	78.000	66.400	3.440	4.000	2,150
60	4312 A	130	46	2,1	89.600	78.400	3.040	3.600	2,650
65	4313 A	140	48	2,1	96.800	84.800	2.880	3.440	3,250

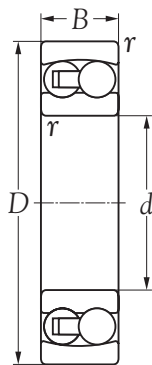


NOTE



OKO[®] PRODUCT INFORMATION

Self-aligning Ball Bearing

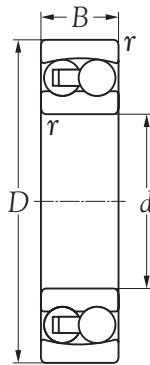


Cylindrical bore



Tapered bore

Inner bore d mm	Bearing number		Principal dimensions			Basic load ratings		Max runout speed		Weight kg
	with cylindrical bore	with tapered bore	D	B mm	r	dynamic C N	static C_0	grease r/min	oil r/min	
10	1200 E		30	9	0,6	4.424	944	19.200	24.000	0,034
12	1201 E		32	10	0,6	4.992	1.144	17.600	22.400	0,040
15	1202 E		35	11	0,6	5.928	1.408	15.200	19.200	0,049
17	1203 E		40	12	0,6	7.072	1.760	14.400	17.600	0,073
20	1204 E	1204 EK	47	14	1,0	10.160	2.720	12.000	14.400	0,120
25	1205 E	1205 EK	52	15	1,0	11.440	3.200	10.400	12.800	0,140
30	1206 E	1206 EK	62	16	1,0	12.480	3.720	8.000	10.400	0,220
35	1207 E	1207 EK	72	17	1,1	15.200	4.800	7.200	8.800	0,320
40	1208 E	1208 EK	80	18	1,1	15.920	5.560	6.800	8.000	0,420
45	1209 E	1209 EK	85	19	1,1	18.320	6.240	6.000	7.200	0,470
50	1210 E	1210 EK	90	20	1,1	21.200	7.320	5.600	6.800	0,530
55	1211 E	1211 EK	100	21	1,5	22.080	8.480	5.040	6.000	0,710
60	1212 E	1212 EK	110	22	1,5	24.960	9.760	4.480	5.360	0,900
65	1213	1213 EK	120	23	1,5	28.080	11.200	4.240	5.040	1,150
70	1214		125	24	1,5	27.600	10.960	4.000	4.800	1,250
75	1215	1215 K	130	25	1,5	31.200	12.480	3.840	4.480	1,350
80	1216	1216 K	140	26	2,0	31.760	13.600	3.600	4.240	1,650
85	1217	1217 K	150	28	2,0	39.040	16.640	3.200	3.840	2,050
90	1218	1218 K	160	30	2,0	45.760	18.880	3.040	3.600	2,500

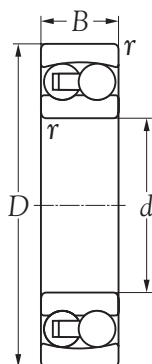


Cylindrical bore



Tapered bore

Inner bore d mm	Bearing number		Principal dimensions			Basic load ratings		Max runout speed		Weight kg
	with cylindrical bore	with tapered bore	D	B mm	r	dynamic C N	static C_0	grease oil	r/min	
12	1301 E		37	12	1,0	7.488	1.728	14.400	17.600	0,067
15	1302 E		42	13	1,0	8.640	2.080	13.600	16.000	0,094
17	1303 E		47	14	1,0	10.160	2.720	11.200	13.600	0,130
20	1304 E	1304 EK	52	15	1,1	11.440	3.200	9.600	12.000	0,160
25	1305 E	1305 EK	62	17	1,1	15.200	4.320	7.600	9.600	0,260
30	1306 E	1306 EK	72	19	1,1	18.000	5.440	7.200	8.800	0,390
35	1307 E	1307 EK	80	21	1,5	21.200	6.800	6.000	7.200	0,510
40	1308 E	1308 EK	90	23	1,5	27.040	8.960	5.360	6.400	0,720
45	1309 E	1309 EK	100	25	1,5	31.200	10.720	5.040	6.000	0,960
50	1310 E	1310 EK	110	27	2,0	34.880	11.200	4.480	5.360	1,200
55	1311 E	1311 EK	120	29	2,0	40.560	14.400	4.000	4.800	1,600
60	1312 E	1312 EK	130	31	2,1	46.800	17.600	3.600	4.240	1,950
65	1313 E	1313 EK	140	33	2,1	52.000	20.400	3.440	4.000	2,450
70	1314		150	35	2,1	59.280	22.000	3.200	3.840	3,000
75	1315	1315 K	160	37	2,1	63.440	24.000	3.040	3.600	3,550
80	1316	1316 K	170	39	2,1	70.720	26.800	2.880	3.440	4,200
85	1317	1317 K	180	41	3,0	78.000	30.400	2.720	3.200	5,000
90	1318	1318 K	190	43	3,0	93.600	35.200	2.560	3.040	5,800

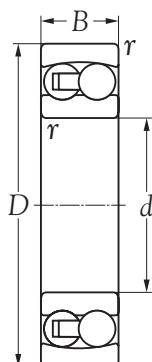


Cylindrical bore



Tapered bore

Inner bore d mm	Bearing number		Principal dimensions			Basic load ratings		Max runout speed		Weight kg
	With cylindrical bore	With tapered bore	D	B mm	r	dynamic C N	static C_0	grease r/min	oil r/min	
10	2200 E		30	14	0,6	6.448	1.384	17.600	22.400	0,047
12	2201 E		32	14	0,6	6.816	1.520	16.000	20.800	0,053
15	2202 E		35	14	0,6	6.968	1.632	14.400	17.600	0,060
17	2203 E		40	16	0,6	8.480	2.040	13.600	16.000	0,088
20	2204 E		47	18	1,0	13.440	3.320	11.200	13.600	0,140
25	2205 E	2205 EK	52	18	1,0	13.440	3.520	8.800	11.200	0,160
30	2206 E	2206 EK	62	20	1,0	19.040	5.360	7.600	9.600	0,260
35	2207 E	2207 EK	72	23	1,1	24.560	7.040	6.800	8.000	0,400
40	2208 E	2208 EK	80	23	1,1	25.520	8.000	6.000	7.200	0,510
45	2209 E	2209 EK	85	23	1,1	26.000	8.480	5.600	6.800	0,550
50	2210 E	2210 EK	90	23	1,1	27.040	8.960	5.040	6.000	0,600
55	2211 E	2211 EK	100	25	1,5	31.200	10.720	4.800	5.600	0,810
60	2212 E	2212 EK	110	28	1,5	39.040	13.600	4.240	5.040	1,100
65	2213 E	2213 EK	120	31	1,5	45.760	16.000	4.000	4.800	1,450
70	2214		125	31	1,5	35.360	13.600	3.840	4.480	1,500
75	2215	2215 K	130	31	1,5	35.360	14.400	3.600	4.240	1,600
80	2216	2216 K	140	33	2,0	52.000	20.400	3.200	3.840	2,000
85	2217	2217 K	150	36	2,0	46.800	18.880	3.040	3.600	2,500
90	2218	2218 K	160	40	2,0	56.160	22.800	2.880	3.440	3,400



Cylindrical bore



Tapered bore

Inner bore d mm	Bearing number		Principal dimensions			Basic load ratings		Max runout speed		Weight kg
	With cylindrical bore	With tapered bore	D	B mm	r	dynamic C N	static C_0	grease r/min	oil r/min	
12	2301 E		37	17	1,0	9.360	2.160	13.600	16.000	0,095
15	2302 E		42	17	1,0	9.520	2.320	12.000	14.400	0,110
17	2303 E		47	19	1,0	11.680	2.840	10.400	12.800	0,160
20	2304 E		52	21	1,1	14.560	3.800	8.800	11.200	0,210
25	2305 E	2305 EK	62	24	1,1	19.360	5.240	7.600	9.600	0,340
30	2306 E	2306 EK	72	27	1,1	24.960	7.040	6.800	8.000	0,500
35	2307 E	2307 EK	80	31	1,5	31.760	8.960	5.600	6.800	0,680
40	2308 E	2308 EK	90	33	1,5	43.200	12.800	5.040	6.000	0,930
45	2309 E	2309 EK	100	36	1,5	50.960	15.440	4.480	5.360	1,250
50	2310 E	2310 EK	110	40	2,0	50.960	16.000	4.240	5.040	1,650
55	2311 E	2311 EK	120	43	2,0	60.880	19.200	3.840	4.480	2,100
60	2312 E	2312 EK	130	46	2,1	69.680	22.800	3.600	4.240	2,600
65	2313 E	2313 EK	140	48	2,1	76.480	26.000	3.200	3.840	3,250
70	2314 E		150	51	2,1	88.800	30.000	3.040	3.600	3,900
75	2315 E	2315 EK	160	55	2,1	99.200	34.400	2.720	3.200	4,700
80	2316 E	2316 EK	170	58	2,1	108.000	39.200	2.560	3.040	6,100
85	2317 E	2317 EK	180	60	3,0	112.000	40.800	2.400	2.880	7,050
90	2318 E	2318 EK	190	64	3,0	122.400	45.600	2.240	2.720	8,450

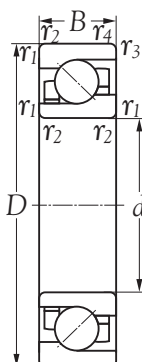


NOTE



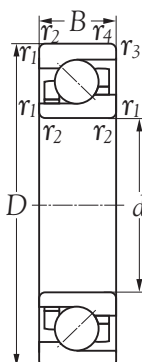
OKO® PRODUCT INFORMATION

Angular Contact Ball Bearings



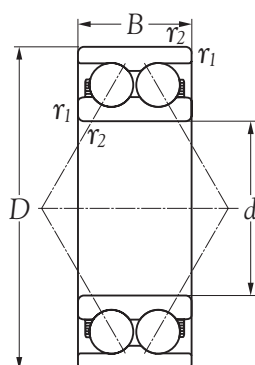
Inner bore <i>d</i> mm	Bearing number	Principal dimensions				Basic load ratings		Max runout speed		Weight kg
		<i>D</i>	<i>B</i> mm	<i>r</i> _{1,2} mm	<i>r</i> _{3,4} mm	dynamic <i>C</i> N	static <i>C</i> ₀	grease r/min	oil r/min	
10	7200 BE	30	9	0,6	0,3	5.616	2.680	15.200	22.400	0,030
12	7201 BE	32	10	0,6	0,3	6.088	3.040	14.400	20.800	0,036
15	7202 BE	35	11	0,6	0,3	7.072	3.840	13.600	19.200	0,045
17	7203 BE	40	12	0,6	0,6	8.880	4.880	12.000	16.000	0,065
20	7204 BE	47	14	1,0	0,6	11.200	6.640	9.600	13.600	0,110
25	7205 BE	52	15	1,0	0,6	12.480	8.160	8.000	12.000	0,130
30	7206 BE	62	16	1,0	0,6	19.040	12.480	6.800	9.600	0,200
35	7207 BE	72	17	1,1	0,6	24.560	16.640	6.400	8.800	0,280
40	7208 BE	80	18	1,1	0,6	29.120	20.800	5.600	7.600	0,370
45	7209 BE	85	19	1,1	0,6	30.160	22.400	5.360	7.200	0,420
50	7210 BE	90	20	1,1	0,6	31.200	24.400	4.800	6.400	0,470
55	7211 BE	100	21	1,5	1,0	39.040	30.400	4.480	6.000	0,620
60	7212 BE	110	22	1,5	1,0	45.760	36.400	4.000	5.360	0,800
65	7213 BE	120	23	1,5	1,0	53.040	43.200	3.600	4.800	1,000
70	7214 BE	125	24	1,5	1,0	57.200	48.000	3.440	4.480	1,100
75	7215 BE	130	25	1,5	1,0	58.240	51.200	3.440	4.480	1,200
80	7216 BE	140	26	2,0	1,0	66.560	58.800	3.040	4.000	1,450
85	7217 BE	150	28	2,0	1,0	76.480	66.400	2.880	3.840	1,850
90	7218 BE	160	30	2,0	1,0	86.400	77.200	2.720	3.600	2,300
95	7219 BE	170	32	2,1	1,1	99.200	86.400	2.560	3.440	2,700
100	7220 BE	180	34	2,1	1,1	108.000	97.600	2.400	3.200	3,300
105	7221 BE	190	36	2,1	1,1	118.400	109.600	2.240	3.040	3,950
110	7222 BE	200	38	2,1	1,1	130.400	122.400	2.080	2.880	4,600
120	7224 B	215	40	2,1	1,1	132.000	130.400	1.760	2.560	6,100
130	7226 B	230	40	3,0	1,1	148.800	154.400	1.520	2.240	6,950
140	7228 B	250	42	3,0	1,1	145.600	156.800	1.440	2.080	8,850
150	7230 B	270	45	3,0	1,1	156.000	179.200	1.360	1.920	11,500
160	7232 B	290	48	3,0	1,1	159.200	188.800	1.280	1.760	14,000
170	7234 B	310	52	4,0	1,5	176.800	216.000	1.280	1.760	17,500
180	7236 B	320	52	4,0	1,5	200.800	256.000	1.200	1.600	18,000
190	7238 B	340	55	4,0	1,5	220.800	284.000	1.120	1.520	22,000
220	7244 B	400	65	4,0	1,5	255.200	372.000	880	1.280	37,000
240	7248 B	440	72	4,0	1,5	291.200	432.000	800	1.200	49,000

Remark: The contact angle is 40° (suffix B in the designation), bearing of the BE design have a reinforced ball set and a glass fibre reinforced polyamide cage.

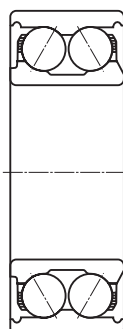


Inner bore <i>d</i> mm	Bearing number	Principal dimensions				Basic load ratings		Max runout speed		Weight kg
		<i>D</i>	<i>B</i>	<i>r</i> _{1,2} mm	<i>r</i> _{3,4} mm	dynamic <i>C</i> N	static <i>C</i> ₀	grease r/min	oil r/min	
12	7301 BE	37	12	1,0	0,6	8.480	4.000	13.600	19.200	0,060
15	7302 BE	42	13	1,0	0,6	10.400	5.360	12.000	16.000	0,080
17	7303 BE	47	14	1,0	0,6	12.720	6.640	10.400	14.400	0,110
20	7304 BE	52	15	1,1	0,6	15.200	8.320	8.800	12.800	0,140
25	7305 BE	62	17	1,1	0,6	20.800	12.480	7.200	10.400	0,230
30	7306 BE	72	19	1,1	0,6	27.600	16.960	6.400	8.800	0,340
35	7307 BE	80	21	1,5	1,0	31.200	19.600	6.000	8.000	0,450
40	7308 BE	90	23	1,5	1,0	39.520	26.800	5.360	7.200	0,630
45	7309 BE	100	25	1,5	1,0	48.400	33.200	4.800	6.400	0,850
50	7310 BE	110	27	2,0	1,0	59.280	40.800	4.240	5.600	1,100
55	7311 BE	120	29	2,0	1,0	68.160	48.000	3.840	5.040	1,400
60	7312 BE	130	31	2,1	1,1	76.480	55.600	3.600	4.800	1,750
65	7313 BE	140	33	2,1	1,1	86.400	64.000	3.440	4.480	2,150
70	7314 BE	150	35	2,1	1,1	95.200	72.000	3.040	4.000	2,650
75	7315 BE	160	37	2,1	1,1	106.400	84.800	2.880	3.840	3,200
80	7316 BE	170	39	2,1	1,1	114.400	94.400	2.720	3.600	3,800
85	7317 BE	180	41	3,0	1,1	122.400	105.600	2.560	3.440	4,450
90	7318 BE	190	43	3,0	1,1	132.000	116.800	2.400	3.200	5,200
95	7319 BE	200	45	3,0	1,1	142.400	130.400	2.240	3.040	6,050
100	7320 BE	215	47	3,0	1,1	162.400	152.000	2.080	2.880	7,500
105	7321 BE	225	49	3,0	1,1	169.600	166.400	1.920	2.720	8,550
110	7322 BE	240	50	3,0	1,1	180.000	179.200	1.760	2.560	10,000
120	7324 B	260	55	3,0	1,1	190.400	200.000	1.520	2.240	14,500
130	7326 B	280	58	4,0	1,5	200.800	216.000	1.440	2.080	17,500
140	7328 B	300	62	4,0	1,5	220.800	248.000	1.360	1.920	21,500
150	7330 B	320	65	4,0	1,5	241.600	292.000	1.280	1.760	26,000
170	7334 B	360	72	4,0	1,5	286.400	364.000	1.120	1.520	36,000
180	7336 B	380	75	4,0	2,0	296.800	392.000	1.040	1.440	42,000
190	7338 B	400	78	5,0	2,0	328.000	448.000	960	1.360	48,500

Remark: The contact angle is 40° (suffix B in the designation), bearing of the BE design have a reinforced ball set and a glass fibre reinforced polyamide cage.



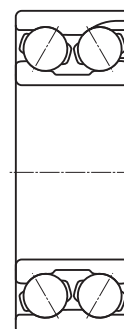
A design
up to and incl. 3207



A design
large bearings



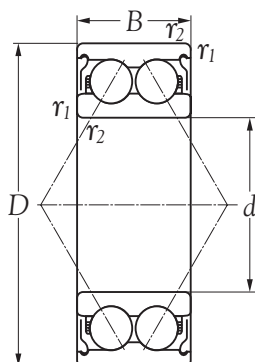
E design



Original design
(no suffix)

Inner bore <i>d</i> mm	Bearing number	Principal dimensions			Basic load ratings		Max runout speed		Weight kg
		<i>D</i>	<i>B</i> mm	<i>r</i> _{1,2} mm	dynamic <i>C</i> N	static <i>C</i> ₀	Grease r/min	oil r/min	
10	3200 A	30	14,0	0,6	5.928	3.440	12.800	17.600	0,051
12	3201 A	32	15,9	0,6	8.080	4.480	12.000	16.000	0,058
15	3202 A	35	15,9	0,6	8.960	5.440	9.600	13.600	0,066
17	3203 A	40	17,5	0,6	11.200	6.920	8.000	12.000	0,096
20	3204 A	47	20,6	1,0	14.880	9.600	7.200	10.400	0,160
25	3205 A	52	20,6	1,0	16.240	11.200	6.400	8.800	0,180
30	3206 A	62	23,8	1,0	22.480	16.000	5.600	7.600	0,290
35	3207 A	72	27,0	1,1	29.680	22.000	4.800	6.400	0,440
40	3208 A	80	30,2	1,1	35.920	26.800	4.480	6.000	0,580
40	3208 E	80	30,2	1,1	38.720	38.400	4.480	6.000	0,640
45	3209 A	85	30,2	1,1	38.000	30.400	4.000	5.360	0,630
45	3209 E	85	30,2	1,1	40.080	42.400	4.000	5.360	0,690
50	3210 A	90	30,2	1,1	38.000	31.200	3.840	5.040	0,660
50	3210 E	90	30,2	1,1	42.240	46.800	3.840	5.040	0,740
55	3211	100	33,3	1,5	45.760	53.600	3.440	4.480	1,050
60	3212	110	36,5	1,5	57.680	68.000	3.040	4.000	1,400
65	3213	120	38,1	1,5	62.480	76.000	2.880	3.840	1,750
70	3214	125	39,7	1,5	61.200	78.400	2.560	3.440	1,900
75	3215	130	41,3	1,5	67.360	88.000	2.560	3.440	2,100
80	3216	140	44,4	2,0	80.800	107.200	2.240	3.040	2,650
85	3217	150	49,2	2,0	88.000	116.800	2.080	2.880	3,400
90	3218	160	52,4	2,0	102.400	138.400	1.920	2.720	4,150
95	3219	170	55,6	2,1	117.600	163.200	1.760	2.560	5,000
100	3220	180	60,3	2,1	125.600	176.000	1.600	2.400	6,100
110	3222	200	69,8	2,1	152.000	216.000	1.520	2.240	8,800

Remark: All the bearings have a contact angle of 32° , bearings of the A and E designs are also available as standard with shields (non-rubbing seals) and seals (rubbing seals) at both sides.



A design
up to and incl. 3207



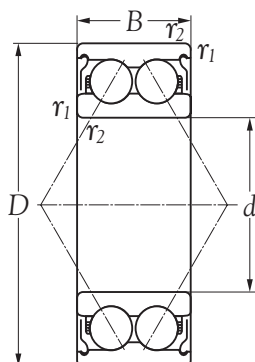
A design
large bearings



E design

Inner bore d mm	Bearing number	D	Principal dimensions		Basic load ratings		Max runout speed r/min	Weight kg
			B mm	$r_{1,2}$ mm	dynamic C N	static C_0		
10	3200 A-2Z	30	14,0	0,6	5.928	3.440	12.800	0,051
12	3201 A-2Z	32	15,9	0,6	8.080	4.480	12.000	0,058
15	3202 A-2Z	35	15,9	0,6	8.960	5.440	9.600	0,066
17	3203 A-2Z	40	17,5	0,6	11.200	6.920	8.000	0,096
20	3204 A-2Z	47	20,6	1,0	14.880	9.600	7.200	0,160
25	3205 A-2Z	52	20,6	1,0	16.240	11.200	6.400	0,180
30	3206 A-2Z	62	23,8	1,0	22.480	16.000	5.600	0,290
35	3207 A-2Z	72	27,0	1,1	29.680	22.000	4.800	0,440
40	3208 A-2Z	80	30,2	1,1	35.920	26.800	4.480	0,580
40	3208 E-2Z	80	30,2	1,1	38.720	38.400	4.480	0,640
45	3209 A-2Z	85	30,2	1,1	38.000	30.400	4.000	0,630
45	3209 E-2Z	85	30,2	1,1	40.080	42.400	4.000	0,690
50	3210 A-2Z	90	30,2	1,1	38.000	31.200	3.840	0,660
50	3210 E-2Z	90	30,2	1,1	42.240	46.800	3.840	0,740

Remark: All the bearings have a contact angle of 32° , bearings of the A and E designs are also available as standard with shields (non-rubbing seals) and seals (rubbing seals) at both sides.



A design
up to and incl. 3207



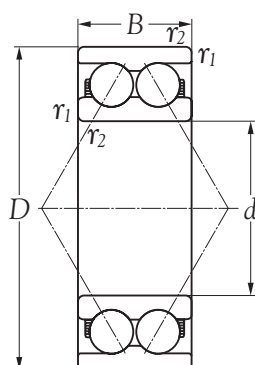
A design
large bearings



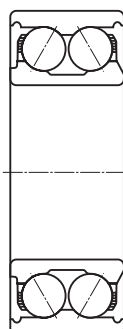
E design

Inner bore <i>d</i> mm	Bearing number	Principal dimensions			Basic load ratings		Max runout speed r/min	Weight kg
		<i>D</i>	<i>B</i> mm	<i>r</i> _{1,2} mm	dynamic <i>C</i> N	static <i>C</i> ₀		
10	3200 A-2RS	30	14,0	0,6	5.928	3.440	12.800	0,051
12	3201 A-2RS	32	15,9	0,6	8.080	4.480	12.000	0,058
15	3202 A-2RS	35	15,9	0,6	8.960	5.440	9.600	0,066
17	3203 A-2RS	40	17,5	0,6	11.200	6.920	8.000	0,096
20	3204 A-2RS	47	20,6	1,0	14.880	9.600	7.200	0,160
25	3205 A-2RS	52	20,6	1,0	16.240	11.200	6.400	0,180
30	3206 A-2RS	62	23,8	1,0	22.480	16.000	5.600	0,290
35	3207 A-2RS	72	27,0	1,1	29.680	22.000	4.800	0,440
40	3208 A-2RS	80	30,2	1,1	35.920	26.800	4.480	0,580
40	3208 E-2RS	80	30,2	1,1	38.720	38.400	4.480	0,640
45	3209 A-2RS	85	30,2	1,1	38.000	30.400	4.000	0,630
45	3209 E-2RS	85	30,2	1,1	40.080	42.400	4.000	0,690
50	3210 A-2RS	90	30,2	1,1	38.000	31.200	3.840	0,660
50	3210 E-2RS	90	30,2	1,1	42.240	46.800	3.840	0,740

Remark: All the bearings have a contact angle of 32° , bearings of the A and E designs are also available as standard with shields (non-rubbing seals) and seals (rubbing seals) at both sides.



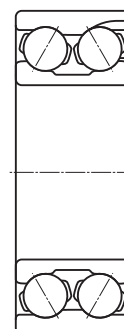
A design
up to and incl. 3305



A design
large bearings



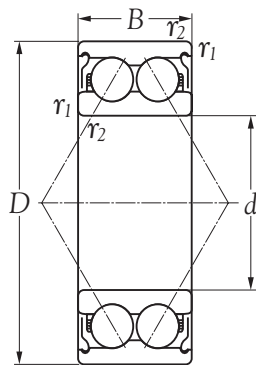
E design



Original design
(no suffix)

Inner bore d mm	Bearing number	D	Principal dimensions		Basic load ratings		Max runout speed		Weight kg
			B mm	$r_{1,2}$ mm	dynamic C N	static C_0	Grease r/min	oil r/min	
15	3302 A	42	19,0	1,0	12.080	7.320	8.000	12.000	0,130
17	3303 A	47	22,2	1,0	16.960	10.000	7.600	11.200	0,180
20	3304 A	52	22,2	1,1	17.680	11.440	6.800	9.600	0,220
25	3305 A	62	25,4	1,1	24.960	16.640	6.000	8.000	0,350
30	3306 A	72	30,2	1,1	32.800	22.800	5.040	6.800	0,530
30	3306 E	72	30,2	1,1	36.560	34.000	5.040	6.800	0,590
35	3307 A	80	34,9	1,5	39.040	27.200	4.480	6.000	0,730
35	3307 E	80	34,9	1,5	43.120	40.800	4.480	6.000	0,790
40	3308 A	90	36,5	1,5	47.360	34.400	4.000	5.360	0,950
40	3308 E	90	36,5	1,5	52.800	51.200	4.000	5.360	1,050
45	3309	100	39,7	1,5	57.680	58.800	3.600	4.800	1,400
50	3310	110	44,4	2,0	70.400	77.200	3.200	4.240	1,950
55	3311	120	49,2	2,0	76.160	86.400	3.040	4.000	2,550
60	3312	130	54,0	2,1	89.600	101.600	2.720	3.600	3,250
65	3313	140	58,7	2,1	102.400	120.000	2.560	3.440	4,100
70	3314	150	63,5	2,1	117.600	138.400	2.240	3.040	5,050
75	3315	160	68,3	2,1	125.600	148.800	2.080	2.880	6,150
80	3316	170	68,3	2,1	140.800	169.600	1.920	2.720	6,950
85	3317	180	73,0	3,0	155.200	192.000	1.760	2.560	8,300
90	3318	190	73,0	3,0	176.000	228.000	1.600	2.400	9,250
95	3319	200	77,8	3,0	190.400	252.000	1.520	2.240	11,000
100	3320	215	82,6	3,0	204.000	284.000	1.440	2.080	13,500
110	3322	240	92,1	3,0	233.600	340.000	1.360	1.920	19,000

Remark: All the bearings have a contact angle of 32° , bearings of the A and E designs are also available as standard with shields (non-rubbing seals) and seals (rubbing seals) at both sides.



A design
up to and incl. 3305



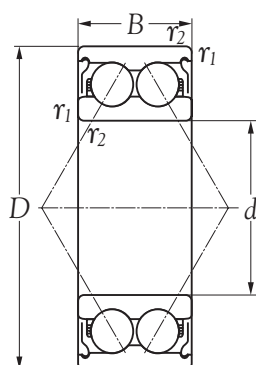
A design
large bearings



E design

Inner bore d mm	Bearing number	D	Principal dimensions		Basic load ratings		Max runout speed r/min	Weight kg
			B mm	$r_{1,2}$ mm	dynamic C N	static C_0		
15	3302 A-2Z	42	19,0	1,0	12.080	7.320	8.000	0,130
17	3303 A-2Z	47	22,2	1,0	16.960	10.000	7.600	0,180
20	3304 A-2Z	52	22,2	1,1	17.680	11.440	6.800	0,220
25	3305 A-2Z	62	25,4	1,1	24.960	16.640	6.000	0,350
30	3306 A-2Z	72	30,2	1,1	32.800	22.800	5.040	0,530
30	3306 E-2Z	72	30,2	1,1	36.560	34.000	5.040	0,590
35	3307 A-2Z	80	34,9	1,5	39.040	27.200	4.480	0,730
35	3307 E-2Z	80	34,9	1,5	43.120	40.800	4.480	0,790
40	3308 A-2Z	90	36,5	1,5	47.360	34.400	4.000	0,950
40	3308 E-2Z	90	36,5	1,5	52.800	51.200	4.000	1,050

Remark: All the bearings have a contact angle of 32° , bearings of the A and E designs are also available as standard with shields (non-rubbing seals) and seals (rubbing seals) at both sides.



A design
up to and incl. 3305



A design
large bearings



E design

Inner bore d mm	Bearing number	D	Principal dimensions		Basic load ratings		Max runout speed r/min	Weight kg
			B mm	$r_{1,2}$ mm	dynamic C N	static C_0		
15	3302 A-2RS	42	19,0	1,0	12.080	7.320	8.000	0,130
17	3303 A-2RS	47	22,2	1,0	16.960	10.000	7.600	0,180
20	3304 A-2RS	52	22,2	1,1	17.680	11.440	6.800	0,220
25	3305 A-2RS	62	25,4	1,1	24.960	16.640	6.000	0,350
30	3306 A-2RS	72	30,2	1,1	32.800	22.800	5.040	0,530
30	3306 E-2RS	72	30,2	1,1	36.560	34.000	5.040	0,590
35	3307 A-2RS	80	34,9	1,5	39.040	27.200	4.480	0,730
35	3307 E-2RS	80	34,9	1,5	43.120	40.800	4.480	0,790
40	3308 A-2RS	90	36,5	1,5	47.360	34.400	4.000	0,950
40	3308 E-2RS	90	36,5	1,5	52.800	51.200	4.000	1,050

Remark: All the bearings have a contact angle of 32° , bearings of the A and E designs are also available as standard with shields (non-rubbing seals) and seals (rubbing seals) at both sides.

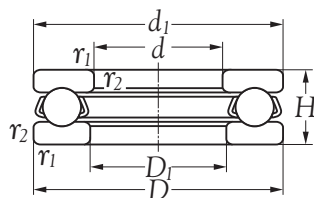


NOTE

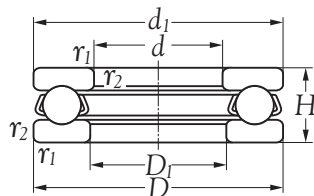


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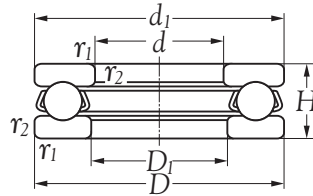
Thrust Ball Bearings



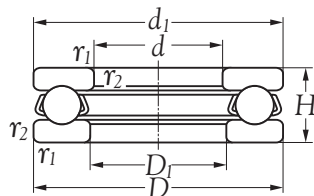
Inner bore <i>d</i> mm	Bearing number	Principal dimensions					Basic load ratings		Fatigue load limit <i>P_u</i> N	Max runout speed		Weight kg
		<i>D</i>	<i>H</i>	<i>d₁</i> mm	<i>D₁</i> mm	<i>r_{1,2}</i> mm	dynamic <i>C</i> N	static <i>C₀</i> N		grease r/min	oil r/min	
10	51100	24	9	24	11	0,3	7.960	11.200	560	5.600	7.600	0,020
12	51101	26	9	26	13	0,3	8.320	12.240	620	5.360	7.200	0,022
15	51102	28	9	28	16	0,3	7.488	11.200	560	5.040	6.800	0,023
17	51103	30	9	30	18	0,3	7.800	12.240	620	5.040	6.800	0,025
20	51104	35	10	35	21	0,3	10.160	16.640	850	4.480	6.000	0,038
25	51105	42	11	42	26	0,6	12.720	23.200	1.160	3.840	5.040	0,056
30	51106	47	11	47	32	0,6	13.440	26.800	1.340	3.600	4.800	0,063
35	51107	52	12	52	37	0,6	13.920	30.000	1.530	3.440	4.480	0,080
40	51108	60	13	60	42	0,6	18.720	40.000	2.040	3.040	4.000	0,120
45	51109	65	14	65	47	0,6	19.360	45.600	2.280	2.720	3.600	0,140
50	51110	70	14	70	52	0,6	20.400	50.400	2.550	2.560	3.440	0,160
55	51111	78	16	78	57	0,6	24.560	62.400	3.100	2.240	3.040	0,230
60	51112	85	17	85	62	1,0	28.640	72.000	3.600	2.080	2.880	0,200
65	51113	90	18	90	67	1,0	29.680	78.400	4.000	1.920	2.720	0,330
70	51114	95	18	95	72	1,0	30.160	83.200	4.150	1.920	2.720	0,350
75	51115	100	19	100	77	1,0	35.360	109.600	5.500	1.760	2.560	0,400
80	51116	105	19	105	82	1,0	35.920	112.000	5.700	1.600	2.400	0,420
85	51117	110	19	110	87	1,0	36.960	120.000	6.000	1.600	2.400	0,440
90	51118	120	22	120	92	1,0	47.360	152.000	7.500	1.440	2.080	0,670
100	51120	135	25	135	102	1,0	68.160	216.000	10.000	1.360	1.920	0,970
110	51122	145	25	145	112	1,0	69.680	232.000	10.200	1.280	1.760	1,050
120	51124	155	25	155	122	1,0	70.720	248.000	10.600	1.280	1.760	1,150
130	51126	170	30	170	132	1,0	88.800	312.000	12.900	1.120	1.520	1,850
140	51128	180	31	178	142	1,0	88.800	320.000	12.900	1.040	1.440	2,050
150	51130	190	31	188	152	1,0	88.800	320.000	12.500	960	1.360	2,200
160	51132	200	31	198	162	1,0	89.600	340.000	12.900	960	1.360	2,350
170	51134	215	34	213	172	1,1	106.400	400.000	14.300	880	1.280	3,300
180	51136	225	34	222	183	1,1	108.000	424.000	15.000	800	1.200	3,500
190	51138	240	37	237	193	1,1	137.600	524.000	18.000	760	1.120	4,050
200	51140	250	37	247	203	1,1	134.400	524.000	17.600	760	1.120	4,250
220	51144	270	37	267	223	1,1	142.400	588.000	19.000	720	1.040	4,600



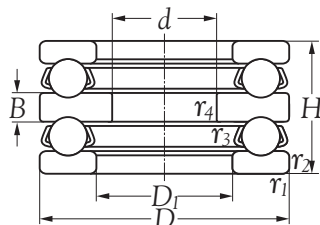
Inner bore <i>d</i> mm	Bearing number	Principal dimensions					Basic load ratings		Fatigue load limit <i>Pu</i> N	Max runout speed		Weight kg
		<i>D</i>	<i>H</i>	<i>d</i> mm	<i>D</i> ₁	<i>r</i> _{1,2} mm	dynamic <i>C</i> N	static <i>C</i> ₀		grease r/min	oil r/min	
10	51200	26	11	26	12	0,6	10.160	13.600	695	4.800	6.400	0,031
12	51201	28	11	28	14	0,6	10.640	15.200	765	4.800	6.400	0,034
15	51202	32	12	32	17	0,6	13.200	20.000	1.000	4.240	5.600	0,046
17	51203	35	12	35	19	0,6	13.760	22.000	1.100	4.000	5.360	0,053
20	51204	40	14	40	22	0,6	18.000	30.000	1.530	3.600	4.800	0,083
25	51205	47	15	47	27	0,6	22.080	40.000	2.040	3.200	4.240	0,110
30	51206	52	16	52	32	0,6	20.400	38.000	1.900	2.880	3.840	0,130
35	51207	62	18	62	37	1,0	28.080	53.600	2.700	2.400	3.200	0,220
40	51208	68	19	68	42	1,0	37.440	78.400	4.000	2.240	3.040	0,280
45	51209	73	20	73	47	1,0	31.200	64.000	3.200	2.080	2.880	0,300
50	51210	78	22	78	52	1,0	39.520	84.800	4.300	1.920	2.720	0,370
55	51211	90	25	90	57	1,0	49.440	107.200	5.400	1.520	2.240	0,590
60	51212	95	26	95	62	1,0	49.920	112.000	5.600	1.520	2.240	0,650
65	51213	100	27	100	67	1,0	50.960	120.000	6.000	1.440	2.080	0,780
70	51214	105	27	105	72	1,0	52.000	128.000	6.400	1.440	2.080	0,790
75	51215	110	27	110	77	1,0	54.080	136.000	6.800	1.360	1.920	0,830
80	51216	115	28	115	82	1,0	60.880	152.000	7.650	1.360	1.920	0,910
85	51217	125	31	125	88	1,0	78.000	200.000	9.800	1.280	1.760	1,200
90	51218	135	35	135	93	1,1	95.200	240.000	11.400	1.200	1.600	1,700
100	51220	150	38	150	103	1,1	99.200	256.000	11.400	1.040	1.440	2,200
110	51222	160	38	160	113	1,1	104.000	288.000	12.500	960	1.360	2,400
120	51224	170	39	170	123	1,1	112.000	320.000	13.400	880	1.280	2,650
130	51226	190	45	187	133	1,5	148.800	432.000	17.000	760	1.120	4,000
140	51228	200	46	197	143	1,5	152.000	456.000	17.600	760	1.120	4,350
150	51230	215	50	212	153	1,5	190.400	588.000	22.000	720	1.040	6,100
160	51232	225	51	222	163	1,5	193.600	624.000	22.800	680	960	6,550
170	51234	240	55	237	173	1,5	228.800	744.000	26.000	640	880	8,150
180	51236	250	56	245	183	1,5	236.800	800.000	27.500	640	880	8,600
190	51238	270	62	265	194	2,0	265.600	928.000	31.000	600	800	12,000
200	51240	280	62	275	204	2,0	270.400	976.000	31.500	600	800	12,000
220	51244	300	63	295	224	2,0	280.800	1.056.000	33.500	560	760	13,000
240	51248	340	78	335	244	2,1	369.600	1.488.000	44.000	480	640	23,000
260	51252	360	79	355	264	2,1	380.000	1.600.000	45.500	448	600	25,000
280	51256	380	80	375	284	2,1	395.200	1.728.000	47.500	448	600	26,500



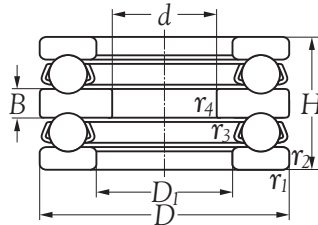
Inner bore d mm	Bearing number	Principal dimensions					Basic load ratings		Fatigue load limit P_u N	Max runout speed		Weight kg
		D	H	d_1 mm	D_1	$r_{1,2}$ mm	dynamic C N	static C_0		grease r/min	oil r/min	
25	51305	52	18	52	27	1,0	27.600	44.000	2.240	2.720	3.600	0,170
30	51306	60	21	60	32	1,0	30.160	52.400	2.650	2.240	3.040	0,260
35	51307	68	24	68	37	1,0	39.520	70.400	3.550	1.920	2.720	0,380
40	51308	78	26	78	42	1,0	49.440	89.600	4.500	1.600	2.400	0,530
45	51309	85	28	85	47	1,0	60.880	112.000	5.600	1.520	2.240	0,660
50	51310	95	31	95	52	1,1	70.720	138.400	6.950	1.440	2.080	0,940
55	51311	105	35	105	57	1,1	83.200	166.400	8.300	1.280	1.760	1,300
60	51312	110	35	110	62	1,1	80.800	166.400	8.300	1.280	1.760	1,350
65	51313	115	36	115	67	1,1	84.800	176.000	8.800	1.200	1.600	1,500
70	51314	125	40	125	72	1,1	108.000	240.000	11.800	1.120	1.520	2,000
75	51315	135	44	135	77	1,5	130.400	288.000	14.000	960	1.360	2,600
80	51316	140	44	140	82	1,5	127.200	288.000	13.700	960	1.360	2,700
85	51317	150	49	150	88	1,5	152.000	340.000	16.000	880	1.280	3,550
90	51318	155	50	155	93	1,5	156.000	372.000	16.600	800	1.200	3,800
100	51320	170	55	170	103	1,5	183.200	448.000	19.600	760	1.120	4,950
110	51322	190	63	187	113	2,0	220.800	576.000	24.000	680	960	7,850
120	51324	210	70	205	123	2,1	260.000	732.000	28.500	640	880	11,000
130	51326	225	75	220	134	2,1	286.400	848.000	32.000	600	800	13,000
140	51328	240	80	235	144	2,1	317.600	976.000	35.500	560	760	15,500
150	51330	250	80	245	154	2,1	328.000	1.032.000	36.500	536	720	16,500
160	51332	270	87	265	164	3,0	359.200	1.200.000	41.500	504	680	21,000
170	51334	280	87	275	174	3,0	374.400	1.280.000	43.000	480	640	22,000
180	51336	300	95	295	184	3,0	416.000	1.464.000	47.500	448	600	28,500
200	51340	340	110	335	205	4,0	499.200	1.920.000	58.500	384	504	44,500



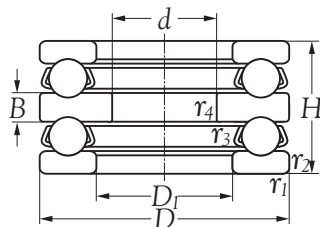
Inner bore d mm	Bearing number	Principal dimensions					Basic load ratings		Fatigue load limit P_u N	Max runout speed		Weight kg
		D	H	d_1 mm	D_1	$r_{1,2}$ mm	dynamic C N	static C_0		grease r/min	oil r/min	
25	51405	60	24	60	27	1,0	44.240	72.000	3.600	2.080	2.880	0,340
30	51406	70	28	70	32	1,0	58.240	100.000	5.100	1.600	2.400	0,520
35	51407	80	32	80	37	1,1	69.680	124.800	6.200	1.440	2.080	0,760
40	51408	90	36	90	42	1,1	89.600	163.200	8.300	1.360	1.920	1,100
45	51409	100	39	100	47	1,1	104.000	192.000	9.800	1.280	1.760	1,400
50	51410	110	43	110	52	1,5	127.200	248.000	12.500	1.200	1.600	2,000
55	51411	120	48	120	57	1,5	142.400	288.000	14.300	1.040	1.440	2,550
60	51412	130	51	130	62	1,5	159.200	320.000	16.000	880	1.280	3,100
65	51413	140	56	140	68	2,0	172.800	360.000	18.000	800	1.200	4,000
70	51414	150	60	150	73	2,0	187.200	400.000	19.300	760	1.120	5,000
75	51415	160	65	160	78	2,0	200.800	448.000	20.800	720	1.040	6,750
80	51416	170	68	170	83	2,1	216.000	496.000	22.400	680	960	7,950
85	51417	180	72	177	88	2,1	228.800	544.000	24.000	680	960	9,450
90	51418	190	77	187	93	2,1	245.600	600.000	25.500	640	880	11,000
100	51420	210	85	205	103	3,0	296.800	772.000	31.500	560	760	15,000
110	51422	230	95	225	113	3,0	328.000	912.000	34.500	504	680	20,000
120	51424	250	102	245	123	4,0	338.400	976.000	36.000	480	640	25,500
130	51426	270	110	265	134	4,0	416.000	1.280.000	45.000	448	600	32,000
140	51428	280	112	275	144	4,0	416.000	1.280.000	44.000	424	560	34,500
150	51430	300	120	295	154	4,0	447.200	1.440.000	48.000	400	536	42,500



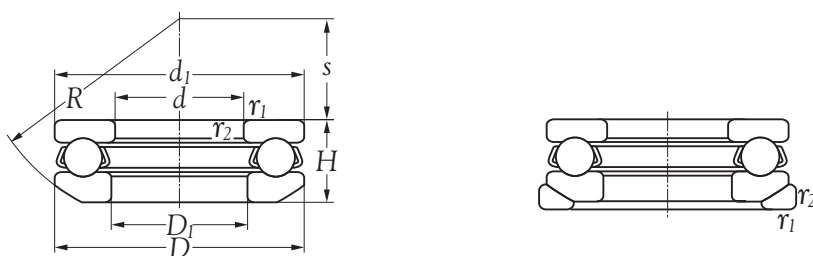
Inner bore d mm	Bearing number	Principal dimensions						Basic load ratings		Fatigue load limit P_u N	Max runout speed		Weight kg
		D	H	D_1	B mm	$r_{1,2}$ mm	$r_{3,4}$ mm	dynamic C N	static C_0		grease r/min	oil r/min	
10	52202	32	22	17	5	0,6	0,3	13.200	20.000	1.000	4.240	5.600	0,081
15	52204	40	26	22	6	0,6	0,3	18.000	30.000	1.530	3.600	4.800	0,150
20	52205	47	28	27	7	0,6	0,3	22.080	40.000	2.040	3.200	4.240	0,220
25	52206	52	29	32	7	0,6	0,3	20.400	38.000	1.900	2.880	3.840	0,250
30	52207	62	34	37	8	1,0	0,3	28.080	53.600	2.700	2.400	3.200	0,410
30	52208	68	36	42	9	1,0	0,6	37.440	78.400	4.000	2.240	3.040	0,550
35	52209	73	37	47	9	1,0	0,6	31.200	64.000	3.200	2.080	2.880	0,600
40	52210	78	39	52	9	1,0	0,6	39.520	84.800	4.300	1.920	2.720	0,710
45	52211	90	45	57	10	1,0	0,6	49.440	107.200	5.400	1.520	2.240	1,100
50	52212	95	46	62	10	1,0	0,6	49.920	112.000	5.600	1.520	2.240	1,200
55	52213	100	47	67	10	1,0	0,6	50.960	120.000	6.000	1.440	2.080	1,350
60	52215	110	47	77	10	1,0	1,0	54.080	136.000	6.800	1.360	1.920	1,550
65	52216	115	48	82	10	1,0	1,0	60.880	152.000	7.650	1.360	1.920	1,700
70	52217	125	55	88	12	1,0	1,0	78.000	200.000	9.800	1.280	1.760	2,400
75	52218	135	62	93	14	1,1	1,0	95.200	240.000	11.400	1.200	1.600	3,200
85	52220	150	67	103	15	1,1	1,0	99.200	256.000	11.400	1.040	1.440	4,200
95	52222	160	67	113	15	1,1	1,0	104.000	288.000	12.500	960	1.360	4,650
100	52224	170	68	123	15	1,1	1,1	112.000	320.000	13.400	880	1.280	5,250
110	52226	190	80	133	18	1,5	1,1	148.800	432.000	17.000	760	1.120	8,000
120	52228	200	81	143	18	1,5	1,1	152.000	456.000	17.600	760	1.120	8,650
130	52230	215	89	153	20	1,5	1,1	190.400	588.000	22.000	720	1.040	11,500
140	52232	225	90	163	20	1,5	1,1	193.600	624.000	22.800	680	960	12,000
150	52234	240	97	173	21	1,5	1,1	228.800	744.000	26.000	640	880	15,000
150	52236	250	98	183	21	1,5	2,0	236.800	800.000	27.500	640	880	16,000



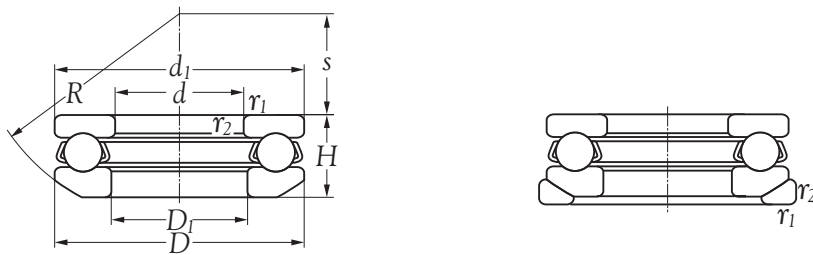
Inner bore d mm	Bearing number	Principal dimensions						Basic load ratings		Fatigue load limit P_u N	Max runout speed		Weight kg
		D	H	D_1 mm	B	$r_{1,2}$ mm	$r_{3,4}$ mm	dynamic C N	static C_0 N		grease r/min	oil r/min	
20	52305	52	34	27	8	1,0	0,3	27.600	44.000	2.240	2.720	3.600	0,330
25	52306	60	38	32	9	1,0	0,3	30.160	52.400	2.650	2.240	3.040	0,470
30	52307	68	44	37	10	1,0	0,3	39.520	70.400	3.550	1.920	2.720	0,680
30	52308	78	49	42	12	1,0	0,6	49.440	89.600	4.500	1.600	2.400	1,050
35	52309	85	52	47	12	1,0	0,6	60.880	112.000	5.600	1.520	2.240	1,250
40	52310	95	58	52	14	1,1	0,6	70.720	138.400	6.950	1.440	2.080	1,750
45	52311	105	64	57	15	1,1	0,6	83.200	166.400	8.300	1.280	1.760	2,400
50	52312	110	64	62	15	1,1	0,6	80.800	166.400	8.300	1.280	1.760	2,550
55	52313	115	65	67	15	1,1	0,6	84.800	176.000	8.800	1.200	1.600	2,750
55	52314	125	72	72	16	1,1	1,0	108.000	240.000	11.800	1.120	1.520	3,650
60	52315	135	79	77	18	1,5	1,0	130.400	288.000	14.000	960	1.360	4,800
65	52316	140	79	82	18	1,5	1,0	127.200	288.000	17.300	960	1.360	4,940
85	52320	170	97	103	21	1,5	1,0	183.200	448.000	19.600	760	1.120	8,950
100	52324	210	123	123	27	2,1	1,1	260.000	732.000	28.500	640	880	19,500
130	52330	250	140	154	31	2,1	1,1	328.000	1.032.000	36.500	536	720	27,000



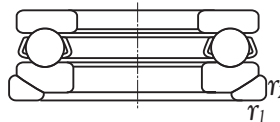
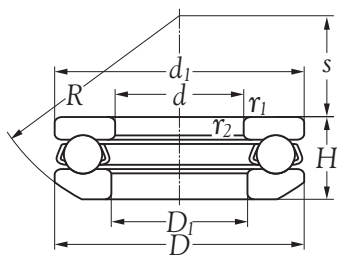
Inner bore d mm	Bearing number	Principal dimensions						Basic load ratings		Fatigue load limit P_u N	Max runout speed		Weight kg
		D	H	D_1	B	$r_{1,2}$ mm	$r_{3,4}$ mm	dynamic C	static C_0		grease r/min	oil r/min	
20	52406	70	52	32	12	1,0	0,6	58.240	100.000	5.100	1.600	2.400	1.000
25	52407	80	59	37	14	1,1	0,6	69.680	124.800	6.200	1.440	2.080	1.450
30	52408	90	65	42	15	1,1	0,6	89.600	163.200	8.300	1.360	1.920	2.050
35	52409	100	72	47	17	1,1	0,6	104.000	192.000	9.800	1.280	1.760	2.700
45	52411	120	87	57	20	1,5	0,6	142.400	288.000	14.300	1.040	1.440	4.700
50	52412	130	93	62	21	1,5	0,6	159.200	320.000	16.000	880	1.280	6.350



Inner bore <i>d</i> mm	Bearing number seating washer		Principal dimensions					Basic load ratings		Fatigue load limit <i>Pu</i> N	Max runout speed		Weight	
			<i>D</i>	<i>H</i>	<i>D1</i>	<i>R</i>	<i>r1,2</i> mm	dynamic <i>C</i> N	static <i>Co</i>		grease oil	r/min	Bearing kg	Seating washer kg
12	53201	U 201	28	11,4	14	25	0,6	10.640	15.200	765	4.800	6.400	0,033	0,012
15	53202	U 202	32	13,3	17	28	0,6	13.200	20.000	620	4.240	5.600	0,049	0,014
17	53203	U 203	35	13,2	19	32	0,6	13.760	22.000	1.100	4.000	5.360	0,056	0,015
20	53204	U 204	40	14,7	22	36	0,6	18.000	30.000	1.530	3.600	4.800	0,082	0,020
25	53205	U 205	47	16,7	27	40	0,6	22.080	40.000	2.040	3.200	4.240	0,120	0,032
30	53206	U 206	52	17,8	32	45	0,6	20.400	38.000	1.900	2.880	3.840	0,140	0,038
35	53207	U 207	62	19,9	37	50	1,0	28.080	53.600	2.700	2.400	3.200	0,220	0,057
40	53208	U 208	68	20,3	42	56	1,0	37.440	78.400	4.000	2.240	3.040	0,280	0,070
45	53209	U 209	73	21,3	47	56	1,0	31.200	64.000	3.200	2.080	2.880	0,300	0,087
50	53210	U 210	78	23,5	52	64	1,0	39.520	84.800	4.300	1.920	2.720	0,370	0,100
55	53211	U 211	90	27,3	57	72	1,0	49.440	107.200	5.400	1.520	2.240	0,600	0,150
60	53212	U 212	95	28,0	62	72	1,0	49.920	112.000	5.600	1.520	2.240	0,660	0,160
65	53213	U 213	100	28,7	67	80	1,0	50.960	120.000	6.000	1.440	2.080	0,730	0,180
70	53214	U 214	105	28,8	72	80	1,0	52.000	128.000	6.400	1.440	2.080	0,780	0,190
75	53215	U 215	110	28,3	77	90	1,0	54.080	136.000	6.800	1.360	1.920	0,810	0,210
80	53216	U 216	115	29,5	82	90	1,0	60.880	152.000	7.650	1.360	1.920	0,900	0,220
85	53217	U 217	125	33,1	88	100	1,0	78.000	200.000	9.800	1.280	1.760	1,200	0,290
90	53218	U 218	135	38,5	93	100	1,1	95.200	240.000	11.400	1.200	1.600	1,700	0,420
100	53220	U 220	150	40,9	103	112	1,1	99.200	256.000	11.400	1.040	1.440	2,200	0,500
110	53222	U 222	160	40,2	113	125	1,1	104.000	288.000	12.500	960	1.360	2,350	0,560
120	53224	U 224	170	40,8	123	125	1,1	112.000	320.000	13.400	880	1.280	2,550	0,650
130	53226	U 226	190	47,9	133	140	1,5	148.800	432.000	17.000	760	1.120	3,950	0,900
140	53228	U 228	200	48,6	143	160	1,5	152.000	456.000	17.600	760	1.120	4,250	1,200



Inner bore <i>d</i> mm	Bearing number seating washer		Principal dimensions					Basic load ratings		Fatigue load limit <i>Pu</i> N	Max runout speed		Weight	
			<i>D</i>	<i>H</i>	<i>D</i> ₁	<i>R</i>	<i>r</i> _{1,2} <i>min</i>	dynamic <i>C</i> N	static <i>C</i> ₀		grease	oil	Bearing	Seating washer
					mm						r/min		kg	
30	53306	U 306	60	22,6	32	50	1,0	30.160	52.400	2.650	2.240	3.040	0,270	0,056
35	53307	U 307	68	25,6	37	56	1,0	39.520	70.400	3.550	1.920	2.720	0,380	0,084
40	53308	U 308	78	28,5	42	64	1,0	49.440	89.600	4.500	1.600	2.400	0,550	0,120
45	53309	U 308	85	30,1	47	64	1,0	60.880	112.000	5.600	1.520	2.240	0,660	0,170
50	53310	U 310	95	34,4	52	72	1,1	70.720	138.400	6.950	1.440	2.080	0,970	0,230
55	53311	U 311	105	39,3	57	80	1,1	83.200	166.400	8.300	1.280	1.760	1,400	0,280
60	53312	U 312	110	38,3	62	90	1,1	80.800	166.400	8.300	1.280	1.760	1,400	0,310
65	53313	U 313	115	39,4	67	90	1,1	84.800	176.000	8.800	1.200	1.600	1,550	0,340
70	53314	U 314	125	44,2	72	100	1,1	108.000	240.000	11.800	1.120	1.520	2,100	0,410
75	53315	U 315	135	48,1	77	100	1,5	130.400	288.000	14.000	960	1.360	2,650	0,550
80	53316	U 316	140	47,6	82	112	1,5	127.200	288.000	13.700	960	1.360	2,750	0,570
85	53317	U 317	150	53,1	88	112	1,5	152.000	340.000	16.000	880	1.280	3,550	0,810
90	53318	U 318	155	54,6	93	112	1,5	156.000	372.000	16.600	800	1.200	3,850	0,840
100	53320	U 320	170	59,2	103	125	1,5	183.200	448.000	19.600	760	1.120	5,000	0,950
110	53322	U 322	190	67,2	113	140	2,0	220.800	576.000	24.000	680	960	7,800	1,300
120	53324	U 324	210	74,1	123	160	2,1	260.000	732.000	28.500	640	880	10,500	2,000



Inner bore d mm	Bearing number seating washer		Principal dimensions					Basic load ratings		Fatigue load limit P_u N	Max runout speed		Weight Bearing Seating washer kg	
			D	H	D_1 mm	R	$r_{1,2}$ mm	dynamic C N	static C_0		grease	oil		
											r/min			
40	53408	U 408	90	38,2	42	72	1,1	89.600	163.200	8.300	1.360	1.920	1,100	0,250
45	53409	U 409	100	42,4	47	80	1,1	104.000	192.000	9.800	1.280	1.600	1,450	0,320
50	53410	U 410	110	45,6	52	90	1,5	127.200	248.000	12.500	1.200	1.600	1,900	0,410
60	53412	U 412	130	54,0	62	100	1,5	159.200	320.000	16.000	880	1.280	3,100	0,710
70	53414	U 414	150	63,6	73	112	2,0	187.200	400.000	19.300	760	1.120	5,500	1,000
75	53415	U 415	160	69,0	78	125	2,0	200.800	448.000	20.800	720	1.040	6,850	1,250
80	53416	U 416	170	72,2	83	125	2,1	216.000	496.000	22.400	680	960	8,000	1,400
90	53418	U 418	190	81,2	93	140	2,1	245.600	600.000	25.500	640	880	11,000	1,900
100	53420	U 420	210	90,0	103	160	3,0	296.800	772.000	31.500	560	760	15,000	2,900

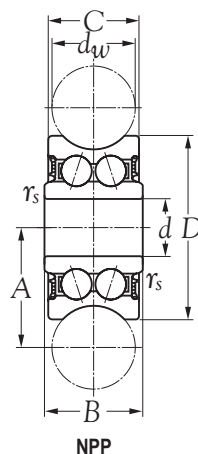
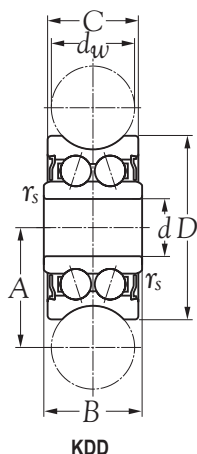


NOTE



OKO[®] PRODUCT INFORMATION

Track Roller Bearings



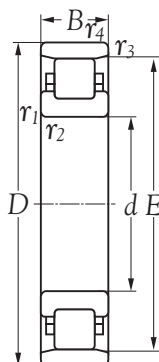
Inner bore d mm	Bearing number	Principal dimensions							Basic load ratings		Max runout speed		Weight kg
		d_w	D	C	B	A	r_s		dynamic C N	static C_o	grease r/min	oil r/min	
4	LFR 50/4-4 KDD LFR 50/4-4 NPP	4	13,0	6,0	7,0	7,55	0,2		840	680	920	1.280	0,007
5	LFR 50/5-4 KDD LFR 50/5-4 NPP	4	16,0	7,0	8,0	9,00	0,2		960	688	1.040	1.424	0,009
5	LFR 50/5-6 KDD LFR 50/5-6 NPP	6	17,0	7,0	8,0	10,50	0,2		1.016	656	1.040	1.424	0,010
8	LFR 50/8-6 KDD LFR 50/8-6 NPP	6	24,0	11,0	11,0	14,00	0,3		2.936	1.824	1.040	3.648	0,020
12	LFR 5201-10 KDD LFR 5201-10 NPP	10	35,0	15,9	15,9	20,65	0,3		6.800	4.080	4.080	8.160	0,080
12	LFR 5301-10 KDD LFR 5301-10 NPP	10	42,0	19,0	19,0	24,00	0,6		10.400	6.160	6.000	11.360	0,100
15	LFR 5302-10 KDD LFR 5302-10 NPP	10	47,0	19,0	19,0	26,65	1,0		12.960	7.360	4.960	14.720	0,170
12	LFR 5201-12 KDD LFR 5201-12 NPP	12	35,0	15,9	15,9	21,75	0,3		6.720	4.000	4.080	8.000	0,085
12	LFR 5201-14 KDD LFR 5201-14 NPP	14	39,9	18,0	20,0	24,00	0,3		7.120	4.000	5.360	9.680	0,095
20	LFR 5204-16 KDD LFR 5204-16 NPP	16	52,0	20,6	22,6	31,50	0,6		13.440	7.600	9.680	13.280	0,230
25	LFR 5206-20 KDD LFR 5206-20 NPP	20	72,0	23,8	25,8	41,00	0,6		23.600	13.280	16.560	26.560	0,250
25	LFR 5206-25 KDD LFR 5206-25 NPP	25	72,0	23,8	25,8	43,50	0,6		23.360	13.120	18.480	26.240	0,250
30	LFR 5207-30 KDD LFR 5207-30 NPP	30	80,0	27,0	29,0	51,00	1,0		30.400	16.640	17.120	28.960	0,660
40	LFR 5208-40 KDD LFR 5208-40 NPP	40	98,0	36,0	38,0	62,50	1,0		43.840	23.200	44.000	46.400	1,360
40	LFR 5308-50 KDD LFR 5308-50 NPP	50	110,0	44,0	46,0	72,50	1,1		42.400	31.600	55.200	63.200	1,400

Remark: * Standard with lubrication hole on inner ring

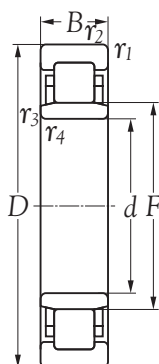


OKO® PRODUCT INFORMATION

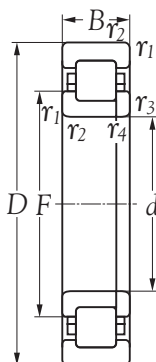
Cylindrical Roller Bearings



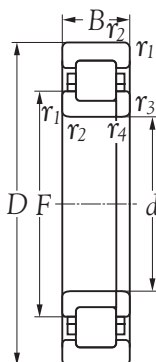
Inner bore d mm	Bearing number	Principal dimensions					Basic load ratings		Max runout speed		Weight kg
		D	B	E mm	$r_{1,2}$ min	$r_{3,4}$ min	dynamic C N	static C_0	grease r/min	oil r/min	
17	N 203	40	12	35,1	0,6	0,3	13.760	11.440	12.800	15.200	0,066
20	N 204	47	14	41,5	1,0	0,6	20.080	17.600	10.400	12.800	0,110
25	N 205	52	15	46,5	1,0	0,6	22.880	21.600	8.800	11.200	0,130
30	N 206	62	16	55,5	1,0	0,6	30.400	29.200	7.600	9.600	0,200
35	N 207	72	17	64,0	1,1	0,6	38.720	38.400	6.800	8.000	0,300
40	N 208	80	18	71,5	1,1	1,1	43.120	42.400	6.000	7.200	0,370
45	N 209	85	19	76,5	1,1	1,1	48.400	51.200	5.360	6.400	0,430
50	N 210	90	20	81,5	1,1	1,1	51.520	55.600	5.040	6.000	0,480
60	N 212	110	22	100,0	1,5	1,5	74.800	81.600	4.240	5.040	0,810
65	N 213	120	23	108,5	1,5	1,5	84.800	94.400	3.840	4.480	1,050
70	N 214	125	24	113,5	1,5	1,5	95.200	109.600	3.600	4.240	1,150
75	N 215	130	25	118,5	1,5	1,5	104.000	124.800	3.600	4.240	1,250
80	N 216	140	26	127,3	2,0	2,0	110.400	132.800	3.200	3.840	1,500
85	N 217	150	28	136,5	2,0	2,0	132.000	160.000	3.040	3.600	1,900
90	N 218	160	30	145,0	2,0	2,0	146.400	176.000	2.880	3.440	2,350
95	N 219	170	32	154,5	2,1	2,1	176.000	212.000	2.720	3.200	2,850
100	N 220	180	34	163,0	2,1	2,1	200.800	244.000	2.560	3.040	3,450
105	N 221	190	36	173,0	2,1	2,1	211.200	252.000	2.400	2.880	3,950
110	N 222	200	38	180,5	2,1	2,1	233.600	292.000	2.240	2.720	4,800
120	N 224	215	40	195,5	2,1	2,1	272.800	344.000	1.920	2.400	5,700
130	N 226	230	40	209,5	3,0	3,0	286.400	364.000	1.760	2.240	6,450
140	N 228	250	42	221,0	3,0	3,0	246.400	320.000	1.920	2.400	8,300
150	N 230	270	45	238,0	3,0	3,0	286.400	372.000	1.600	2.080	10,500
160	N 232	290	48	259,0	3,0	3,0	400.800	544.000	1.440	1.760	15,000



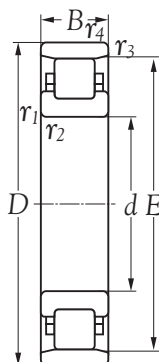
Inner bore <i>d</i> mm	Bearing number	Principal dimensions					Basic load ratings		Max runout speed		Weight kg
		<i>D</i>	<i>B</i>	<i>F</i> mm	<i>r</i> _{1,2} mm	<i>r</i> _{3,4} mm	dynamic <i>C</i> N	static <i>C</i> ₀	grease r/min	oil r/min	
15	NU 202	35	11	19,3	0,6	0,3	10.000	8.160	14.400	17.600	0,047
17	NU 203	40	12	22,1	0,6	0,3	13.760	11.440	12.800	15.200	0,068
20	NU 204	47	14	26,5	1,0	0,6	20.080	17.600	10.400	12.800	0,110
25	NU 205	52	15	31,5	1,0	0,6	22.880	21.600	8.800	11.200	0,130
30	NU 206	62	16	37,5	1,0	0,6	30.400	29.200	7.600	9.600	0,200
35	NU 207	72	17	44,0	1,1	0,6	38.720	38.400	6.800	8.000	0,300
40	NU 208	80	18	49,5	1,1	1,1	43.120	42.400	6.000	7.200	0,370
45	NU 209	85	19	54,5	1,1	1,1	48.400	51.200	5.360	6.400	0,430
50	NU 210	90	20	59,5	1,1	1,1	51.520	55.600	5.040	6.000	0,480
55	NU 211	100	21	66,0	1,5	1,1	67.360	76.000	4.800	5.600	0,660
60	NU 212	110	22	72,0	1,5	1,5	74.800	81.600	4.240	5.040	0,810
65	NU 213	120	23	78,5	1,5	1,5	84.800	94.400	3.840	4.480	1,050
70	NU 214	125	24	83,5	1,5	1,5	95.200	109.600	3.600	4.240	1,150
75	NU 215	130	25	88,5	1,5	1,5	104.000	124.800	3.600	4.240	1,250
80	NU 216	140	26	95,3	2,0	2,0	110.400	132.800	3.200	3.840	1,500
85	NU 217	150	28	100,5	2,0	2,0	132.000	160.000	3.040	3.600	1,900
90	NU 218	160	30	107,0	2,0	2,0	146.400	176.000	2.880	3.440	2,350
95	NU 219	170	32	112,5	2,1	2,1	176.000	212.000	2.720	3.200	2,850
100	NU 220	180	34	119,0	2,1	2,1	200.800	244.000	2.560	3.040	3,450
105	NU 221	190	36	125,0	2,1	2,1	211.200	252.000	2.400	2.880	4,000
110	NU 222	200	38	132,5	2,1	2,1	233.600	292.000	2.240	2.720	4,800
120	NU 224	215	40	143,5	2,1	2,1	272.800	344.000	1.920	2.400	5,750
130	NU 226	230	40	153,5	3,0	3,0	286.400	364.000	1.760	2.240	6,450
140	NU 228	250	42	169,0	3,0	3,0	312.800	408.000	1.600	2.080	8,300
150	NU 230	270	45	182,0	3,0	3,0	356.800	480.000	1.520	1.920	10,500
160	NU 232	290	48	195,0	3,0	3,0	400.800	544.000	1.440	1.760	15,000
170	NU 234	310	52	207,0	4,0	4,0	492.800	652.000	1.440	1.760	19,000
180	NU 236	320	55	217,0	4,0	4,0	501.600	680.000	1.360	1.600	19,500
190	NU 238	340	55	230,0	4,0	4,0	554.400	772.000	1.280	1.520	23,500
200	NU 240	360	58	243,0	4,0	4,0	612.000	848.000	1.200	1.440	28,500
220	NU 244	400	65	270,0	4,0	4,0	612.000	864.000	1.200	1.440	38,500
240	NU 248	440	72	295,0	4,0	4,0	761.600	1.096.000	1.040	1.280	51,000
260	NU 252	480	80	320,0	5,0	5,0	936.000	1.360.000	880	1.120	68,500
280	NU 256	500	80	340,0	5,0	5,0	912.000	1.360.000	880	1.120	71,500



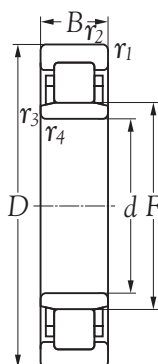
Inner bore <i>d</i> mm	Bearing number	Principal dimensions					Basic load ratings		Max runout speed		Weight kg
		<i>D</i>	<i>B</i>	<i>F</i> mm	<i>r</i> _{1,2} min	<i>r</i> _{3,4} min	dynamic <i>C</i> N	static <i>C</i> ₀	grease r/min	oil r/min	
15	NJ 202	35	11	19,3	0,6	0,3	10.000	8.160	14.400	17.600	0,049
17	NJ 203	40	12	22,1	0,6	0,3	13.760	11.440	12.800	15.200	0,070
20	NJ 204	47	14	26,5	1,0	0,6	20.080	17.600	10.400	12.800	0,110
25	NJ 205	52	15	31,5	1,0	0,6	22.880	21.600	8.800	11.200	0,140
30	NJ 206	62	16	37,5	1,0	0,6	30.400	29.200	7.600	9.600	0,210
35	NJ 207	72	17	44,0	1,1	0,6	38.720	38.400	6.800	8.000	0,310
40	NJ 208	80	18	49,5	1,1	1,1	43.120	42.400	6.000	7.200	0,380
45	NJ 209	85	19	54,5	1,1	1,1	48.400	51.200	5.360	6.400	0,440
50	NJ 210	90	20	59,5	1,1	1,1	51.520	55.600	5.040	6.000	0,490
55	NJ 211	100	21	66,0	1,5	1,1	67.360	76.000	4.800	5.600	0,670
60	NJ 212	110	22	72,0	1,5	1,5	74.800	81.600	4.240	5.040	0,830
65	NJ 213	120	23	78,5	1,5	1,5	84.800	94.400	3.840	4.480	1,050
70	NJ 214	125	24	83,5	1,5	1,5	95.200	109.600	3.600	4.240	1,150
75	NJ 215	130	25	88,5	1,5	1,5	104.000	124.800	3.600	4.240	1,300
80	NJ 216	140	26	95,3	2,0	2,0	110.400	132.800	3.200	3.840	1,550
85	NJ 217	150	28	100,5	2,0	2,0	132.000	160.000	3.040	3.600	1,950
90	NJ 218	160	30	107,0	2,0	2,0	146.400	176.000	2.880	3.440	2,400
95	NJ 219	170	32	112,5	2,1	2,1	176.000	212.000	2.720	3.200	2,900
100	NJ 220	180	34	119,0	2,1	2,1	200.800	244.000	2.560	3.040	3,500
105	NJ 221	190	36	125,0	2,1	2,1	291.200	252.000	2.400	2.880	4,100
110	NJ 222	200	38	132,5	2,1	2,1	233.600	292.000	2.240	2.720	4,900
120	NJ 224	215	40	143,5	2,1	2,1	272.800	344.000	1.920	2.400	5,850
130	NJ 226	230	40	153,5	3,0	3,0	286.400	364.000	1.760	2.240	6,600
140	NJ 228	250	42	169,0	3,0	3,0	312.800	408.000	1.600	2.080	8,500
150	NJ 230	270	45	182,0	3,0	3,0	356.800	480.000	1.520	1.920	10,500
160	NJ 232	290	48	195,0	3,0	3,0	400.800	544.000	1.440	1.760	15,000
170	NJ 234	310	52	207,0	4,0	4,0	492.800	652.000	1.440	1.760	19,500
180	NJ 236	320	52	217,0	4,0	4,0	501.600	680.000	1.360	1.600	20,000
190	NJ 238	340	55	230,0	4,0	4,0	554.400	772.000	1.280	1.520	24,500



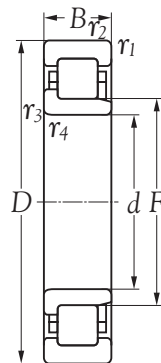
Inner bore <i>d</i> mm	Bearing number	Principal dimensions					Basic load ratings		Max runout speed		Weight kg
		<i>D</i>	<i>B</i>	<i>F</i> mm	<i>r</i> _{1,2} mm	<i>r</i> _{3,4} mm	dynamic <i>C</i> N	static <i>C</i> ₀	grease r/min	oil r/min	
17	NUP 203	40	12	22,1	0,6	0,3	13.760	11.440	12.800	15.200	0,073
20	NUP 204	47	14	26,5	1,0	0,6	20.080	17.600	10.400	12.800	0,120
25	NUP 205	52	15	31,5	1,0	0,6	22.880	21.600	8.800	11.200	0,140
30	NUP 206	62	16	37,5	1,0	0,6	30.400	29.200	7.600	9.600	0,220
35	NUP 207	72	17	44,0	1,1	0,6	38.720	38.400	6.800	8.000	0,310
40	NUP 208	80	18	49,5	1,1	1,1	43.120	42.400	6.000	7.200	0,400
45	NUP 209	85	19	54,5	1,1	1,1	48.400	51.200	5.360	6.400	0,450
50	NUP 210	90	20	59,5	1,1	1,1	51.520	55.600	5.040	6.000	0,510
55	NUP 211	100	21	66,0	1,5	1,1	67.360	76.000	4.800	5.600	0,690
60	NUP 212	110	22	72,0	1,5	1,5	74.800	81.600	4.240	5.040	0,860
65	NUP 213	120	23	78,5	1,5	1,5	84.800	94.400	3.840	4.480	1,100
70	NUP 214	125	24	83,5	1,5	1,5	95.200	109.600	3.600	4.240	1,200
75	NUP 215	130	25	88,5	1,5	1,5	104.000	124.800	3.600	4.240	1,300
80	NUP 216	140	26	95,3	2,0	2,0	110.400	132.800	3.200	3.840	1,600
85	NUP 217	150	28	100,5	2,0	2,0	132.000	160.000	3.040	3.600	2,000
90	NUP 218	160	30	107,0	2,0	2,0	146.400	176.000	2.880	3.440	2,450
95	NUP 219	170	32	112,5	2,1	2,1	176.000	212.000	2.720	3.200	3,000
100	NUP 220	180	34	119,0	2,1	2,1	200.800	244.000	2.560	3.040	3,600
105	NUP 221	190	36	125,0	2,1	2,1	211.200	252.000	2.400	2.880	4,200
110	NUP 222	200	38	132,5	2,1	2,1	233.600	292.000	2.240	2.720	5,000
120	NUP 224	215	40	143,5	2,1	2,1	272.800	344.000	1.920	2.400	6,000
130	NUP 226	230	40	153,5	3,0	3,0	286.400	364.000	1.760	2.240	6,700
140	NUP 228	250	42	169,0	3,0	3,0	312.800	408.000	1.600	2.080	8,650
150	NUP 230	270	45	182,0	3,0	3,0	356.800	480.000	1.520	1.920	10,500
160	NUP 232	290	48	195,0	3,0	3,0	400.800	544.000	1.440	1.760	15,500
170	NUP 234	310	52	207,0	4,0	4,0	492.800	652.000	1.440	1.760	20,000
180	NUP 236	320	52	217,0	4,0	4,0	501.600	680.000	1.360	1.600	21,000
190	NUP 238	340	55	230,0	4,0	4,0	554.400	772.000	1.280	1.520	25,500
200	NUP 240	360	58	243,0	4,0	4,0	612.000	848.000	1.200	1.440	27,500
220	NUP 244	400	65	270,0	4,0	4,0	612.000	864.000	1.200	1.440	39,500
240	NUP 248	440	72	295,0	4,0	4,0	761.600	1.096.000	1.040	1.280	53,500



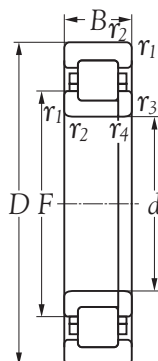
Inner bore <i>d</i> mm	Bearing number	Principal dimensions					Basic load ratings		Max runout speed		Weight kg
		<i>D</i>	<i>B</i>	<i>E</i> mm	<i>r</i> _{1.2} min	<i>r</i> _{3.4} min	dynamic C N	static Co	grease r/min	oil r/min	
30	N 2206	62	20	55,5	1,0	0,6	38.720	39.200	7.600	9.600	0,260
35	N 2207	72	23	64,0	1,1	0,6	47.520	50.400	6.800	8.000	0,400
40	N 2208	80	23	71,5	1,1	1,1	56.320	60.000	6.000	7.200	0,490
45	N 2209	85	23	76,5	1,1	1,1	58.960	65.200	5.360	6.400	0,520
55	N 2211	100	25	90,0	1,5	1,1	79.200	94.400	4.800	5.600	0,790
60	N 2212	110	28	100,0	1,5	1,5	102.400	122.400	4.240	5.040	1,100



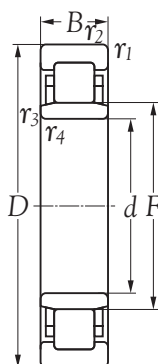
Inner bore <i>d</i> mm	Bearing number	Principal dimensions					Basic load ratings		Max runout speed		Weight kg
		<i>D</i>	<i>B</i>	<i>F</i> mm	<i>r</i> _{1,2} mm	<i>r</i> _{3,4} mm	dynamic <i>C</i> N	static <i>C</i> ₀	grease r/min	oil r/min	
20	NU 2204	47	18	26,5	1,0	0,6	23.760	22.000	10.400	12.800	0,140
25	NU 2205	52	18	31,5	1,0	0,6	27.280	27.200	8.800	11.200	0,160
30	NU 2206	62	20	37,5	1,0	0,6	38.720	39.200	7.600	9.600	0,260
35	NU 2207	72	23	44,0	1,1	0,6	47.520	50.400	6.800	8.000	0,400
40	NU 2208	80	23	49,5	1,1	1,1	56.320	60.000	6.000	7.200	0,490
45	NU 2209	85	23	54,5	1,1	1,1	58.960	65.200	5.360	6.400	0,520
50	NU 2210	90	23	59,5	1,1	1,1	62.480	70.400	5.040	6.000	0,560
55	NU 2211	100	25	66,0	1,5	1,1	79.200	94.400	4.800	5.600	0,790
60	NU 2212	110	28	72,0	1,5	1,5	102.400	122.400	4.240	5.040	1,100
65	NU 2213	120	31	78,5	1,5	1,5	117.600	144.000	3.840	4.480	1,400
70	NU 2214	125	31	83,5	1,5	1,5	123.200	154.400	3.600	4.240	1,500
75	NU 2215	130	31	88,5	1,5	1,5	128.800	166.400	3.600	4.240	1,600
80	NU 2216	140	33	95,3	2,0	2,0	149.600	196.000	3.200	3.840	2,000
85	NU 2217	150	36	100,5	2,0	2,0	172.800	224.000	3.040	3.600	2,450
90	NU 2218	160	40	107,0	2,0	2,0	193.600	252.000	2.880	3.440	3,150
95	NU 2219	170	43	112,5	2,1	2,1	228.800	300.000	2.720	3.200	3,850
100	NU 2220	180	46	119,0	2,1	2,1	268.800	360.000	2.560	3.040	4,750
110	NU 2222	200	53	132,5	2,1	2,1	304.000	416.000	2.240	2.720	6,700
120	NU 2224	215	58	143,5	2,1	2,1	365.600	504.000	1.920	2.400	8,300
130	NU 2226	230	64	153,5	3,0	3,0	422.400	588.000	1.760	2.240	10,500
140	NU 2228	250	68	169,0	3,0	3,0	457.600	664.000	1.600	2.080	13,500
150	NU 2230	270	73	182,0	3,0	3,0	501.600	744.000	1.520	1.920	19,000
160	NU 2232	290	80	193,0	3,0	3,0	647.200	960.000	1.440	1.760	24,000
170	NU 2234	310	86	205,0	4,0	4,0	774.400	1.144.000	1.440	1.760	30,000
180	NU 2236	320	86	215,0	4,0	4,0	808.000	1.200.000	1.360	1.600	31,500



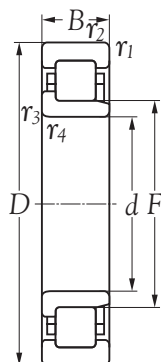
Inner bore <i>d</i> mm	Bearing number	Principal dimensions					Basic load ratings		Max runout speed		Weight kg
		<i>D</i>	<i>B</i>	<i>F</i> mm	<i>r</i> _{1,2} min	<i>r</i> _{3,4} min	dynamic <i>C</i> N	static <i>C</i> ₀	grease r/min	oil r/min	
17	NJ 2203	40	16	22,1	0,6	0,3	19.040	17.280	12.800	15.200	0,095
20	NJ 2204	47	18	26,5	1,0	0,6	23.760	22.000	10.400	12.800	0,140
25	NJ 2205	52	18	31,5	1,0	0,6	27.280	27.200	8.800	11.200	0,170
30	NJ 2206	62	20	37,5	1,0	0,6	38.720	39.200	7.600	9.600	0,270
35	NJ 2207	72	23	44,0	1,1	0,6	47.520	50.400	6.800	8.000	0,410
40	NJ 2208	80	23	49,5	1,1	1,1	56.320	60.000	6.000	7.200	0,500
45	NJ 2209	85	23	54,5	1,1	1,1	58.960	65.200	5.360	6.400	0,540
50	NJ 2210	90	23	59,5	1,1	1,1	62.480	70.400	5.040	6.000	0,580
55	NJ 2211	100	25	66,0	1,5	1,1	79.200	94.400	4.800	5.600	0,810
60	NJ 2212	110	28	72,0	1,5	1,5	102.400	122.400	4.240	5.040	1,100
65	NJ 2213	120	31	78,5	1,5	1,5	117.600	144.000	3.840	4.480	1,450
70	NJ 2214	125	31	83,5	1,5	1,5	123.200	154.400	3.600	4.240	1,550
75	NJ 2215	130	31	88,5	1,5	1,5	128.800	166.400	3.600	4.240	1,600
80	NJ 2216	140	33	95,3	2,0	2,0	149.600	196.000	3.200	3.840	2,050
85	NJ 2217	150	36	100,5	2,0	2,0	172.800	224.000	3.040	3.600	2,550
90	NJ 2218	160	40	107,0	2,0	2,0	193.600	252.000	2.880	3.440	3,200
95	NJ 2219	170	43	112,5	2,1	2,1	228.800	300.000	2.720	3.200	3,950
100	NJ 2220	180	46	119,0	2,1	2,1	268.800	360.000	2.560	3.040	4,800
110	NJ 2222	200	53	132,5	2,1	2,1	304.000	416.000	2.240	2.720	6,850
120	NJ 2224	215	58	143,5	2,1	2,1	365.600	504.000	1.920	2.400	8,500
130	NJ 2226	230	64	153,5	3,0	3,0	422.400	588.000	1.760	2.240	10,500
140	NJ 2228	250	68	169,0	3,0	3,0	457.600	664.000	1.600	2.080	13,500
150	NJ 2230	270	73	182,0	3,0	3,0	501.600	744.000	1.520	1.920	19,500
160	NJ 2232	290	80	193,0	3,0	3,0	647.200	960.000	1.440	1.760	24,500
180	NJ 2236	320	86	215,0	4,0	4,0	808.000	1.200.000	1.360	1.600	31,500



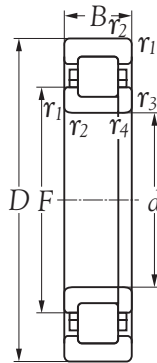
Inner bore <i>d</i> mm	Bearing number	Principal dimensions					Basic load ratings		Max runout speed		Weight kg
		<i>D</i>	<i>B</i>	<i>F</i> mm	<i>r</i> _{1,2} min	<i>r</i> _{3,4} min	dynamic <i>C</i>	static <i>C</i> ₀	grease	oil	
							N		r/min		
17	NUP 2203	40	16	22,1	0,6	0,3	19.040	17.280	12.800	15.200	0,097
25	NUP 2205	52	18	31,5	1,0	0,6	27.280	27.200	8.800	11.200	0,170
30	NUP 2206	62	20	37,5	1,0	0,6	38.720	39.200	7.600	9.600	0,270
35	NUP 2207	72	23	44,0	1,1	0,6	47.520	50.400	6.800	8.000	0,420
40	NUP 2208	80	23	49,5	1,1	1,1	56.320	60.000	6.000	7.200	0,510
45	NUP 2209	85	23	54,5	1,1	1,1	58.960	65.200	5.360	6.400	0,550
50	NUP 2210	90	23	59,5	1,1	1,1	62.480	70.400	5.040	6.000	0,590
55	NUP 2211	100	25	66,0	1,5	1,1	79.200	94.400	4.800	5.600	0,820
60	NUP 2212	110	28	72,0	1,5	1,5	102.400	122.400	4.240	5.040	1,150
65	NUP 2213	120	31	78,5	1,5	1,5	117.600	144.000	3.840	4.480	1,500
70	NUP 2214	125	31	83,5	1,5	1,5	123.200	154.400	3.600	4.240	1,550
75	NUP 2215	130	31	88,5	1,5	1,5	128.800	166.400	3.600	4.240	1,650
80	NUP 2216	140	33	95,3	2,0	2,0	149.600	196.000	3.200	3.840	2,050
85	NUP 2217	150	36	100,5	2,0	2,0	172.800	224.000	3.040	3.600	2,550
90	NUP 2218	160	40	107,0	2,0	2,0	193.600	252.000	2.880	3.440	3,300
95	NUP 2219	170	43	112,5	2,1	2,1	228.800	300.000	2.720	3.200	4,000
100	NUP 2220	180	46	119,0	2,1	2,1	268.800	360.000	2.560	3.040	4,900
110	NUP 2222	200	53	132,5	2,1	2,1	304.000	416.000	2.240	2.720	7,000
120	NUP 2224	215	58	143,5	2,1	2,1	365.600	504.000	1.920	2.400	8,650
130	NUP 2226	230	64	153,5	3,0	3,0	422.400	588.000	1.760	2.240	11,000
140	NUP 2228	250	68	169,0	3,0	3,0	457.600	664.000	1.600	2.080	14,000



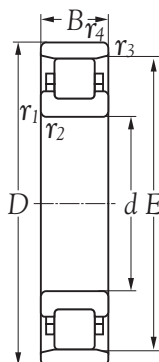
Inner bore <i>d</i> mm	Bearing number	Principal dimensions					Basic load ratings		Max runout speed		Weight kg
		<i>D</i>	<i>B</i>	<i>F</i> mm	<i>r</i> _{1,2} min	<i>r</i> _{3,4} min	dynamic <i>C</i> N	static <i>C</i> ₀	grease r/min	oil r/min	
20	NU 2304	52	21	27,5	1,1	0,6	33.040	30.400	8.800	11.200	0,210
25	NU 2305	62	24	34,0	1,1	1,1	44.880	44.000	7.200	8.800	0,350
30	NU 2306	72	27	40,5	1,1	1,1	58.960	60.000	6.400	7.600	0,530
35	NU 2307	80	31	46,2	1,5	1,1	73.040	78.400	5.600	6.800	0,720
40	NU 2308	90	33	52,0	1,5	1,5	89.600	96.000	5.040	6.000	0,940
45	NU 2309	100	36	58,5	1,5	1,5	110.400	122.400	4.480	5.360	1,300
50	NU 2310	110	40	65,0	2,0	2,0	128.800	148.800	4.000	4.800	1,700
55	NU 2311	120	43	70,5	2,0	2,0	160.800	185.600	3.840	4.480	2,200
60	NU 2312	130	46	77,0	2,1	2,1	179.200	212.000	3.440	4.000	2,750
65	NU 2313	140	48	82,5	2,1	2,1	200.800	232.000	3.200	3.840	3,300
70	NU 2314	150	51	89,0	2,1	2,1	220.000	260.000	2.880	3.440	4,000
75	NU 2315	160	55	95,0	2,1	2,1	264.000	320.000	2.720	3.200	4,900
80	NU 2316	170	58	101,0	2,1	2,1	286.400	352.000	2.560	3.040	5,850
85	NU 2317	180	60	108,0	3,0	3,0	316.800	392.000	2.400	2.880	6,850
90	NU 2318	190	64	113,5	3,0	3,0	352.000	432.000	2.240	2.720	8,000
95	NU 2319	200	67	121,5	3,0	3,0	374.400	468.000	2.080	2.560	9,350
100	NU 2320	215	73	127,5	3,0	3,0	466.400	588.000	1.920	2.400	12,000
110	NU 2322	240	80	143,0	3,0	3,0	545.600	720.000	1.600	2.080	17,000
120	NU 2324	260	86	154,0	3,0	3,0	633.600	832.000	1.520	1.920	24,000
130	NU 2326	280	93	167,0	4,0	4,0	748.000	1.000.000	1.440	1.760	30,000
140	NU 2328	300	102	180,0	4,0	4,0	840.000	1.144.000	1.440	1.760	37,000



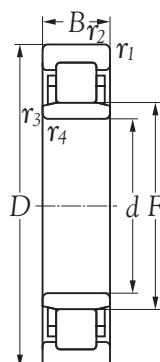
Inner bore <i>d</i> mm	Bearing number	Principal dimensions					Basic load ratings		Max runout speed		Weight kg
		<i>D</i>	<i>B</i>	<i>F</i> mm	<i>r</i> _{1,2} min	<i>r</i> _{3,4} min	dynamic <i>C</i> N	static <i>C</i> ₀	grease r/min	oil r/min	
20	NJ 2304	52	21	27,5	1,1	0,6	33.040	30.400	8.800	11.200	0,220
25	NJ 2305	62	24	34,0	1,1	1,1	44.880	44.000	7.200	8.800	0,360
30	NJ 2306	72	27	40,5	1,1	1,1	58.960	60.000	6.400	7.600	0,540
35	NJ 2307	80	31	46,2	1,5	1,1	73.040	78.400	5.600	6.800	0,730
40	NJ 2308	90	33	52,0	1,5	1,5	89.600	96.000	5.040	6.000	0,960
45	NJ 2309	100	36	58,5	1,5	1,5	110.400	122.400	4.480	5.360	1,300
50	NJ 2310	110	40	65,0	2,0	2,0	128.800	148.800	4.000	4.800	1,750
55	NJ 2311	120	43	70,5	2,0	2,0	160.800	185.600	3.840	4.480	2,250
60	NJ 2312	130	46	77,0	2,1	2,1	179.200	212.000	3.440	4.000	2,800
65	NJ 2313	140	48	82,5	2,1	2,1	200.800	232.000	3.200	3.840	3,350
70	NJ 2314	150	51	89,0	2,1	2,1	220.000	260.000	2.880	3.440	4,050
75	NJ 2315	160	55	95,0	2,1	2,1	264.000	320.000	2.720	3.200	5,000
80	NJ 2316	170	58	101,0	2,1	2,1	286.400	352.000	2.560	3.040	5,950
85	NJ 2317	180	60	108,0	3,0	3,0	316.800	392.000	2.400	2.880	7,000
90	NJ 2318	190	64	113,5	3,0	3,0	352.000	432.000	2.240	2.720	8,150
95	NJ 2319	200	67	121,5	3,0	3,0	374.400	468.000	2.080	2.560	9,550
100	NJ 2320	215	73	127,5	3,0	3,0	466.400	588.000	1.920	2.400	12,000
110	NJ 2322	240	80	143,0	3,0	3,0	545.600	720.000	1.600	2.080	17,000
120	NJ 2324	260	86	154,0	3,0	3,0	633.600	832.000	1.520	1.920	24,500
130	NJ 2326	280	93	167,0	4,0	4,0	748.000	1.000.000	1.440	1.760	30,500
140	NJ 2328	300	102	180,0	4,0	4,0	840.000	1.144.000	1.440	1.760	37,500
150	NJ 2330	320	108	193,0	4,0	4,0	952.000	1.304.000	1.360	1.600	46,000
160	NJ 2332	340	114	204,0	4,0	4,0	1.056.000	1.488.000	1.200	1.440	54,000



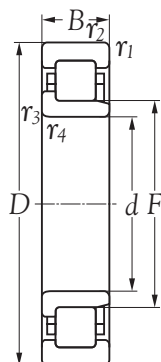
Inner bore <i>d</i> mm	Bearing number	Principal dimensions					Basic load ratings		Max runout speed		Weight kg
		<i>D</i>	<i>B</i>	<i>F</i> mm	<i>r</i> _{1,2} min	<i>r</i> _{3,4} min	dynamic <i>C</i> N	static <i>C</i> ₀	grease r/min	oil r/min	
20	NUP 2304	52	21	27,5	1,1	0,6	33.040	30.400	8.800	11.200	0,220
25	NUP 2305	62	24	34,0	1,1	1,1	44.880	44.000	7.200	8.800	0,380
30	NUP 2306	72	27	40,5	1,1	1,1	58.960	60.000	6.400	7.600	0,550
35	NUP 2307	80	31	46,2	1,5	1,1	73.040	78.400	5.600	6.800	0,750
40	NUP 2308	90	33	52,0	1,5	1,5	89.600	96.000	5.040	6.000	0,980
45	NUP 2309	100	36	58,5	1,5	1,5	110.400	122.400	4.480	5.360	1,350
50	NUP 2310	110	40	65,0	2,0	2,0	128.800	148.800	4.000	4.800	1,800
55	NUP 2311	120	43	70,5	2,0	2,0	160.800	185.600	3.840	4.480	2,300
60	NUP 2312	130	46	77,0	2,1	2,1	179.200	212.000	3.440	4.000	2,850
65	NUP 2313	140	48	82,5	2,1	2,1	200.800	232.000	3.200	3.840	3,450
70	NUP 2314	150	51	89,0	2,1	2,1	220.000	260.000	2.880	3.440	4,150
75	NUP 2315	160	55	95,0	2,1	2,1	264.000	320.000	2.720	3.200	5,100
80	NUP 2316	170	58	101,0	2,1	2,1	286.400	352.000	2.560	3.040	6,100
85	NUP 2317	180	60	108,0	3,0	3,0	316.800	392.000	2.400	2.880	7,150
90	NUP 2318	190	64	113,5	3,0	3,0	352.000	432.000	2.240	2.720	8,300
95	NUP 2319	200	67	121,5	3,0	3,0	374.400	468.000	2.080	2.560	9,750
100	NUP 2320	215	73	127,5	3,0	3,0	466.400	588.000	1.920	2.400	12,500
110	NUP 2322	240	80	143,0	3,0	3,0	545.600	720.000	1.600	2.080	17,500
120	NUP 2324	260	86	154,0	3,0	3,0	633.600	832.000	1.520	1.920	25,000
130	NUP 2326	280	93	167,0	4,0	4,0	748.000	1.000.000	1.440	1.760	31,000
150	NUP 2330	320	108	193,0	4,0	4,0	952.000	1.304.000	1.360	1.600	46,500



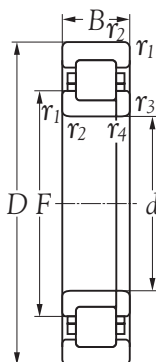
Inner bore <i>d</i> mm	Bearing number	Principal dimensions					Basic load ratings		Max runout speed		Weight kg
		<i>D</i>	<i>B</i>	<i>E</i> mm	<i>r</i> _{1,2} min	<i>r</i> _{3,4} min	dynamic <i>C</i>	static <i>C</i> ₀ <i>N</i>	grease oil	r/min	
17	N 303	47	14	40,2	1,0	0,6	19.680	16.320	11.200	13.600	0,120
20	N 304	52	15	45,5	1,1	0,6	24.640	20.800	9.600	12.000	0,150
25	N 305	62	17	54,0	1,1	1,1	32.160	29.200	7.600	9.600	0,240
30	N 306	72	19	62,5	1,1	1,1	40.960	38.400	7.200	8.800	0,360
35	N 307	80	21	70,2	1,5	1,1	51.520	50.400	6.400	7.600	0,480
45	N 309	100	25	88,5	1,5	1,5	79.200	80.000	5.040	6.000	0,880
50	N 310	110	27	97,0	2,0	2,0	88.000	89.600	4.000	4.800	1,150
55	N 311	120	29	106,5	2,0	2,0	110.400	114.400	3.840	4.480	1,450
60	N 312	130	31	115,0	2,1	2,1	120.800	128.000	3.440	4.000	1,800
65	N 313	140	33	124,5	2,1	2,1	146.400	156.800	3.200	3.840	2,250
75	N 315	160	37	143,0	2,1	2,1	193.600	212.000	2.720	3.200	3,300
80	N 316	170	39	151,0	2,1	2,1	208.000	232.000	2.560	3.040	3,900
85	N 317	180	41	160,0	3,0	3,0	237.600	268.000	2.400	2.880	4,700
90	N 318	190	43	169,5	3,0	3,0	255.200	288.000	2.240	2.720	5,400
95	N 319	200	45	177,5	3,0	3,0	272.800	312.000	2.080	2.560	6,250
100	N 320	215	47	191,5	3,0	3,0	312.800	352.000	1.920	2.400	7,550
105	N 321	225	49	201,0	3,0	3,0	352.000	400.000	1.760	2.240	8,650
110	N 322	240	50	211,0	3,0	3,0	374.400	432.000	1.600	2.080	10,500
120	N 324	260	55	230,0	3,0	3,0	431.200	496.000	1.520	1.920	13,000
130	N 326	280	58	247,0	4,0	4,0	501.600	600.000	1.440	1.760	18,500
140	N 328	300	62	260,0	4,0	4,0	475.200	568.000	1.520	1.920	20,000
150	N 330	320	65	283,0	4,0	4,0	624.800	772.000	1.360	1.600	28,500
170	N 334	360	72	318,0	4,0	4,0	761.600	944.000	1.120	1.360	38,500



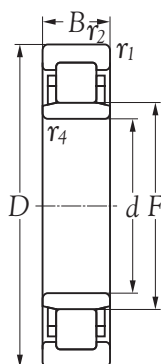
Inner bore <i>d</i> mm	Bearing number	Principal dimensions					Basic load ratings		Max runout speed		Weight kg
		<i>D</i>	<i>B</i>	<i>F</i> mm	<i>r</i> _{1,2} min	<i>r</i> _{3,4} min	dynamic <i>C</i> N	static <i>C</i> ₀	grease r/min	oil r/min	
15	NU 302	42	13	21,0	1,0	0,6	15.520	12.240	12.800	15.200	0,086
20	NU 304	52	15	27,5	1,1	0,6	24.640	20.800	9.600	12.000	0,150
25	NU 305	62	17	34,0	1,1	1,1	32.160	29.200	7.600	9.600	0,240
30	NU 306	72	19	40,5	1,1	1,1	40.960	38.400	7.200	8.800	0,360
35	NU 307	80	21	46,2	1,5	1,1	51.520	50.400	6.400	7.600	0,480
40	NU 308	90	23	52,0	1,5	1,5	64.720	62.400	5.360	6.400	0,650
45	NU 309	100	25	58,5	1,5	1,5	79.200	80.000	5.040	6.000	0,900
50	NU 310	110	27	65,0	2,0	2,0	88.000	89.600	4.000	4.800	1,150
55	NU 311	120	29	70,5	2,0	2,0	110.400	114.400	3.840	4.480	1,450
60	NU 312	130	31	77,0	2,1	2,1	120.800	128.000	3.440	4.000	1,800
65	NU 313	140	33	82,5	2,1	2,1	146.400	156.800	3.200	3.840	2,250
70	NU 314	150	35	89,0	2,1	2,1	164.000	182.400	2.880	3.440	2,750
75	NU 315	160	37	95,0	2,1	2,1	193.600	212.000	2.720	3.200	3,300
80	NU 316	170	39	101,0	2,1	2,1	208.000	232.000	2.560	3.040	3,950
85	NU 317	180	41	108,0	3,0	3,0	237.600	268.000	2.400	2.880	4,700
90	NU 318	190	43	113,5	3,0	3,0	255.200	288.000	2.240	2.720	5,450
95	NU 319	200	45	121,5	3,0	3,0	272.800	312.000	2.080	2.560	6,250
100	NU 320	215	47	127,5	3,0	3,0	312.800	352.000	1.920	2.400	7,600
105	NU 321	225	49	133,0	3,0	3,0	352.000	400.000	1.760	2.240	8,800
110	NU 322	240	50	143,0	3,0	3,0	374.400	432.000	1.600	2.080	10,500
120	NU 324	260	55	154,0	3,0	3,0	431.200	496.000	1.520	1.920	13,500
130	NU 326	280	58	167,0	4,0	4,0	501.600	600.000	1.440	1.760	18,500
140	NU 328	300	62	180,0	4,0	4,0	545.600	664.000	1.440	1.760	22,500
150	NU 330	320	65	193,0	4,0	4,0	624.800	772.000	1.360	1.600	27,500
160	NU 332	340	68	204,0	4,0	4,0	704.000	864.000	1.200	1.440	32,500
170	NU 334	360	72	220,0	4,0	4,0	647.200	832.000	1.280	1.520	38,500
180	NU 336	380	75	232,0	4,0	4,0	730.400	944.000	1.200	1.440	42,500
190	NU 338	400	78	245,0	5,0	5,0	912.000	1.200.000	960	1.200	50,000
200	NU 340	420	80	260,0	5,0	5,0	792.000	1.056.000	1.040	1.280	56,000
220	NU 344	460	88	284,0	5,0	5,0	968.000	1.304.000	960	1.200	72,500
240	NU 348	500	95	310,0	5,0	5,0	1.160.000	1.600.000	800	1.040	94,500



Inner bore <i>d</i> mm	Bearing number	Principal dimensions					Basic load ratings		Max runout speed		Weight kg
		<i>D</i>	<i>B</i>	<i>F</i> mm	<i>r</i> _{1,2} min	<i>r</i> _{3,4} min	dynamic <i>C</i> N	static <i>C</i> ₀	grease r/min	oil r/min	
15	NJ 302	42	13	21,0	1,0	0,6	15.520	12.240	12.800	15.200	0,088
17	NJ 303	47	14	24,2	1,0	0,6	19.680	16.320	11.200	13.600	0,120
20	NJ 304	52	15	27,5	1,1	0,6	24.640	20.800	9.600	12.000	0,150
25	NJ 305	62	17	34,0	1,1	1,1	32.160	29.200	7.600	9.600	0,250
30	NJ 306	72	19	40,5	1,1	1,1	40.960	38.400	7.200	8.800	0,370
35	NJ 307	80	21	46,2	1,5	1,1	51.520	50.400	6.400	7.600	0,490
40	NJ 308	90	23	52,0	1,5	1,5	64.720	62.400	5.360	6.400	0,670
45	NJ 309	100	25	58,5	1,5	1,5	79.200	80.000	5.040	6.000	0,920
50	NJ 310	110	27	65,0	2,0	2,0	88.000	89.600	4.000	4.800	1,150
55	NJ 311	120	29	70,5	2,0	2,0	110.400	114.400	3.840	4.480	1,500
60	NJ 312	130	31	77,0	2,1	2,1	120.800	128.000	3.440	4.000	1,900
65	NJ 313	140	33	82,5	2,1	2,1	146.400	156.800	3.200	3.840	2,300
70	NJ 314	150	35	89,0	2,1	2,1	164.000	182.400	2.880	3.440	2,800
75	NJ 315	160	37	95,0	2,1	2,1	193.600	212.000	2.720	3.200	3,350
80	NJ 316	170	39	101,0	2,1	2,1	208.000	232.000	2.560	3.040	4,000
85	NJ 317	180	41	108,0	3,0	3,0	237.600	268.000	2.400	2.880	4,800
90	NJ 318	190	43	113,5	3,0	3,0	255.200	288.000	2.240	2.720	5,550
95	NJ 319	200	45	121,5	3,0	3,0	272.800	312.000	2.080	2.560	6,450
100	NJ 320	215	47	127,5	3,0	3,0	312.800	352.000	1.920	2.400	7,800
105	NJ 321	225	49	133,0	3,0	3,0	352.000	400.000	1.760	2.240	8,950
110	NJ 322	240	50	143,0	3,0	3,0	374.400	432.000	1.600	2.080	10,500
120	NJ 324	260	55	154,0	3,0	3,0	431.200	496.000	1.520	1.920	13,500
130	NJ 326	280	58	167,0	4,0	4,0	501.600	600.000	1.440	1.760	19,000
140	NJ 328	300	62	180,0	4,0	4,0	545.600	664.000	1.440	1.760	23,000
150	NJ 330	320	65	193,0	4,0	4,0	624.800	772.000	1.360	1.600	28,000
160	NJ 332	340	68	204,0	4,0	4,0	704.000	864.000	1.200	1.440	33,000



Inner bore <i>d</i> mm	Bearing number	Principal dimensions					Basic load ratings		Max runout speed		Weight kg
		<i>D</i>	<i>B</i>	<i>F</i> mm	<i>r</i> _{1,2} min	<i>r</i> _{3,4} min	dynamic <i>C</i> N	static <i>C</i> ₀	grease r/min	oil r/min	
17	NUP 303	47	14	24,2	1,0	0,6	19.680	16.320	11.200	13.600	0,130
20	NUP 304	52	15	27,5	1,1	0,6	24.640	20.800	9.600	12.000	0,160
25	NUP 305	62	17	34,0	1,1	1,1	32.160	29.200	7.600	9.600	0,250
30	NUP 306	72	19	40,5	1,1	1,1	40.960	38.400	7.200	8.800	0,380
35	NUP 307	80	21	46,2	1,5	1,1	51.520	50.400	6.400	7.600	0,510
40	NUP 308	90	23	52,0	1,5	1,5	64.720	62.400	5.360	6.400	0,680
45	NUP 309	100	25	58,5	1,5	1,5	79.200	80.000	5.040	6.000	0,950
50	NUP 310	110	27	65,0	2,0	2,0	88.000	89.600	4.000	4.800	1,200
55	NUP 311	120	29	70,5	2,0	2,0	110.400	114.400	3.840	4.480	1,550
60	NUP 312	130	31	77,0	2,1	2,1	120.800	128.000	3.440	4.000	1,950
65	NUP 313	140	33	82,5	2,1	2,1	146.400	156.800	3.200	3.840	2,350
75	NUP 315	160	37	95,0	2,1	2,1	193.600	212.000	2.720	3.200	3,450
80	NUP 316	170	39	101,0	2,1	2,1	208.000	232.000	2.560	3.040	4,100
85	NUP 317	180	41	108,0	3,0	3,0	237.600	268.000	2.400	2.880	4,900
90	NUP 318	190	43	113,5	3,0	3,0	255.200	288.000	2.240	2.720	5,650
100	NUP 320	215	47	127,5	3,0	3,0	312.800	352.000	1.920	2.400	7,950
110	NUP 322	240	50	143,0	3,0	3,0	374.400	432.000	1.600	2.080	11,000
120	NUP 324	260	55	154,0	3,0	3,0	431.200	496.000	1.520	1.920	14,000
130	NUP 326	280	58	167,0	4,0	4,0	501.600	600.000	1.440	1.760	19,500
140	NUP 328	300	62	180,0	4,0	4,0	545.600	664.000	1.440	1.760	23,500



Inner bore <i>d</i> mm	Bearing number	Principal dimensions					Basic load ratings		Max runout speed		Weight kg
		<i>D</i>	<i>B</i>	<i>F</i> mm	<i>r</i> _{1,2} min	<i>r</i> _{3,4} min	dynamic <i>C</i> N	static <i>C</i> ₀	grease r/min	oil r/min	
25	NU 1005	47	12	30,5	0,6	0,3	11.360	10.560	12.000	14.400	0,084
30	NU 1006	55	13	36,5	1,0	0,6	14.320	13.840	9.600	12.000	0,120
35	NU 1007	62	14	42,0	1,0	0,6	28.640	30.400	8.000	10.400	0,160
40	NU 1008	68	15	47,0	1,0	0,6	20.080	20.800	7.600	9.600	0,220
45	NU 1009	75	16	52,5	1,0	0,6	35.680	41.600	7.200	8.800	0,260
50	NU 1010	80	16	57,5	1,0	0,6	24.640	27.600	6.800	8.000	0,310
55	NU 1011	90	18	64,5	1,1	1,0	45.760	55.600	5.600	6.800	0,400
60	NU 1012	95	18	69,5	1,1	1,0	29.920	35.200	5.360	6.400	0,480
65	NU 1013	100	18	74,5	1,1	1,0	30.400	37.200	5.040	6.000	0,510
70	NU 1014	110	20	80,0	1,1	1,0	44.880	53.760	4.800	5.600	0,700
75	NU 1015	115	20	85,0	1,1	1,0	46.640	56.800	4.480	5.360	0,740
80	NU 1016	125	22	91,5	1,1	1,0	52.800	65.200	4.240	5.040	0,990
85	NU 1017	130	22	96,5	1,1	1,0	54.560	69.200	4.000	4.800	1,050
90	NU 1018	140	24	103,0	1,5	1,1	64.720	83.200	3.840	4.480	1,350
95	NU 1019	145	24	108,0	1,5	1,1	67.360	88.000	3.600	4.240	1,400
100	NU 1020	150	24	113,0	1,5	1,1	68.640	91.200	3.440	4.000	1,450
105	NU 1021	160	26	119,5	2,0	1,1	80.800	109.600	3.200	3.840	1,850
110	NU 1022	170	28	125,0	2,0	1,1	102.400	132.800	3.040	3.600	2,300
120	NU 1024	180	28	135,0	2,0	1,1	107.200	146.400	2.720	3.200	2,450
130	NU 1026	200	33	148,0	2,0	1,1	132.000	179.200	2.560	3.040	3,750
140	NU 1028	210	33	158,0	2,0	1,1	137.600	196.000	2.400	2.880	4,000
150	NU 1030	225	35	169,5	2,1	1,5	155.200	220.000	2.080	2.560	4,850
160	NU 1032	240	38	180,0	2,1	1,5	183.200	260.000	1.920	2.400	5,950
170	NU 1034	260	42	193,0	2,1	2,1	220.000	320.000	1.760	2.240	7,900
180	NU 1036	280	46	205,0	2,1	2,1	268.800	380.000	1.600	2.080	10,500
190	NU 1038	290	46	215,0	2,1	2,1	277.600	400.000	1.600	2.080	10,000
200	NU 1040	310	51	229,0	2,1	2,1	304.000	456.000	1.520	1.920	14,000
220	NU 1044	340	56	250,0	3,0	3,0	396.000	588.000	1.440	1.760	18,500
240	NU 1048	360	56	270,0	3,0	3,0	418.400	640.000	1.360	1.600	20,000

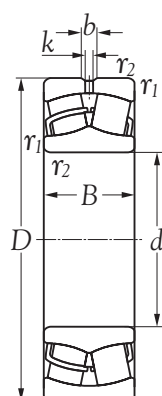


NOTE



PRODUCT INFORMATION

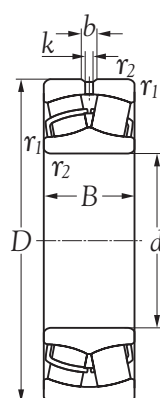
Spherical Roller Bearings



Cylindrical bore


 Tapered bore
taper 1:12 on diameter

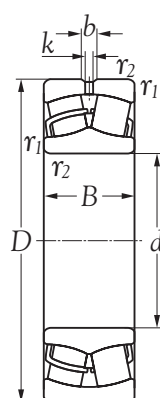
Inner bore d mm	Bearing number	Principal dimensions					Basic load ratings		Max runout speed		Weight kg
		D	B	$r_{1,2}$ mm	b	k	dynamic C N	static C_0	grease r/min	oil r/min	
25	21305 C	62	17	1,1			33.120	33.200	5.360	6.800	0,250
30	21306 C	72	19	1,1			44.160	48.800	4.800	6.000	0,380
35	21307 C	80	21	1,5			52.480	57.600	4.240	5.360	0,510
40	21308 C	90	23	1,5			66.240	78.400	3.600	4.480	0,710
40	21308 CK	90	23	1,5			66.240	78.400	3.600	4.480	0,710
45	21309 C	100	25	1,5			80.800	91.200	3.440	4.240	0,950
45	21309 CK	100	25	1,5			80.800	91.200	3.440	4.240	0,950
50	21310 C	110	27	2,0			96.000	112.000	2.880	3.840	1,200
50	21310 CK	110	27	2,0			96.000	112.000	2.880	3.840	1,200



Cylindrical bore


 Tapered bore
taper 1:12 on diameter

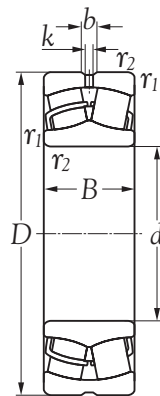
Inner bore <i>d</i> mm	Bearing number	Principal dimensions					Basic load ratings		Max runout speed		Weight kg
		<i>D</i>	<i>B</i>	<i>r</i> _{1,2} mm	<i>b</i>	<i>k</i>	dynamic <i>C</i> N	static <i>C</i> ₀	grease r/min	oil r/min	
25	22205 C	52	18	1,0			28.560	28.560	6.800	8.800	0,180
25	22205 CK	52	18	1,0			28.560	28.560	6.800	8.800	0,180
30	22206 C	62	20	1,0			39.120	41.600	6.000	7.600	0,280
30	22206 CK	62	20	1,0			39.120	41.600	6.000	7.600	0,280
35	22207 C	72	23	1,1			53.840	58.800	5.040	6.400	0,430
35	22207 CK	72	23	1,1			53.840	58.800	5.040	6.400	0,430
40	22208 C	80	23	1,1			58.880	65.200	4.800	6.000	0,520
40	22208 CK	80	23	1,1			58.880	65.200	4.800	6.000	0,520
50	22210 C	90	23	1,1			67.600	80.000	4.000	5.040	0,600
50	22210 CK	90	23	1,1			67.600	80.000	4.000	5.040	0,600
55	22211 C	100	25	1,5			79.600	94.400	3.600	4.480	0,820
55	22211 CK	100	25	1,5			79.600	94.400	3.600	4.480	0,820
60	22212 C	110	28	1,5			97.600	116.800	3.200	4.000	1,100
60	22212 CK	110	28	1,5			97.600	116.800	3.200	4.000	1,100
65	22213 C	120	31	1,5			118.400	146.400	3.040	3.840	1,450
65	22213 CK	120	31	1,5			118.400	146.400	3.040	3.840	1,450
70	22214 C	125	31	1,5			118.400	148.800	2.880	3.600	1,550
70	22214 CK	125	31	1,5			118.400	148.800	2.880	3.600	1,550
75	22215 C	130	31	1,5			126.400	166.400	2.720	3.440	1,650
75	22215 CK	130	31	1,5			126.400	166.400	2.720	3.440	1,650
75	22215 C	130	31	1,5	5,5	3,0	147.200	192.000	2.720	3.440	1,700
75	22215 CK	130	31	1,5	5,5	3,0	147.200	192.000	2.720	3.440	1,700
80	22216 C	140	33	2,0			140.800	182.400	2.560	3.200	2,050
80	22216 CK	140	33	2,0			140.800	182.400	2.560	3.200	2,050
80	22216 C	140	33	2,0	5,5	3,0	165.600	216.000	2.560	3.200	2,100
80	22216 CK	140	33	2,0	5,5	3,0	165.600	216.000	2.560	3.200	2,100
85	22217 C/W33	150	36	2,0	5,5	3,0	168.000	216.000	2.400	3.040	2,550
85	22217 CK/W33	150	36	2,0	5,5	3,0	168.000	216.000	2.400	3.040	2,550
85	22217 C	150	36	2,0	5,5	3,0	195.200	260.000	2.240	2.880	2,650
85	22217 CK	150	36	2,0	5,5	3,0	195.200	260.000	2.240	2.880	2,650
90	22218 C/W33	160	40	2,0	5,5	3,0	202.400	272.000	2.080	2.720	3,400
90	22218 CK/W33	160	40	2,0	5,5	3,0	202.400	272.000	2.080	2.720	3,400
90	22218 C	160	40	2,0	5,5	3,0	225.600	300.000	2.080	2.720	3,400
90	22218 CK	160	40	2,0	5,5	3,0	225.600	300.000	2.080	2.720	3,400



Cylindrical bore


 Tapered bore
taper 1:12 on diameter

Inner bore d mm	Bearing number	Principal dimensions					Basic load ratings		Max runout speed		Weight kg
		D	B	$r_{1,2}$ mm	b	k	dynamic C N	static Co	grease r/min	oil r/min	
95	22219 C/W33	170	43	2,1	8,3	4,5	225.600	300.000	1.920	2.560	4,000
95	22219 CK/W33	170	43	2,1	8,3	4,5	225.600	300.000	1.920	2.560	4,000
95	22219 C	170	43	2,1	8,3	4,5	267.200	360.000	1.920	2.560	4,150
95	22219 CK	170	43	2,1	8,3	4,5	267.200	360.000	1.920	2.560	4,150
100	22220 C/W33	180	46	2,1	8,3	4,5	248.800	332.000	1.760	2.400	4,850
100	22220 CK/W33	180	46	2,1	8,3	4,5	248.800	332.000	1.760	2.400	4,850
100	22220 C	180	46	2,1	8,3	4,5	294.400	392.000	1.760	2.400	4,900
100	22220 CK	180	46	2,1	8,3	4,5	294.400	392.000	1.760	2.400	4,900
110	22222 C/W33	200	53	2,1	8,3	4,5	326.400	448.000	1.600	2.240	7,000
110	22222 CK/W33	200	53	2,1	8,3	4,5	326.400	448.000	1.600	2.240	7,000
110	22222 C	200	53	2,1	8,3	4,5	391.200	512.000	1.600	2.240	7,000
110	22222 CK	200	53	2,1	8,3	4,5	391.200	512.000	1.600	2.240	7,000
120	22224 C/W33	215	58	2,1	11,1	6,0	372.800	536.000	1.520	2.080	8,700
120	22224 CK/W33	215	58	2,1	11,1	6,0	372.800	536.000	1.520	2.080	8,700
120	22224 C	215	58	2,1	11,1	6,0	441.600	612.000	1.520	2.080	8,850
130	22226 C/W33	230	64	3,0	11,1	6,0	436.800	640.000	1.440	1.920	11,000
130	22226 CK/W33	230	64	3,0	11,1	6,0	436.800	640.000	1.440	1.920	11,000
130	22226 C	230	64	3,0	11,1	6,0	515.200	744.000	1.440	1.920	11,000
130	22226 CK	230	64	3,0	11,1	6,0	515.200	744.000	1.440	1.920	11,000
140	22228 C/W33	250	68	3,0	11,1	6,0	488.000	720.000	1.360	1.760	14,000
140	22228 CK/W33	250	68	3,0	11,1	6,0	488.000	720.000	1.360	1.760	14,000
150	22230 C/W33	270	73	3,0	13,9	7,5	588.800	864.000	1.280	1.600	18,000
150	22230 CK/W33	270	73	3,0	13,9	7,5	588.800	864.000	1.280	1.600	18,000
160	22232 C/W33	290	80	3,0	13,9	7,5	690.400	1.032.000	1.200	1.520	22,500
160	22232 CK/W33	290	80	3,0	13,9	7,5	690.400	1.032.000	1.200	1.520	22,500
170	22234 C/W33	310	86	4,0	16,7	9,0	782.400	1.168.000	1.040	1.360	28,500
170	22234 CK/W33	310	86	4,0	16,7	9,0	782.400	1.168.000	1.040	1.360	28,500
180	22236 C/W33	320	86	4,0	16,7	9,0	808.000	1.248.000	1.040	1.360	29,500
180	22236 CK/W33	320	86	4,0	16,7	9,0	808.000	1.248.000	1.040	1.360	29,500
190	22238 C/W33	340	92	4,0	16,7	9,0	888.000	1.360.000	960	1.280	36,500
190	22238 CK/W33	340	92	4,0	16,7	9,0	888.000	1.360.000	960	1.280	36,500
200	22240 C/W33	360	98	4,0	16,7	9,0	1.016.000	1.544.000	880	1.200	43,500
200	22240 CK/W33	360	98	4,0	16,7	9,0	1.016.000	1.544.000	880	1.200	43,500
220	22244 C/W33	400	108	4,0	16,7	9,0	1.216.000	1.888.000	760	1.040	60,500

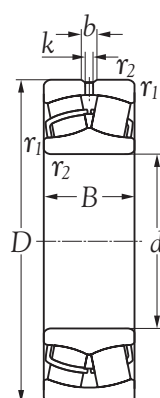


Cylindrical bore

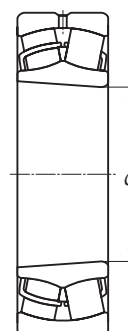


Tapered bore
taper 1:12 on diameter

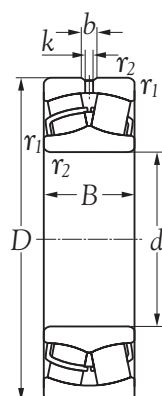
Inner bore d mm	Bearing number	Principal dimensions					Basic load ratings		Max runout speed		Weight kg
		D	B	$r_{1,2}$ mm	b	k	dynamic C N	static C_0	grease oil r/min		
220	22244 CK/W33	400	108	4	16,7	9,0	1.216.000	1.888.000	760	1.040	60,500
240	22248 C/W33	440	120	4	22,3	12,0	1.528.000	2.400.000	720	960	83,000
240	22248 CK/W33	440	120	4	22,3	12,0	1.528.000	2.400.000	720	960	83,000
260	22252 CA/W33	480	130	5	22,3	12,0	1.840.000	2.840.000	680	880	110,000
260	22252 CAK/W33	480	130	5	22,3	12,0	1.840.000	2.840.000	680	880	110,000
280	22256 CA/W33	500	130	5	22,3	12,0	1.880.000	3.000.000	640	800	115,000
280	22256 CAK/W33	500	130	5	22,3	12,0	1.880.000	3.000.000	640	800	115,000
300	22260 CA/W33	540	140	5	22,3	12,0	2.208.000	3.400.000	600	760	145,000
300	22260 CAK/W33	540	140	5	22,3	12,0	2.208.000	3.400.000	600	760	145,000
320	22264 CA/W33	580	150	5	22,3	12,0	2.528.000	3.920.000	536	680	175,000
320	22264 CAK/W33	580	150	5	22,3	12,0	2.528.000	3.920.000	536	680	175,000



Cylindrical bore


 Tapered bore
taper 1:12 on diameter

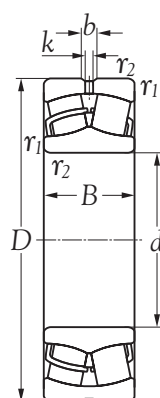
Inner bore d mm	Bearing number	Principal dimensions					Basic load ratings		Max runout speed		Weight kg
		D	B	$r_{1,2}$ mm	b	k	dynamic C N	static Co	grease r/min	oil r/min	
40	22308 C	90	33	1,5	5,5	3,0	92.000	97.600	3.600	4.480	1,000
40	22308 CK	90	33	1,5	5,5	3,0	92.000	97.600	3.600	4.480	1,000
50	22310 C	110	40	2,0	5,5	3,0	140.800	160.000	2.720	2.720	1,850
50	22310 CK	110	40	2,0	5,5	3,0	140.800	160.000	2.720	2.720	1,850
55	22311 C	120	43	2,0	5,5	3,0	159.200	185.600	2.560	3.200	2,350
55	22311 CK	120	43	2,0	5,5	3,0	159.200	185.600	2.560	3.200	2,350
60	22312 C	130	46	2,1	5,5	3,0	188.000	224.000	2.400	3.040	2,950
60	22312 CK	130	46	2,1	5,5	3,0	188.000	224.000	2.400	3.040	2,950
65	22313 C	140	48	2,1	5,5	3,0	202.400	240.000	2.080	2.720	3,550
65	22313 CK	140	48	2,1	5,5	3,0	202.400	240.000	2.080	2.720	3,550
70	22314 CK	150	51	2,1	5,5	4,5	276.000	344.000	1.760	2.400	4,300
75	22315 C/W33	160	55	2,1	8,3	4,5	276.000	344.000	1.760	2.400	5,250
75	22315 CK/W33	160	55	2,1	8,3	4,5	276.000	344.000	1.760	2.400	5,250
75	22315 C	160	55	2,1	8,3	4,5	308.000	380.000	1.760	2.400	5,250
75	22315 CK	160	55	2,1	8,3	4,5	308.000	380.000	1.760	2.400	5,250
80	22316 CK/W33	170	58	2,1	8,3	4,5	299.200	364.000	1.600	2.240	6,200
80	22316 C	170	58	2,1	8,3	4,5	344.800	432.000	1.600	2.240	6,200
80	22316 CK	170	58	2,1	8,3	4,5	344.800	432.000	1.600	2.240	6,200
85	22317 CK/W33	180	60	3,0	8,3	4,5	336.000	416.000	1.520	2.080	7,250
85	22317 C	180	60	3,0	8,3	4,5	381.600	496.000	1.520	2.080	7,250
85	22317 CK	180	60	3,0	8,3	4,5	381.600	496.000	1.520	2.080	7,250
90	22318 C/W33	190	64	3,0	8,3	6,0	381.600	488.000	1.440	1.920	8,600
90	22318 CK/W33	190	64	3,0	11,1	6,0	381.600	488.000	1.440	1.920	8,600
90	22318 C	190	64	3,0	11,1	6,0	428.000	556.000	1.440	1.920	8,600
90	22318 CK	190	64	3,0	11,1	6,0	428.000	556.000	1.440	1.920	8,600
95	22319 C/W33	200	67	3,0	11,1	6,0	414.400	536.000	1.440	1.920	10,000
95	22319 CK/W33	200	67	3,0	11,1	6,0	414.400	536.000	1.440	1.920	10,000
95	22319 C	200	67	3,0	11,1	6,0	469.600	612.000	1.440	1.920	10,000
100	22320 C/W33	215	73	3,0	11,1	6,0	488.000	640.000	1.360	1.760	13,000
100	22320 CK/W33	215	73	3,0	11,1	6,0	488.000	640.000	1.360	1.760	13,000
100	22320 C	215	73	3,0	11,1	6,0	561.600	760.000	1.360	1.760	13,000
100	22320 CK	215	73	3,0	11,1	6,0	561.600	760.000	1.360	1.760	13,000
110	22322 C/W33	240	80	3,0	13,9	7,5	580.000	772.000	1.280	1.600	18,000
110	22322 CK/W33	240	80	3,0	13,9	7,5	580.000	772.000	1.280	1.600	18,000



Cylindrical bore


 Tapered bore
taper 1:12 on diameter

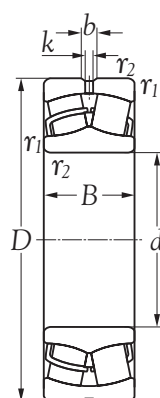
Inner bore d mm	Bearing number	Principal dimensions					Basic load ratings		Max runout speed		Weight kg
		D	B	$r_{1,2}$ mm	b	k	dynamic C N	static Co	grease r/min	oil r/min	
110	22322 C	240	80	3	13,9	7,5	662.400	896.000	1.200	1.520	17,500
110	22322 CK	240	80	3	13,9	7,5	662.400	896.000	1.200	1.520	17,500
120	22324 C/W33	260	86	3	13,9	7,5	676.000	896.000	1.120	1.440	22,000
120	22324 CK/W33	260	86	3	13,9	7,5	676.000	896.000	1.120	1.440	22,000
130	22326 C/W33	280	93	4	16,7	9,0	782.400	1.056.000	1.040	1.360	28,500
130	22326 CK/W33	280	93	4	16,7	9,0	782.400	1.056.000	1.040	1.360	28,500
140	22328 C/W33	300	102	4	16,7	9,0	904.000	1.248.000	880	1.200	34,500
140	22328 CK/W33	300	102	4	16,7	9,0	904.000	1.248.000	880	1.200	34,500
150	22330 C/W33	320	108	4	16,7	9,0	1.016.000	1.408.000	800	1.120	41,500
150	22330 CK/W33	320	108	4	16,7	9,0	1.016.000	1.408.000	800	1.120	41,500
160	22332 C/W33	340	114	4	16,7	9,0	1.104.000	1.568.000	760	1.040	50,000
160	22332 CK/W33	340	114	4	16,7	9,0	1.104.000	1.568.000	760	1.040	50,000
170	22334 C/W33	360	120	4	16,7	9,0	1.232.000	1.728.000	760	1.040	58,500
170	22334 CK/W33	360	120	4	16,7	9,0	1.232.000	1.728.000	760	1.040	58,500
180	22336 C/W33	380	126	4	22,3	12,0	1.384.000	1.960.000	720	960	69,000
180	22336 CK/W33	380	126	4	22,3	12,0	1.384.000	1.960.000	720	960	69,000
190	22338 C/W33	400	132	5	22,3	12,0	1.496.000	2.120.000	680	880	80,000
190	22338 CK/W33	400	132	5	22,3	12,0	1.496.000	2.120.000	680	880	80,000
200	22340 C/W33	420	138	5	22,3	12,0	1.616.000	2.320.000	680	880	92,500
200	22340 CK/W33	420	138	5	22,3	12,0	1.616.000	2.320.000	680	880	92,500
220	22344 C/W33	460	145	5	22,3	12,0	1.880.000	2.760.000	600	760	120,000
220	22344 CK/W33	460	145	5	22,3	12,0	1.880.000	2.760.000	600	760	120,000
240	22348 C/W33	500	155	5	22,3	12,0	2.136.000	3.200.000	536	680	155,000
240	22348 CK/W33	500	155	5	22,3	12,0	2.136.000	3.200.000	536	680	155,000



Cylindrical bore


 Tapered bore
taper 1:12 on diameter

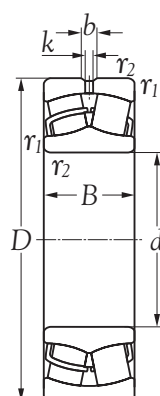
Inner bore <i>d</i> mm	Bearing number	Principal dimensions					Basic load ratings		Max runout speed		Weight kg
		<i>D</i>	<i>B</i>	<i>r</i> _{1,2} mm	<i>b</i>	<i>k</i>	dynamic <i>C</i> N	static <i>C</i> ₀	grease r/min	oil r/min	
110	23022 C	170	45	2,0			213.600	352.000	1.760	2.400	3,750
110	23022 CK	170	45	2,0			213.600	352.000	1.760	2.400	3,750
120	23024 C/W33	180	46	2,0	5,5	3,0	244.000	408.000	1.600	2.240	4,200
120	23024 CK/W33	180	46	2,0	5,5	3,0	244.000	408.000	1.600	2.240	4,200
130	23026 C/W33	200	52	2,0	8,3	4,5	299.200	488.000	1.520	2.080	6,100
130	23026 CK/W33	200	52	2,0	8,3	4,5	299.200	488.000	1.520	2.080	6,100
140	23028 C/W33	210	53	2,0	8,3	4,5	317.600	544.000	1.440	1.920	6,550
140	23028 CK/W33	210	53	2,0	8,3	4,5	317.600	544.000	1.440	1.920	6,550
150	23030 C/W33	225	56	2,1	8,3	4,5	349.600	600.000	1.360	1.760	7,950
150	23030 CK/W33	225	56	2,1	8,3	4,5	349.600	600.000	1.360	1.760	7,950
160	23032 C/W33	240	60	2,1	11,1	6,0	404.800	704.000	1.360	1.760	9,700
160	23032 CK/W33	240	60	2,1	11,1	6,0	404.800	704.000	1.360	1.760	9,700
170	23034 C/W33	260	67	2,1	11,1	6,0	496.800	848.000	1.280	1.600	13,000
170	23034 CK/W33	260	67	2,1	11,1	6,0	496.800	848.000	1.280	1.600	13,000
180	23036 C/W33	280	74	2,1	13,9	7,5	580.000	1.000.000	1.120	1.440	17,000
180	23036 CK/W33	280	74	2,1	13,9	7,5	580.000	1.000.000	1.120	1.440	17,000
190	23038 C/W33	290	75	2,1	13,9	7,5	602.400	1.072.000	1.040	1.360	18,000
190	23038 CK/W33	290	75	2,1	13,9	7,5	602.400	1.072.000	1.040	1.360	18,000
200	23040 C/W33	310	82	2,1	13,9	7,5	704.000	1.224.000	960	1.280	23,000
200	23040 CK/W33	310	82	2,1	13,9	7,5	704.000	1.224.000	960	1.280	23,000
220	23044 C/W33	340	90	3,0	13,9	7,5	840.000	1.488.000	880	1.200	30,500
220	23044 CK/W33	340	90	3,0	13,9	7,5	840.000	1.488.000	880	1.200	30,500
240	23048 C/W33	360	92	3,0	13,9	7,5	904.000	1.664.000	800	1.120	33,500
240	23048 CK/W33	360	92	3,0	13,9	7,5	904.000	1.664.000	800	1.120	33,500
260	23052 C/W33	400	104	4,0	16,7	9,0	1.120.000	2.040.000	720	960	48,500
260	23052 CK/W33	400	104	4,0	16,7	9,0	1.120.000	2.040.000	720	960	48,500
280	23056 C/W33	420	106	4,0	16,7	9,0	1.216.000	2.280.000	680	880	52,500
280	23056 CK/W33	420	106	4,0	16,7	9,0	1.216.000	2.280.000	680	880	52,500
300	23060 C/W33	460	118	4,0	16,7	9,0	1.472.000	2.760.000	640	800	71,500
300	23060 CK/W33	460	118	4,0	16,7	9,0	1.472.000	2.760.000	640	800	71,500
320	23064 C/W33	480	121	4,0	16,7	9,0	1.568.000	3.040.000	640	800	78,000
320	23064 CK/W33	480	121	4,0	16,7	9,0	1.568.000	3.040.000	640	800	78,000
340	23068 C/W33	520	133	5,0	22,3	12,0	1.880.000	3.640.000	560	720	105,000
340	23068 CK/W33	520	133	5,0	22,3	12,0	1.880.000	3.640.000	560	720	105,000



Cylindrical bore


 Tapered bore
taper 1:12 on diameter

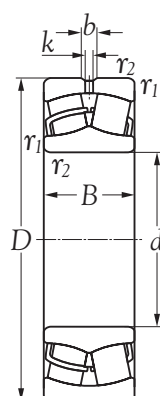
Inner bore d mm	Bearing number	Principal dimensions					Basic load ratings		Max runout speed		Weight kg
		D	B	$r_{1,2}$ mm	b	k	dynamic C N	static Co	grease r/min	oil r/min	
100	23120 C/W33	165	52	2,0	5,5	3,0	257.600	392.000	1.600	2.240	4,400
100	23120 CK/W33	165	52	2,0	5,5	3,0	257.601	392.000	1.600	2.240	4,400
110	23122 C/W33	180	56	2,0	8,3	4,5	299.200	468.000	1.520	2.080	5,550
110	23122 CK/W33	180	56	2,0	8,3	4,5	299.200	468.000	1.520	2.080	5,550
120	23124 C/W33	200	62	2,0	8,3	4,5	359.200	556.000	1.440	1.920	7,800
120	23124 CK/W33	200	62	2,0	8,3	4,5	359.200	556.000	1.440	1.920	7,800
130	23126 C/W33	210	64	2,0	8,3	4,5	391.200	624.000	1.360	1.760	8,550
130	23126 CK/W33	210	64	2,0	8,3	4,5	391.200	624.000	1.360	1.760	8,550
140	23128 C/W33	225	68	2,1	8,3	4,5	436.800	720.000	1.280	1.600	10,500
140	23128 CK/W33	225	68	2,1	8,3	4,5	436.800	720.000	1.280	1.600	10,500
150	23130 C/W33	250	80	2,1	11,1	6,0	580.000	960.000	1.120	1.440	16,000
150	23130 CK/W33	250	80	2,1	11,1	6,0	580.000	960.000	1.120	1.440	16,000
160	23132 C/W33	270	86	2,1	13,9	7,5	676.000	1.096.000	1.040	1.360	20,500
160	23132 CK/W33	270	86	2,1	13,9	7,5	676.000	1.096.000	1.040	1.360	20,500
170	23134 C/W33	280	88	2,1	13,9	7,5	717.600	1.200.000	960	1.280	21,500
170	23134 CK/W33	280	88	2,1	13,9	7,5	717.600	1.200.000	960	1.280	21,500
180	23136 C/W33	300	96	3,0	13,9	7,5	840.000	1.408.000	880	1.200	27,500
180	23136 CK/W33	300	96	3,0	13,9	7,5	840.000	1.408.000	880	1.200	27,500
190	23138 C/W33	320	104	3,0	13,9	7,5	960.000	1.664.000	760	1.040	34,500
190	23138 CK/W33	320	104	3,0	13,9	7,5	960.000	1.664.000	760	1.040	34,500
200	23140 C/W33	340	112	3,0	16,7	9,0	1.104.000	1.888.000	760	1.040	42,500
200	23140 CK/W33	340	112	3,0	16,7	9,0	1.104.000	1.888.000	760	1.040	42,500
220	23144 C/W33	370	120	4,0	16,7	9,0	1.264.000	2.200.000	720	960	53,000
220	23144 CK/W33	370	120	4,0	16,7	9,0	1.264.000	2.200.000	720	960	53,000
240	23148 C/W33	400	128	4,0	16,7	9,0	1.432.000	2.560.000	680	880	65,500
240	23148 CK/W33	400	128	4,0	16,7	9,0	1.432.000	2.560.000	680	880	65,500
260	23152 C/W33	440	144	4,0	16,7	9,0	1.776.000	3.120.000	640	800	90,500
260	23152 CK/W33	440	144	4,0	16,7	9,0	1.776.000	3.120.000	640	800	90,500
280	23156 C/W33	460	146	5,0	16,7	9,0	1.840.000	3.400.000	600	760	97,000
280	23156 CK/W33	460	146	5,0	16,7	9,0	1.840.000	3.400.000	600	760	97,000
300	23160 C/W33	500	160	5,0	16,7	9,0	2.256.000	4.080.000	536	680	125,000
300	23160 CK/W33	500	160	5,0	16,7	9,0	2.256.000	4.080.000	536	680	125,000
320	23164 C/W33	540	176	5,0	22,3	12,0	2.624.000	4.800.000	504	640	165,000
320	23164 CK/W33	540	176	5,0	22,3	12,0	2.624.000	4.800.000	504	640	165,000



Cylindrical bore


 Tapered bore
taper 1:12 on diameter

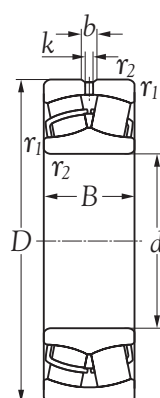
Inner bore <i>d</i> mm	Bearing number	Principal dimensions					Basic load ratings		Max runout speed		Weight kg
		<i>D</i>	<i>B</i>	<i>r</i> _{1,2} mm	<i>b</i>	<i>k</i>	dynamic <i>C</i> N	static <i>C</i> ₀	grease r/min	oil r/min	
90	23218 C/W33	160	52,4	2,0	5,5	3,0	248.800	352.000	1.520	2.080	4,600
90	23218 CK/W33	160	52,4	2,0	5,5	3,0	248.800	352.000	1.520	2.080	4,600
100	23220 C/W33	180	60,3	2,1	8,3	4,5	331.200	480.000	1.360	1.760	6,700
100	23220 CK/W33	180	60,3	2,1	8,3	4,5	331.200	480.000	1.360	1.760	6,700
110	23222 C/W33	200	69,8	2,1	8,3	4,5	414.400	612.000	1.280	1.600	9,700
110	23222 CK/W33	200	69,8	2,1	8,3	4,5	414.400	612.000	1.280	1.600	9,700
120	23224 C/W33	215	76,0	2,1	8,3	4,5	488.000	744.000	1.200	1.440	12,000
120	23224 CK/W33	215	76,0	2,1	8,3	4,5	488.000	744.000	1.200	1.440	12,000
130	23226 C/W33	230	80,0	3,0	8,3	4,5	552.000	848.000	1.040	1.360	14,000
130	23226 CK/W33	230	80,0	3,0	8,3	4,5	552.000	848.000	1.040	1.360	14,000
140	23228 C/W33	250	88,0	3,0	11,1	6,0	639.200	1.000.000	960	1.280	18,500
140	23228 CK/W33	250	88,0	3,0	11,1	6,0	639.200	1.000.000	960	1.280	18,500
150	23230 C/W33	270	96,0	3,0	11,1	6,0	749.600	1.168.000	880	1.200	24,000
150	23230 CK/W33	270	96,0	3,0	11,1	6,0	749.600	1.168.000	880	1.200	24,000
160	23232 C/W33	290	104,0	3,0	13,9	7,5	856.000	1.328.000	800	1.120	30,000
160	23232 CK/W33	290	104,0	3,0	13,9	7,5	856.000	1.328.000	800	1.120	30,000
170	23234 C/W33	310	110,0	4,0	13,9	7,5	976.000	1.544.000	760	1.040	36,500
170	23234 CK/W33	310	110,0	4,0	13,9	7,5	976.000	1.544.000	760	1.040	36,500
180	23236 C/W33	320	112,0	4,0	13,9	7,5	1.032.000	1.696.000	720	960	39,000
180	23236 CK/W33	320	112,0	4,0	13,9	7,5	1.032.000	1.696.000	720	960	39,000
190	23238 C/W33	340	120,0	4,0	16,7	9,0	1.168.000	1.920.000	680	880	47,500
190	23238 CK/W33	340	120,0	4,0	16,7	9,0	1.168.000	1.920.000	680	880	47,500
200	23240 C/W33	360	128,0	4,0	16,7	9,0	1.288.000	2.160.000	680	880	57,000
200	23240 CK/W33	360	128,0	4,0	16,7	9,0	1.288.000	2.160.000	680	880	57,000
220	23244 C/W33	400	144,0	4,0	16,7	9,0	1.656.000	2.760.000	600	760	79,500
220	23244 CK/W33	400	144,0	4,0	16,7	9,0	1.656.000	2.760.000	600	760	79,500
240	23248 C/W33	440	160,0	4,0	22,3	12,0	2.024.000	3.440.000	536	680	110,000
240	23248 CK/W33	440	160,0	4,0	22,3	12,0	2.024.000	3.440.000	536	680	110,000
260	23252 CA/W33	480	174,0	5,0	22,3	12,0	2.256.000	3.800.000	504	640	140,000
260	23252 CAK/W33	480	174,0	5,0	22,3	12,0	2.256.000	3.800.000	504	640	140,000
280	23256 CA/W33	500	176,0	5,0	22,3	12,0	2.256.000	3.920.000	480	600	150,000
280	23256 CAK/W33	500	176,0	5,0	22,3	12,0	2.256.000	3.920.000	480	600	150,000
300	23260 CA/W33	540	192,0	5,0	22,3	12,0	2.672.000	4.680.000	424	536	190,000
300	23260 CAK/W33	540	192,0	5,0	22,3	12,0	2.672.000	4.680.000	424	536	190,000



Cylindrical bore


 Tapered bore
taper 1:30 on diameter

Inner bore d mm	Bearing number	Principal dimensions					Basic load ratings		Max runout speed		Weight kg
		D	B	$r_{1,2}$ mm	b	k	dynamic C N	static Co	grease r/min	oil r/min	
120	24024 C/W33	180	60	2,0	5,5	3,0	299.200	536.000	1.280	1.600	5,400
120	24024 CK30/W33	180	60	2,0	5,5	3,0	299.200	536.000	1.280	1.600	5,400
130	24026 C/W33	200	69	2,0	5,5	3,0	381.600	652.000	1.200	1.520	7,950
130	24026 CK/W33	200	69	2,0	5,5	3,0	381.600	652.000	1.200	1.520	7,950
140	24028 C/W33	210	69	2,0	5,5	3,0	396.000	720.000	1.120	1.440	8,450
140	24028 CK30/W33	210	69	2,0	5,5	3,0	396.000	720.000	1.120	1.440	8,450
150	24030 C/W33	225	75	2,1	5,5	3,0	451.200	832.000	1.040	1.360	10,500
150	24030 CK30/W33	225	75	2,1	5,5	3,0	451.200	832.000	1.040	1.360	10,500
160	24032 C/W33	240	80	2,1	8,3	4,5	524.800	960.000	880	1.200	13,000
160	24032 CK/W33	240	80	2,1	8,3	4,5	524.800	960.000	880	1.200	13,000
170	24034 C/W33	260	90	2,1	8,3	4,5	639.200	1.168.000	800	1.120	17,500
170	24034 CK30/W33	260	90	2,1	8,3	4,5	639.200	1.168.000	800	1.120	17,500
180	24036 C/W33	280	100	2,1	8,3	4,5	749.600	1.384.000	760	1.040	23,000
180	24036 CK30/W33	280	100	2,1	8,3	4,5	749.600	1.384.000	760	1.040	23,000
190	24038 C/W33	290	100	2,1	8,3	4,5	782.400	1.440.000	760	1.040	24,000
190	24038 CK30/W33	290	100	2,1	8,3	4,5	782.400	1.440.000	760	1.040	24,000
200	24040 C/W33	310	109	2,1	11,1	6,0	904.000	1.696.000	720	960	30,500
200	24040 CK30/W33	310	109	2,1	11,1	6,0	904.000	1.696.000	720	960	30,500
220	24044 C/W33	340	118	3,0	11,1	6,0	1.088.000	2.080.000	680	880	39,500
220	24044 CK30/W33	340	118	3,0	11,1	6,0	1.088.000	2.080.000	680	880	39,500
240	24048 C/W33	360	118	3,0	11,1	6,0	1.104.000	2.160.000	640	800	42,500
240	24048 CK30/W33	360	118	3,0	11,1	6,0	1.104.000	2.160.000	640	800	42,500
260	24052 C/W33	400	140	4,0	11,1	6,0	1.408.000	2.760.000	560	720	64,500
260	24052 CK30/W33	400	140	4,0	11,1	6,0	1.408.000	2.760.000	560	720	64,500
280	24056 C/W33	420	140	4,0	11,1	6,0	1.496.000	3.040.000	536	680	68,500
280	24056 CK30/W33	420	140	4,0	11,1	6,0	1.496.000	3.040.000	536	680	68,500
300	24060 C/W33	460	160	4,0	13,9	7,5	1.880.000	3.800.000	480	600	97,000
300	24060 CK30/W33	460	160	4,0	13,9	7,5	1.880.000	3.800.000	480	600	97,000
320	24064 C/W33	480	160	4,0	13,9	7,5	1.984.000	4.080.000	448	560	100,000
320	24064 CK30/W33	480	160	4,0	13,9	7,5	1.984.000	4.080.000	448	560	100,000
340	24068 C/W33	520	180	5,0	16,7	9,0	2.392.000	4.960.000	424	536	140,000
340	24068 CK30/W33	520	180	5,0	16,7	9,0	2.392.000	4.960.000	424	536	140,000
360	24072 C/W33	540	180	5,0	16,7	9,0	2.488.000	5.240.000	400	504	145,000
360	24072 CK30/W33	540	180	5,0	16,7	9,0	2.488.000	5.240.000	400	504	145,000



Cylindrical bore

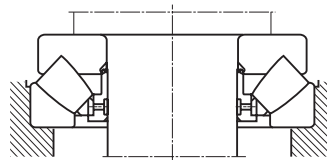
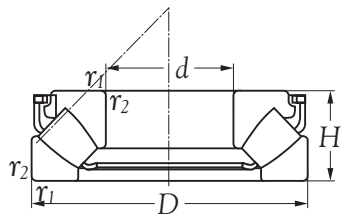

 Tapered bore
taper 1:30 on diameter

Inner bore <i>d</i> mm	Bearing number	Principal dimensions					Basic load ratings		Max runout speed		Weight kg
		<i>D</i>	<i>B</i>	<i>r</i> _{1,2} mm	<i>b</i>	<i>k</i>	dynamic <i>C</i>	static <i>C</i> ₀ N	grease r/min	oil r/min	
110	24122 C/W33	180	69	2,0	5,5	3,0	368.000	600.000	800	1.120	6,850
110	24122 CK30/W33	180	69	2,0	5,5	3,0	368.000	600.000	800	1.120	6,850
120	24124 C/W33	200	80	2,0	5,5	3,0	460.000	760.000	720	960	10,000
120	24124 CK30/W33	200	80	2,0	5,5	3,0	460.000	760.000	720	960	10,000
130	24126 C/W33	210	80	2,0	5,5	3,0	469.600	800.000	720	960	11,000
130	24126 CK30/W33	210	80	2,0	5,5	3,0	469.600	800.000	720	960	11,000
140	24128 C/W33	225	85	2,1	8,3	4,5	538.400	928.000	680	880	13,000
140	24128 CK30/W33	225	85	2,1	8,3	4,5	538.400	928.000	680	880	13,000
150	24130 C/W33	250	100	2,1	8,3	4,5	717.600	1.224.000	640	800	19,500
150	24130 CK30/W33	250	100	2,1	8,3	4,5	717.600	1.224.000	640	800	19,500
160	24132 C/W33	270	109	2,1	8,3	4,5	832.000	1.408.000	560	720	25,000
160	24132 CK30/W33	270	109	2,1	8,3	4,5	832.000	1.408.000	560	720	25,000
170	24134 C/W33	280	109	2,1	8,3	4,5	856.000	1.488.000	536	680	26,500
170	24134 CK30/W33	280	109	2,1	8,3	4,5	856.000	1.488.000	536	680	26,500
180	24136 C/W33	300	118	3,0	11,1	6,0	976.000	1.728.000	504	640	33,500
180	24136 CK30/W33	300	118	3,0	11,1	6,0	976.000	1.728.000	504	640	33,500
190	24138 C/W33	320	128	3,0	11,1	6,0	1.120.000	2.000.000	480	600	42,000
190	24138 CK30/W33	320	128	3,0	11,1	6,0	1.120.000	2.000.000	480	600	42,000
200	24140 C/W33	340	140	3,0	11,1	6,0	1.264.000	2.240.000	448	560	52,000
200	24140 CK30/W33	340	140	3,0	11,1	6,0	1.264.000	2.240.000	448	560	52,000
220	24144 C/W33	370	150	4,0	11,1	6,0	1.472.000	2.680.000	400	504	65,000
220	24144 CK30/W33	370	150	4,0	11,1	6,0	1.472.000	2.680.000	400	504	65,000
240	24148 C/W33	400	160	4,0	11,1	6,0	1.680.000	3.120.000	384	480	80,500
240	24148 CK30/W33	400	160	4,0	11,1	6,0	1.680.000	3.120.000	384	480	80,500
260	24152 C/W33	440	180	4,0	13,9	7,5	2.096.000	3.840.000	344	424	110,000
260	24152 CK30/W33	440	180	4,0	13,9	7,5	2.096.000	3.840.000	344	424	110,000
280	24156 C/W33	460	180	5,0	13,9	7,5	2.136.000	4.080.000	320	400	120,000
280	24156 CK30/W33	460	180	5,0	13,9	7,5	2.136.000	4.080.000	320	400	120,000
300	24160 C/W33	500	200	5,0	13,9	7,5	2.624.000	5.040.000	288	360	155,000
300	24160 CK30/W33	500	200	5,0	13,9	7,5	2.624.000	5.040.000	288	360	155,000
320	24164 C/W33	540	218	5,0	16,7	9,0	2.992.000	5.680.000	272	344	210,000
320	24164 CK30/W33	540	218	5,0	16,7	9,0	2.992.000	5.680.000	272	344	210,000
340	24168 EAC/W33	580	243	5,0	16,7	9,0	3.728.000	6.920.000	256	320	270,000
340	24168 EACK30/W33	580	243	5,0	16,7	9,0	3.728.000	6.920.000	256	320	270,000

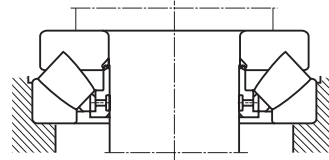
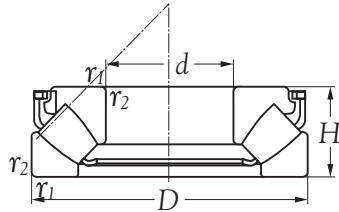


OKO® PRODUCT INFORMATION

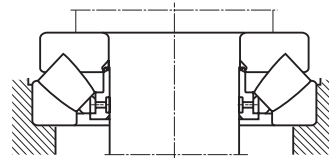
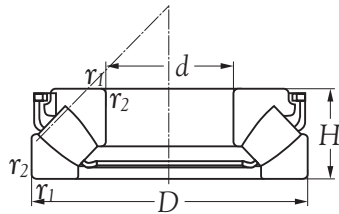
Spherical Roller Thrust Bearings



Inner bore d mm	Bearing number	Principal dimensions			Basic load ratings		Max runout speed		Fatigue load limit P_u	Minimum load factor A	Weight kg
		D	H mm	$r_{1,2}$ mm	dynamic C N	static C_0	grease	oil r/min			
150	29230E	215	39	1,5	276.000	1.096.000	-	1.440	146.000	180	4,550
160	29232E	225	39	1,5	285.600	1.168.000	-	1.360	156.000	200	4,800
170	29234E	240	42	1,5	326.400	1.328.000	-	1.280	176.000	260	5,950
180	29236E	250	42	1,5	336.000	1.408.000	-	1.280	186.000	290	6,250
190	29238E	270	48	2,0	414.400	1.760.000	-	1.120	212.000	440	8,700
200	29240E	280	48	2,0	428.000	1.824.000	-	1.120	232.000	490	8,900
220	29244E	300	48	2,0	436.800	1.920.000	-	1.040	240.000	550	10,000
240	29248E	340	60	2,1	639.200	2.760.000	-	880	335.000	1.100	16,500
260	29252E	360	60	2,1	653.600	2.920.000	-	880	345.000	1.300	18,500
280	29256E	380	60	2,1	690.400	3.200.000	-	800	375.000	1.500	19,500
300	29260E	420	73	3,0	856.000	3.840.000	-	720	465.000	2.200	30,500



Inner bore d mm	Bearing number	Principal dimensions			Basic load ratings		Max runout speed		Fatigue load limit P_u	Minimum load factor A	Weight kg
		D	H mm	$r_{1,2}$ min	dynamic C N	static C_0	grease	oil			
85	29317 E	150	39	1,5	267.200	848.000	1.280	1.760	129.000	110	2,750
90	29318 E	155	39	1,5	276.000	864.000	1.280	1.760	132.000	110	2,850
100	29320 E	170	42	1,5	326.400	1.032.000	1.200	1.600	156.000	160	3,650
110	29322 E	190	48	2,0	428.000	1.384.000	1.040	1.440	204.000	280	5,300
120	29324 E	210	54	2,1	524.800	1.696.000	880	1.280	245.000	430	7,350
130	29326 E	225	58	2,1	602.400	2.000.000	800	1.200	280.000	590	9,000
140	29328 E	240	60	2,1	676.000	2.280.000	760	1.120	315.000	770	10,500
150	29330 E	250	60	2,1	690.400	2.280.000	760	1.120	315.000	770	11,000
160	29332 E	270	67	3,0	808.000	2.760.000	680	960	375.000	1.100	14,500
170	29334 E	280	67	3,0	840.000	2.840.000	680	960	365.000	1.200	15,000
180	29336 E	300	73	3,0	992.000	3.440.000	640	880	440.000	1.800	19,500
190	29338 E	320	78	4,0	1.120.000	3.800.000	600	800	490.000	2.100	23,500
200	29340 E	340	85	4,0	1.288.000	4.400.000	560	760	550.000	2.900	29,500
220	29344 E	360	85	4,0	1.384.000	5.040.000	560	760	610.000	3.800	33,500
240	29348 E	380	85	4,0	1.432.000	5.240.000	536	720	630.000	4.100	35,500
260	29352 E	420	95	5,0	1.776.000	6.640.000	480	640	780.000	6.500	49,000
280	29356 E	440	95	5,0	1.752.000	6.920.000	480	640	800.000	7.100	53,000
300	29360 E	480	109	5,0	2.136.000	8.480.000	424	560	930.000	11.000	75,000

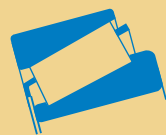


Inner bore <i>d</i> mm	Bearing number	Principal dimensions			Basic load ratings		Max runout speed		Fatigue load limit <i>P_u</i>	Minimum load factor <i>A</i>	Weight kg
		<i>D</i>	<i>H</i> mm	<i>r</i> _{1,2} <i>min</i>	dynamic <i>C</i> N	static <i>C₀</i>	grease	oil			
60	29412 E	130	42	1,5	276.000	732.000	1.440	2.080	114.000	79	2,600
65	29413 E	140	45	2,0	317.600	864.000	1.360	1.920	137.000	110	3,200
70	29414 E	150	48	2,0	359.200	1.000.000	1.280	1.760	153.000	150	3,900
75	29415 E	160	51	2,0	414.400	1.144.000	1.280	1.760	173.000	190	4,700
80	29416 E	170	54	2,1	460.000	1.304.000	1.200	1.600	193.000	250	5,600
85	29417 E	180	58	2,1	506.400	1.440.000	1.040	1.440	212.000	310	6,750
90	29418 E	190	60	2,1	561.600	1.600.000	1.040	1.440	232.000	380	7,750
100	29420 E	210	67	3,0	690.400	2.000.000	880	1.280	275.000	590	10,500
110	29422 E	230	73	3,0	808.000	2.400.000	760	1.120	325.000	860	13,500
120	29424 E	250	78	4,0	936.000	2.760.000	720	1.040	375.000	1.100	17,500
130	29426 E	270	85	4,0	1.104.000	3.240.000	680	960	430.000	1.600	22,000
140	29428 E	280	85	4,0	1.120.000	3.440.000	680	960	455.000	1.800	23,000
150	29430 E	300	90	4,0	1.288.000	4.080.000	640	880	520.000	2.500	28,000
160	29432 E	320	95	5,0	1.432.000	4.480.000	600	800	570.000	3.000	33,500
170	29434 E	340	103	5,0	1.616.000	5.240.000	560	760	640.000	4.100	44,500
180	29436 E	360	109	5,0	1.800.000	5.880.000	536	720	710.000	5.100	52,500
190	29438 E	380	115	5,0	1.984.000	6.400.000	504	680	765.000	6.100	60,500
200	29440 E	400	122	5,0	2.208.000	7.200.000	480	640	850.000	7.700	72,000
220	29444 E	420	122	6,0	2.304.000	7.720.000	448	600	900.000	8.800	75,000
240	29448 E	440	122	6,0	2.392.000	8.160.000	448	600	930.000	9.900	80,000
260	29452 E	480	132	6,0	2.808.000	10.320.000	400	536	1.080.000	16.000	105,000
280	29456 E	520	145	6,0	3.448.000	12.240.000	384	504	1.320.000	22.000	135,000
300	29460 E	540	145	6,0	3.496.000	13.280.000	360	480	1.340.000	26.000	140,000



PRODUCT INFORMATION

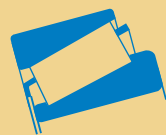
Taper Roller Bearings

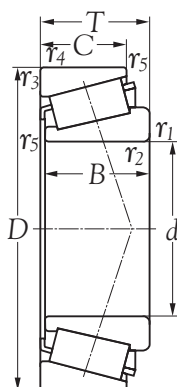




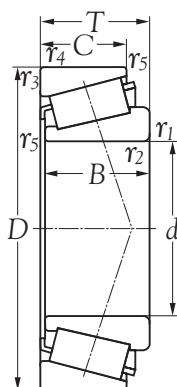
PRODUCT INFORMATION

Taper Roller Bearings

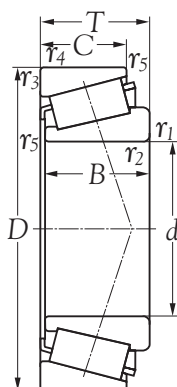




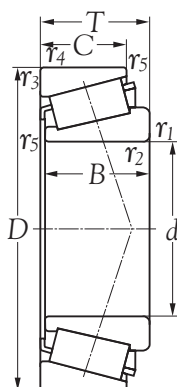
Inner bore <i>d</i> mm	Bearing number	Principal dimensions							Basic load ratings		Max runout speed		Weight kg
		<i>D</i>	<i>T</i>	<i>B</i>	<i>C</i> mm	<i>r</i> _{1,2} min	<i>r</i> _{3,4} min	<i>r</i> ₅ min	dynamic <i>C</i> N	static <i>Co</i>	grease r/min	oil r/min	
17	30203	40	13,25	12	11	1,0	1,0	0,3	15.200	14.880	7.200	10.400	0,075
20	30204	47	15,25	14	12	1,0	1,0	0,3	22.000	22.400	6.400	8.800	0,120
25	30205	52	16,25	15	13	1,0	1,0	0,3	24.640	26.800	6.000	8.000	0,150
30	30206	62	17,25	16	14	1,0	1,0	0,3	32.160	35.200	5.040	6.800	0,230
35	30207	72	18,25	17	15	1,5	1,5	0,6	40.960	44.800	4.240	5.600	0,320
40	30208	80	19,75	18	16	1,5	1,5	0,6	49.280	54.400	3.840	5.040	0,420
45	30209	85	20,75	19	16	1,5	1,5	0,6	52.800	61.200	3.600	4.800	0,480
50	30210	90	21,75	20	17	1,5	1,5	0,6	61.200	73.200	3.440	4.480	0,540
55	30211	100	22,75	21	18	2,0	1,5	0,6	71.760	84.800	3.040	4.000	0,700
60	30212	110	23,75	22	19	2,0	1,5	0,6	79.200	91.200	2.720	3.600	0,880
65	30213	120	24,75	23	20	2,0	1,5	0,6	91.200	107.200	2.400	3.200	1,150
70	30214	125	26,25	24	21	2,0	1,5	0,6	100.000	124.800	2.400	3.200	1,250
75	30215	130	27,25	25	22	2,0	1,5	0,6	112.000	140.800	2.240	3.040	1,400
80	30216	140	28,25	26	22	2,5	2,0	0,6	120.800	146.400	1.920	2.720	1,600
85	30217	150	30,50	28	24	2,5	2,0	0,6	140.800	176.000	1.760	2.560	2,050
90	30218	160	32,50	30	26	2,5	2,5	0,6	155.200	196.000	1.600	2.400	2,550
95	30219	170	34,50	32	27	3,0	2,5	1,0	172.800	220.000	1.520	2.240	3,000
100	30220	180	37,00	34	29	3,0	2,5	1,0	196.800	256.000	1.520	2.240	3,650
105	30221	190	39,00	36	30	3,0	2,5	1,0	216.000	284.000	1.440	2.080	4,250
110	30222	200	41,00	38	32	3,0	2,5	1,0	246.400	324.000	1.360	1.920	5,100
120	30224	215	43,50	40	34	3,0	2,5	1,0	272.800	372.000	1.280	1.760	6,150
130	30226	230	43,75	40	34	4,0	3,0	1,0	295.200	392.000	1.200	1.600	7,600
140	30228	250	45,75	42	36	4,0	3,0	1,0	334.400	456.000	1.120	1.520	8,650
150	30230	270	49,00	45	38	4,0	3,0	1,0	343.200	448.000	1.040	1.440	11,000
160	30232	290	52,00	48	40	4,0	3,0	1,0	422.400	588.000	880	1.280	13,000



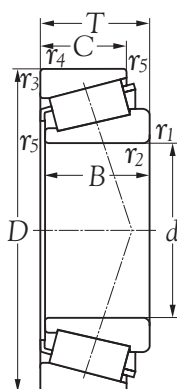
Inner bore <i>d</i> mm	Bearing number	Principal dimensions							Basic load ratings		Max runout speed		Weight kg
		<i>D</i>	<i>T</i>	<i>B</i>	<i>C</i> mm	<i>r</i> _{1,2} min	<i>r</i> _{3,4} min	<i>r</i> ₅ min	dynamic <i>C</i> N	static <i>Co</i>	grease r/min	oil r/min	
15	30302	42	14,25	13,0	11	1,0	1,0	0,3	17.920	16.000	7.200	10.400	0,095
17	30303	47	15,25	14,0	12	1,0	1,0	0,3	22.480	20.000	6.800	9.600	0,130
20	30304	52	16,25	15,0	13	1,5	1,5	0,6	27.280	26.000	6.400	8.800	0,170
25	30305	62	18,25	17,0	15	1,5	1,5	0,6	35.680	34.400	5.360	7.200	0,260
30	30306	72	20,75	19,0	16	1,5	1,5	0,6	44.880	44.800	4.480	6.000	0,390
35	30307	80	22,75	21,0	18	2,0	1,5	0,6	57.680	58.800	4.000	5.360	0,520
40	30308	90	25,25	32,5	28	2,5	2,0	0,6	68.640	76.000	3.600	4.800	0,720
45	30309	100	27,25	25,0	22	2,0	1,5	0,6	86.400	96.000	3.200	4.240	0,970
50	30310	110	29,25	27,0	23	2,5	2,0	0,6	100.000	112.000	2.880	3.840	1,250
55	30311	120	31,50	29,0	25	2,5	2,0	0,6	113.600	130.400	2.560	3.440	1,550
60	30312	130	33,50	31,0	26	3,0	2,5	1,0	134.400	156.800	2.400	3.200	1,950
65	30313	140	36,00	33,0	28	3,0	2,5	1,0	155.200	182.400	2.080	2.880	2,400
70	30314	150	38,00	35,0	30	3,0	2,5	1,0	176.000	208.000	1.920	2.720	2,900
75	30315	160	40,00	37,0	31	3,0	2,5	1,0	196.800	232.000	1.760	2.560	3,450
80	30316	170	42,50	39,0	33	3,0	2,5	1,0	216.000	256.000	1.600	2.400	4,100
85	30317	180	44,50	41,0	34	4,0	3,0	1,0	242.400	292.000	1.520	2.240	4,850
90	30318	190	46,50	43,0	36	4,0	3,0	1,0	264.000	320.000	1.440	2.080	5,650
95	30319	200	49,50	45,0	38	4,0	3,0	1,0	264.000	312.000	1.440	2.080	6,700
100	30320	215	51,50	47,0	39	4,0	3,0	1,0	321.600	392.000	1.360	1.920	8,050
105	30321	225	53,50	49,0	41	4,0	3,0	1,0	343.200	424.000	1.280	1.760	9,150
110	30322	240	54,50	50,0	42	4,0	3,0	1,0	378.400	468.000	5.280	1.760	11,000
120	30324	260	59,50	55,0	46	4,0	3,0	1,0	448.800	568.000	1.200	1.600	14,000
130	30326	280	63,75	58,0	49	5,0	4,0	1,5	501.600	640.000	1.040	1.440	17,000
140	30328	300	67,75	62,0	53	5,0	4,0	1,5	589.600	760.000	960	1.360	21,000
150	30330	320	72,00	65,0	55	5,0	4,0	1,5	660.000	848.000	880	1.280	28,500
160	30332	340	75,00	68,0	58	5,0	4,0	1,5	730.400	944.000	800	1.200	29,000



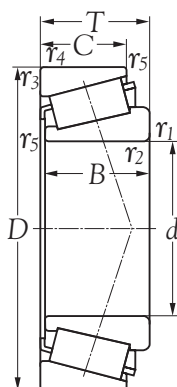
Inner bore <i>d</i> mm	Bearing number	Principal dimensions							Basic load ratings		Max runout speed		Weight kg
		<i>D</i>	<i>T</i>	<i>B</i>	<i>C</i> mm	<i>r</i> _{1,2} min	<i>r</i> _{3,4} min	<i>r</i> ₅ min	dynamic <i>C</i> N	static <i>Co</i>	grease r/min	oil	
25	31305	62	18,25	17	13	1,5	1,5	0,6	30.400	32.000	4.480	6.000	0,260
30	31306	72	20,75	19	14	1,5	1,5	0,6	37.840	40.000	4.000	5.360	0,390
35	31307	80	22,75	21	15	2,0	1,5	0,6	49.280	53.600	3.600	4.800	0,520
40	31308	90	25,25	23	20	2,0	1,5	0,6	58.960	65.200	3.200	4.240	0,720
45	31309	100	27,25	25	18	2,0	1,5	0,6	73.040	81.600	2.720	3.600	0,950
50	31310	110	29,25	27	19	2,5	2,0	0,6	84.800	96.000	2.560	3.440	1,200
55	31311	120	31,50	29	21	2,5	2,0	0,6	96.800	109.600	2.240	3.040	1,550
60	31312	130	33,50	31	22	3,0	2,5	1,0	116.000	132.800	2.080	2.880	1,900
65	31313	140	36,00	33	23	3,0	2,5	1,0	132.000	154.400	1.760	2.560	2,350
70	31314	150	38,00	35	25	3,0	2,5	1,0	149.600	176.000	1.600	2.400	2,950
75	31315	160	40,00	37	26	3,0	2,5	1,0	167.200	196.000	1.520	2.240	3,500
80	31316	170	42,50	39	27	3,0	2,5	1,0	179.200	212.000	1.520	2.240	4,050
85	31317	180	44,50	41	28	4,0	3,0	1,0	193.600	228.000	1.440	2.080	4,600
90	31318	190	46,50	43	30	4,0	3,0	1,0	211.200	252.000	1.360	1.920	5,900
95	31319	200	49,50	45	32	4,0	3,0	1,0	233.600	284.000	1.360	1.920	6,950
100	31320 X	215	56,50	51	35	4,0	3,0	1,0	299.200	372.000	1.280	1.760	8,600
105	31321 X	225	58,00	53	36	4,0	3,0	1,0	321.600	400.000	1.200	1.600	9,650
110	31322 X	240	63,00	57	38	4,0	3,0	1,0	365.600	468.000	1.120	1.520	12,000



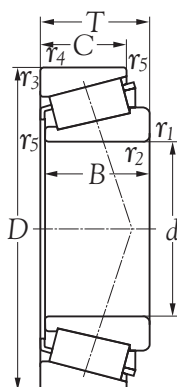
Inner bore <i>d</i> mm	Bearing number	Principal dimensions							Basic load ratings		Max runout speed		Weight kg
		<i>D</i>	<i>T</i>	<i>B</i>	<i>C</i> mm	<i>r</i> _{1,2} min	<i>r</i> _{3,4} min	<i>r</i> ₅ min	dynamic <i>C</i> N	static <i>Co</i>	grease r/min	oil r/min	
20	32004 X	42	15	15	12,0	0,6	0,6	0,3	19.360	21.600	6.800	9.600	0,097
22	32022 X	44	15	15	11,5	0,6	0,6	0,3	20.080	23.200	6.400	8.800	0,100
25	32005 X	47	15	15	11,5	0,6	0,6	0,3	21.600	26.000	6.400	8.800	0,110
28	32028 X	52	16	16	12,0	1,0	1,0	0,3	25.520	30.400	5.600	7.600	0,150
30	32006 X	55	17	17	13,0	1,0	1,0	0,3	28.640	35.200	5.360	7.200	0,170
32	32032 X	58	17	17	13,0	1,0	1,0	0,3	29.520	37.200	5.040	6.800	0,190
35	32007 X	62	18	18	14,0	1,0	1,0	0,3	34.320	43.200	4.800	6.400	0,220
40	32008 X	68	19	19	14,5	1,0	1,0	0,3	42.240	56.800	4.240	5.600	0,270
45	32009 X	75	20	20	15,5	1,0	1,0	0,3	46.640	64.000	3.840	5.040	0,340
50	32010 X	80	20	20	15,5	1,0	1,0	0,3	48.400	70.400	3.600	4.800	0,370
55	32011 X	90	23	23	17,5	1,5	1,5	0,6	64.720	92.800	3.200	4.240	0,550
60	32012 X	95	23	23	17,5	1,5	1,5	0,6	66.000	97.600	3.040	4.000	0,590
65	32013 X	100	23	23	17,5	1,5	1,5	0,6	67.360	101.600	2.720	3.600	0,630
70	32014 X	110	25	25	19,0	1,5	1,5	0,6	80.800	122.400	2.560	3.440	0,840
75	32015 X	115	25	25	19,0	1,5	1,5	0,6	84.800	130.400	2.400	3.200	0,900
80	32016 X	125	29	29	22,0	1,5	1,5	0,6	110.400	172.800	2.080	2.880	1,300
85	32017 X	130	29	29	22,0	1,5	1,5	0,6	112.000	179.200	1.920	2.720	1,350
90	32018 X	140	32	32	24,0	2,0	1,5	0,6	134.400	216.000	1.760	2.560	1,750
95	32019 X	145	32	32	24,0	2,0	1,5	0,6	134.400	216.000	1.760	2.560	1,800
100	32020 X	150	32	32	24,0	2,0	1,5	0,6	137.600	224.000	1.600	2.400	1,900
105	32021 X	160	35	35	26,0	2,5	2,0	0,6	160.800	268.000	1.520	2.240	2,400
110	32022 X	170	38	38	29,0	2,5	2,0	0,6	186.400	312.000	1.440	2.080	3,050
120	32024 X	180	38	38	29,0	2,5	2,0	0,6	193.600	332.000	1.360	1.920	3,250
130	32026 X	200	45	45	34,0	2,5	2,0	0,6	251.200	432.000	1.280	1.760	4,950
140	32028 X	210	45	45	34,0	2,5	2,0	0,6	264.000	468.000	1.280	1.760	5,250
150	32030 X	225	48	48	36,0	3,0	2,5	1,0	295.200	524.000	1.200	1.600	6,350
160	32032 X	240	51	51	38,0	3,0	2,5	1,0	343.200	624.000	1.040	1.440	7,750



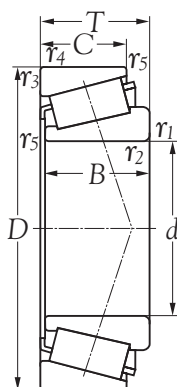
Inner bore <i>d</i> mm	Bearing number	Principal dimensions							Basic load ratings		Max runout speed		Weight kg
		<i>D</i>	<i>T</i>	<i>B</i>	<i>C</i> mm	<i>r</i> _{1,2} min	<i>r</i> _{3,4} min	<i>r</i> ₅ min	dynamic <i>C</i> N	static <i>Co</i>	grease r/min	oil r/min	
25	32205	52	19,25	18	15	1,0	1,0	0,3	28.640	35.200	5.600	7.600	0,190
30	32206	62	21,25	20	17	1,0	1,0	0,3	39.600	46.800	4.800	6.400	0,300
30	32206	62	21,25	20	17	1,0	1,0	0,3	40.080	45.600	5.040	6.800	0,280
35	32207	72	24,25	23	19	1,5	1,5	0,6	48.400	60.000	4.240	5.600	0,440
35	32207	72	24,25	23	19	1,5	1,5	0,6	52.800	62.400	4.240	5.600	0,430
40	32208	80	24,75	23	19	1,5	1,5	0,6	59.840	69.200	3.840	5.040	0,530
45	32209	85	24,75	23	19	1,5	1,5	0,6	58.960	74.400	3.440	4.480	0,600
45	32209	85	24,75	23	19	1,5	1,5	0,6	64.720	78.400	3.600	4.800	0,580
50	32210	90	24,75	23	18	1,5	1,5	0,6	66.000	83.200	3.200	4.240	0,650
50	32210	90	24,75	23	19	1,5	1,5	0,6	66.000	80.000	3.440	4.480	0,610
55	32211	100	26,75	25	19	2,0	1,5	0,6	80.800	101.600	2.880	3.840	0,870
55	32211	100	26,75	25	21	2,0	1,5	0,6	84.800	103.200	3.040	4.000	0,830
60	32212	110	29,75	28	24	2,0	1,5	0,6	100.000	128.000	2.720	3.600	1,150
65	32213	120	32,75	31	27	2,0	1,5	0,6	120.800	154.400	2.400	3.200	1,500
70	32214	125	33,25	31	27	2,0	1,5	0,6	125.600	166.400	2.240	3.040	1,600
75	32215	130	33,25	31	27	2,0	1,5	0,6	128.800	169.600	2.080	2.880	1,700
80	32216	140	35,25	33	28	2,5	2,0	0,6	149.600	196.000	1.920	2.720	2,050
85	32217	150	38,50	36	30	2,5	2,0	0,6	169.600	228.000	1.760	2.560	2,600
90	32218	160	42,50	40	34	2,5	2,0	0,6	200.800	272.000	1.600	2.400	3,350
95	32219	170	45,50	43	37	3,0	2,5	1,0	224.800	312.000	1.520	2.240	4,050
100	32220	180	49,00	46	39	3,0	2,5	1,0	255.200	352.000	1.440	2.080	4,900
105	32221	190	53,00	50	43	3,0	2,5	1,0	286.400	408.000	1.440	2.080	6,000
110	32222	200	56,00	53	46	3,0	2,5	1,0	321.600	456.000	1.360	1.920	7,100
120	32224	215	61,50	58	50	3,0	2,5	1,0	374.400	556.000	1.280	1.760	9,150
130	32226	230	67,75	64	54	4,0	3,0	1,0	440.000	664.000	1.200	1.600	11,500
140	32228	250	71,75	68	58	4,0	3,0	1,0	515.200	800.000	1.120	1.520	14,500
150	32230	270	77,00	73	60	4,0	3,0	1,0	589.600	912.000	960	1.360	17,500
160	32232	290	84,00	80	67	4,0	3,0	1,0	704.000	1.120.000	880	1.280	25,500
170	32234	310	91,00	86	71	5,0	4,0	1,5	808.000	1.304.000	800	1.200	28,500
180	32236	320	91,00	86	71	5,0	4,0	1,5	808.000	1.304.000	760	1.120	29,500
190	32238	340	97,00	92	75	5,0	4,0	1,5	952.000	1.544.000	720	1.040	36,000
200	32240	360	104,00	98	82	5,0	4,0	1,5	968.000	1.600.000	720	1.040	42,500
220	32244	400	114,00	108	90	5,0	4,0	1,5	1.288.000	2.160.000	640	880	60,000



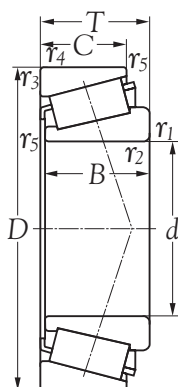
Inner bore <i>d</i> mm	Bearing number	Principal dimensions							Basic load ratings		Max runout speed		Weight kg
		<i>D</i>	<i>T</i>	<i>B</i>	<i>C</i> mm	<i>r</i> _{1,2} min	<i>r</i> _{3,4} min	<i>r</i> ₅ min	dynamic <i>C</i> N	static <i>Co</i>	grease r/min	oil r/min	
17	32303	47	20,25	19	16	1,0	1,0	0,3	27.760	26.800	6.400	8.800	0,170
20	32304	52	22,25	21	18	1,5	1,5	0,6	35.200	36.400	6.000	8.000	0,230
25	32305	62	25,25	24	20	1,5	1,5	0,6	48.400	50.400	4.800	6.400	0,360
30	32306	72	28,75	27	23	1,5	1,5	0,6	61.200	68.000	4.240	5.600	0,550
35	32307	80	32,75	31	25	2,0	1,5	0,6	74.800	91.200	3.600	4.800	0,800
35	32307	80	32,75	31	25	2,0	1,5	0,6	76.160	84.800	3.840	5.040	0,730
40	32308	90	35,25	33	27	2,0	1,5	0,6	86.400	112.000	3.200	4.240	1,100
40	32308	90	35,25	23	17	2,0	1,5	0,6	93.600	112.000	3.200	4.240	1,000
45	32309	100	38,25	36	30	2,0	1,5	0,6	107.200	140.800	2.880	3.840	1,450
45	32309	100	38,25	36	30	2,0	1,5	0,6	112.000	136.000	2.880	3.840	1,350
50	32310	110	42,25	40	33	2,5	2,0	0,6	128.800	172.800	2.560	3.440	1,850
50	32310	110	42,25	40	33	2,5	2,0	0,6	137.600	169.600	2.560	3.440	1,800
55	32311	120	45,50	43	35	2,5	2,0	0,6	158.400	200.000	2.400	3.200	2,300
55	32311	120	45,50	43	35	2,5	2,0	0,6	152.000	208.000	2.240	3.040	2,500
60	32312	130	48,50	46	37	3,0	2,5	1,0	183.200	232.000	2.080	2.880	2,850
60	32312	130	48,50	46	37	3,0	2,5	1,0	176.000	244.000	2.080	2.880	2,800
65	32313	140	51,00	48	39	3,0	2,5	1,0	211.200	268.000	1.920	2.720	3,450
65	32313	140	51,00	48	39	3,0	2,5	1,0	196.800	276.000	1.760	2.560	3,350
70	32314	150	54,00	51	42	3,0	2,5	1,0	237.600	304.000	1.760	2.560	4,300
70	32314	150	54,00	51	42	3,0	2,5	1,0	224.800	320.000	1.600	2.400	4,250
75	32315	160	58,00	55	45	3,0	2,5	1,0	268.800	352.000	1.600	2.400	5,200
75	32315	160	58,00	55	45	3,0	2,5	1,0	268.800	380.000	1.520	2.240	5,550
80	32316	170	61,50	58	48	3,0	2,5	1,0	304.000	400.000	1.520	2.240	6,200
80	32316	170	61,50	58	48	3,0	2,5	1,0	286.400	416.000	1.440	2.080	5,700
85	32317	180	63,50	60	49	4,0	3,0	1,0	321.600	424.000	1.440	2.080	6,850
85	32317	180	63,50	60	49	4,0	3,0	1,0	312.800	448.000	1.440	2.080	7,500
90	32318	190	67,50	64	53	4,0	3,0	1,0	365.600	488.000	1.360	1.920	8,400
95	32319	200	71,50	67	55	4,0	3,0	1,0	400.800	536.000	1.360	1.920	11,000
100	32320	215	77,50	73	60	4,0	3,0	1,0	457.600	624.000	1.280	1.760	12,500
105	32321	225	81,50	77	63	4,0	3,0	1,0	484.000	652.000	1.200	1.600	14,500
110	32322	240	84,50	80	65	4,0	3,0	1,0	501.600	664.000	1.120	1.520	17,000
120	32324	260	90,50	86	69	4,0	3,0	1,0	633.600	896.000	1.040	1.440	21,500
130	32326	280	98,75	93	78	5,0	4,0	1,5	686.400	944.000	880	1.280	30,500
150	32330	320	114,00	108	90	5,0	4,0	1,5	936.000	1.328.000	760	1.120	46,000



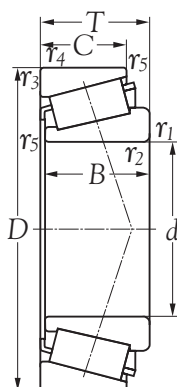
Inner bore <i>d</i> mm	Bearing number	Principal dimensions							Basic load ratings		Max runout speed		Weight kg
		<i>D</i>	<i>T</i>	<i>B</i>	<i>C</i> mm	<i>r</i> _{1,2} mm	<i>r</i> _{3,4} mm	<i>r</i> ₅ mm	dynamic <i>C</i> N	static <i>C</i> ₀	grease r/min	oil r/min	
75	32915	105	20,0	20,0	16	1,0	1,0	0,3	56.320	92.800	2.560	3.440	0,520
110	32922	150	25,0	25,0	20	1,5	1,5	0,6	100.000	179.200	1.600	2.400	1,250
130	32926	180	32,0	32,0	25	2,0	1,5	0,6	158.400	292.000	1.360	1.920	2,400
140	32928	190	32,0	32,0	25	2,0	1,5	0,6	164.000	312.000	1.280	1.760	2,550
170	32934	230	38,0	38,0	30	2,5	2,0	0,6	228.800	468.000	1.120	1.520	4,500
180	32936	250	45,0	45,0	34	2,5	2,0	0,6	281.600	588.000	960	1.360	6,650
190	32938	260	45,0	45,0	34	2,5	2,0	0,6	286.400	612.000	880	1.280	7,000
200	32940	280	51,0	51,0	39	3,0	2,5	1,0	378.400	760.000	800	1.200	9,500
240	32948	320	51,0	51,0	39	3,0	2,5	1,0	409.600	864.000	720	1.040	11,000
280	32956	380	63,5	63,5	48	3,0	2,5	1,0	612.000	1.328.000	640	880	20,000
300	32960	420	76,0	76,0	57	4,0	3,0	1,0	840.000	1.792.000	560	760	32,000



Inner bore <i>d</i> mm	Bearing number	Principal dimensions							Basic load ratings		Max runout speed		Weight kg
		<i>D</i>	<i>T</i>	<i>B</i>	<i>C</i> mm	<i>r</i> _{1,2} mm	<i>r</i> _{3,4} mm	<i>r</i> ₅ mm	dynamic <i>C</i> N	static <i>Co</i>	grease r/min	oil r/min	
50	33010	80	24	24	19,0	1,0	1,0	0,3	55.440	81.600	3.600	4.800	0,450
55	33011	90	27	27	21,0	1,5	1,5	0,6	71.760	109.600	3.200	4.240	0,670
60	33012	95	27	27	21,0	1,5	1,5	0,6	73.040	114.400	3.040	4.000	0,710
65	33013	100	27	27	21,0	1,5	1,5	0,6	77.440	124.800	2.720	3.600	0,780
70	33014	110	31	31	25,5	1,5	1,5	0,6	104.000	156.800	2.560	3.440	1,100
75	33015	115	31	31	25,5	1,5	1,5	0,6	107.200	182.400	2.400	3.200	1,150
80	33016	125	36	36	29,5	1,5	1,5	0,6	134.400	228.000	2.080	2.880	1,650
85	33017	130	36	36	29,5	1,5	1,5	0,6	146.400	248.000	2.080	2.880	1,750
90	33018	140	39	39	32,5	2,0	1,5	0,6	172.800	284.000	1.760	2.560	2,200
95	33019	145	39	39	32,5	2,0	1,5	0,6	176.000	300.000	1.760	2.560	2,300
100	33020	150	39	39	32,5	2,0	1,5	0,6	179.200	312.000	1.600	2.400	2,400
105	33021	160	43	43	34,0	2,5	2,0	0,6	196.800	344.000	1.520	2.240	3,050
110	33022	170	47	47	37,0	2,5	2,0	0,6	224.800	400.000	1.440	2.080	3,850
120	33024	180	48	48	38,0	2,5	2,0	0,6	233.600	432.000	1.440	2.080	4,200
150	33030	225	59	59	46,0	3,0	2,5	1,0	365.600	692.000	1.200	1.600	8,150



Inner bore <i>d</i> mm	Bearing number	Principal dimensions							Basic load ratings		Max runout speed		Weight kg
		<i>D</i>	<i>T</i>	<i>B</i>	<i>C</i> mm	<i>r</i> _{1,2} mm	<i>r</i> _{3,4} mm	<i>r</i> ₅ mm	dynamic <i>C</i> N	static <i>C</i> ₀	grease r/min	oil r/min	
40	33108	75	26	26	20,5	1,5	1,5	0,6	63.360	83.200	4.000	5.360	0,510
45	33109	80	26	26	20,5	1,5	1,5	0,6	67.360	91.200	3.600	4.800	0,560
50	33110	85	26	26	20,0	1,5	1,5	0,6	68.640	97.600	3.440	4.480	0,590
55	33111	95	30	30	23,0	1,5	1,5	0,6	88.000	124.800	3.040	4.000	0,860
60	33112	100	30	30	23,0	1,5	1,5	0,6	93.600	136.000	2.880	3.840	0,920
65	33113	110	34	34	26,5	1,5	1,5	0,6	113.600	166.400	2.560	3.440	1,300
70	33114	120	37	37	29,0	2,0	1,5	0,6	137.600	200.000	2.400	3.200	1,700
75	33115	125	37	37	29,0	2,0	1,5	0,6	140.800	212.000	2.240	3.040	1,800
80	33116	130	37	37	29,0	2,0	1,5	0,6	143.200	224.000	2.080	2.880	1,900
85	33117	140	41	41	32,0	2,5	2,0	0,6	176.000	272.000	1.920	2.720	2,450
90	33118	150	45	45	35,0	2,5	2,0	0,6	200.800	312.000	1.600	2.400	3,100
110	33122	180	56	56	43,0	2,5	2,0	0,6	295.200	504.000	1.440	2.080	5,550



Inner bore <i>d</i> mm	Bearing number	Principal dimensions							Basic load ratings		Max runout speed		Weight kg
		<i>D</i>	<i>T</i>	<i>B</i>	<i>C</i> mm	<i>r</i> _{1,2} min	<i>r</i> _{3,4} min	<i>r</i> ₅ min	dynamic <i>C</i> N	static <i>Co</i>	grease r/min	oil r/min	
25	33205	52	22	22	18,0	1,0	1,0	0,3	37.840	44.800	5.360	7.200	0,230
30	33206	62	25	25	19,5	1,0	1,0	0,3	51.520	61.200	4.480	6.000	0,370
35	33207	72	28	28	22,0	1,5	1,5	0,6	67.360	84.800	3.840	5.040	0,560
40	33208	80	32	32	25,0	1,5	1,5	0,6	84.000	105.600	3.440	4.480	0,770
45	33209	85	32	32	25,0	1,5	1,5	0,6	86.400	114.400	3.200	4.240	0,820
50	33210	90	32	32	24,5	1,5	1,5	0,6	91.200	128.000	3.040	4.000	0,900
55	33211	100	35	35	27,0	2,0	1,5	0,6	110.400	152.000	2.720	3.600	1,200
60	33212	110	38	38	29,0	2,0	1,5	0,6	134.400	188.800	2.400	3.200	1,600
65	33213	120	41	41	32,0	2,0	1,5	0,6	155.200	216.000	2.240	3.040	2,050
70	33214	125	41	41	32,0	2,0	1,5	0,6	160.800	228.000	2.080	2.880	2,100
75	33215	130	41	41	31,0	2,0	1,5	0,6	167.200	240.000	1.920	2.720	2,250
80	33216	140	46	46	35,0	2,5	2,0	0,6	200.800	300.000	1.760	2.560	2,900
85	33217	150	49	49	37,0	2,5	2,0	0,6	228.800	344.000	1.600	2.400	3,700
100	33220	180	63	63	48,0	3,0	2,5	1,0	343.200	524.000	1.360	1.920	6,950

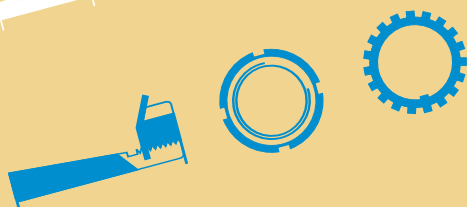


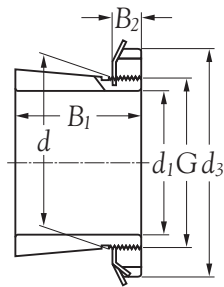
NOTE



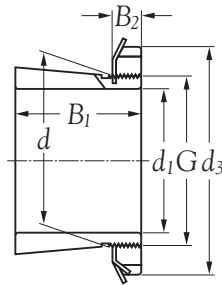
PRODUCT INFORMATION

Adapter Sleeves

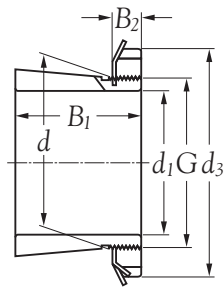




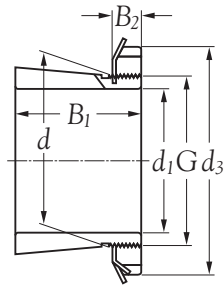
Inner bore d_1 mm	Bearing number	Principal dimensions					Lock nut	Locking device	Weight kg
		d	d_3	B_1 mm	B_2	G			
20	H 205	25	38	26	8,0	M 25 X 1,5	KM 5	MB 5	0,064
25	H 206	30	45	27	8,0	M 30 X 1,5	KM 6	MB 6	0,086
30	H 207	35	52	29	9,0	M 35 X 1,5	KM 7	MB 7	0,120
35	H 208	40	58	31	10,0	M 40 X 1,5	KM 8	MB 8	0,160
40	H 209	45	65	33	11,0	M 45 X 1,5	KM 9	MB 9	0,210
45	H 210	50	70	35	12,0	M 50 X 1,5	KM 10	MB 10	0,240
50	H 211	55	75	37	12,5	M 55 X 2,0	KM 11	MB 11	0,280
55	H 212	60	80	38	13,0	M 60 X 2,0	KM 12	MB 12	0,310
60	H 213	65	85	40	14,0	M 65 X 2,0	KM 13	MB 13	0,360
65	H 215	75	98	43	15,0	M 75 X 2,0	KM 15	MB 15	0,660
70	H 216	80	105	46	17,0	M 80 X 2,0	KM 16	MB 16	0,810
75	H 217	85	110	50	18,0	M 85 X 2,0	KM 17	MB 17	0,940
80	H 218	90	120	52	18,0	M 90 X 2,0	KM 18	MB 18	1,100
100	H 222	110	145	63	21,0	M 110X2,0	KM 22	MB 22	1,800



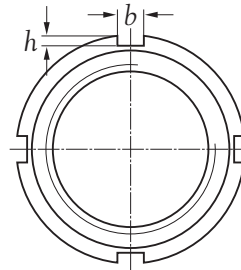
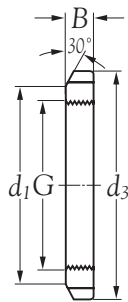
Inner bore d_1 mm	Bearing number	Principal dimensions					Lock nut	Locking device	Weight kg
		d	d_3	B_1 mm	B_2	G			
20	H 2305	25	38	35	8,0	M 25 X 1,5	KM 5	MB 5	0,085
25	H 2306	30	45	38	8,0	M 30 X 1,5	KM 6	MB 6	0,110
30	H 2307	35	52	43	9,0	M 35 X 1,5	KM 7	MB 7	0,165
35	H 2308	40	58	46	10,0	M 40 X 1,5	KM 8	MB 8	0,224
40	H 2309	45	65	50	11,0	M 45 X 1,5	KM 9	MB 9	0,270
45	H 2310	50	70	55	12,0	M 50 X 1,5	KM 10	MB 10	0,340
50	H 2311	55	75	59	12,5	M 55 X 2,0	KM 11	MB 11	0,390
55	H 2312	60	80	62	13,0	M 60 X 2,0	KM 12	MB 12	0,450
60	H 2313	65	85	65	14,0	M 65 X 2,0	KM 13	MB 13	0,520
60	H 2314	70	92	68	14,0	M 70 X 2,0	KM 14	MB 14	0,880
65	H 2315	75	98	73	15,0	M 75 X 2,0	KM 15	MB 15	1,100
70	H 2316	80	105	78	17,0	M 80 X 2,0	KM 16	MB 16	1,280
75	H 2317	85	110	82	18,0	M 85 X 2,0	KM 17	MB 17	1,350
80	H 2318	90	120	86	18,0	M 90 X 2,0	KM 18	MB 18	1,600
85	H 2319	95	125	90	19,0	M 95 X 2,0	KM 19	MB 19	1,800
90	H 2320	100	130	97	19,0	M 100X2,0	KM 20	MB 20	2,000
100	H 2322	110	145	105	21,0	M 110X2,0	KM 22	MB 22	2,750
110	H 2324	120	155	112	22,0	M 120X2,0	KM 24	MB 24	3,000
115	H 2326	130	165	121	23,0	M 130X2,0	KM 26	MB 26	4,450
125	H 2328	140	180	131	24,0	M 140X2,0	KM 28	MB 28	5,400
135	H 2330	150	195	139	26,0	M 150X2,0	KM 30	MB 30	6,400
140	H 2332	160	210	147	28,0	M 160X3,0	KM 32	MB 32	8,800
170	H 2338	190	240	169	31,0	M 190X3,0	KM 38	MB 38	12,000
220	H 2344	240	280	183	32,0	M 220X4,0	KM 44	MB 44	16,700



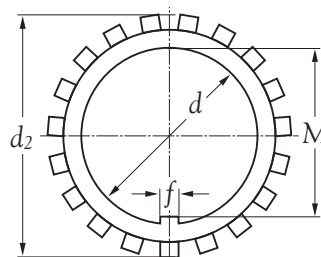
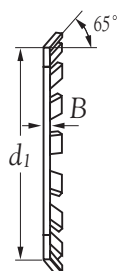
Inner bore d_1 mm	Bearing number	Principal dimensions					Lock nut	Locking device	Weight kg
		d	d_3	B_1 mm	B_2	G			
20	H 305	25	38	29	8,0	M 25 X 1,5	KM 5	MB 5	0,071
25	H 306	30	45	31	8,0	M 30 X 1,5	KM 6	MB 6	0,095
30	H 307	35	52	35	9,0	M 35 X 1,5	KM 7	MB 7	0,140
35	H 308	40	58	36	10,0	M 40 X 1,5	KM 8	MB 8	0,170
40	H 309	45	65	39	11,0	M 45 X 1,5	KM 9	MB 9	0,230
45	H 310	50	70	42	12,0	M 50 X 1,5	KM 10	MB 10	0,270
50	H 311	55	75	45	12,5	M 55 X 2,0	KM 11	MB 11	0,320
55	H 312	60	80	47	13,0	M 60 X 2,0	KM 12	MB 12	0,360
60	H 313	65	85	50	14,0	M 65 X 2,0	KM 13	MB 13	0,420
60	H 314	70	92	52	14,0	M 70 X 2,0	KM 14	MB 14	0,670
65	H 315	75	98	55	15,0	M 75 X 2,0	KM 15	MB 15	0,780
70	H 316	80	105	59	17,0	M 80 X 2,0	KM 16	MB 16	0,950
75	H 317	85	110	63	18,0	M 85 X 2,0	KM 17	MB 17	1,100
80	H 318	90	120	65	18,0	M 90 X 2,0	KM 18	MB 18	1,300
85	H 319	95	125	68	19,0	M 95 X 2,0	KM 19	MB 19	1,400
90	H 320	100	130	71	20,0	M 100X2,0	KM 20	MB 20	1,600
100	H 322	110	145	77	21,0	M 110X2,0	KM 22	MB 22	2,050



Inner bore d_1 mm	Bearing number	Principal dimensions					Lock nut	Locking device	Weight kg
		d	d_3	B_1 mm	B_2	G			
100	H 3122	110	145	81	21	M 110 X 2	KM 22	MB 22	2,100
110	H 3124	120	155	88	22	M 120 X 2	KM 24	MB 24	2,500
115	H 3126	130	165	92	23	M 130 X 2	KM 26	MB 26	3,450
125	H 3128	140	180	97	24	M 140 X 2	KM 28	MB 28	4,100
135	H 3130	150	195	111	26	M 150 X 2	KM 30	MB 30	5,250
140	H 3132	160	210	119	28	M 160 X 3	KM 32	MB 32	7,250
150	H 3134	170	220	122	29	M 170 X 3	KM 34	MB 34	8,100
160	H 3136	180	230	131	30	M 180 X 3	KM 36	MB 36	9,150
170	H 3138	190	240	141	31	M 190 X 3	KM 38	MB 38	10,500
180	H 3140	200	250	150	32	M 200 X 3	KM 40	MB 40	12,000
200	H 3144	220	280	158	32	M 220 X 2	KM 44	MB 44	14,500
220	H 3148	240	300	169	34	M 240 X 2	KM 48	MB 48	17,500
240	H 3152	260	330	187	36	M 260 X 2	KM 52	MB 52	22,000
260	H 3156	280	350	192	38	M 280 X 2	KM 56	MB 56	24,500
280	H 3160	300	380	208	40	M 300 X 2	KM 60	MB 60	30,000



Inner bore G mm	Bearing number	Principal dimensions					Lock nut	Locking device	Weight kg
		d_1	d_3	B mm	b	h			
M 10 X 0,75	KM 0	13,5	18	4	3	2,0	KM 0	MB 0	0,006
M 12 X 1,00	KM 1	17,0	22	4	3	2,0	KM 1	MB 1	0,008
M 15 X 1,00	KM 2	21,0	25	5	4	2,0	KM 2	MB 2	0,012
M 17 X 1,00	KM 3	24,0	28	5	4	2,0	KM 3	MB 3	0,012
M 20 X 1,00	KM 4	26,0	32	6	4	2,0	KM 4	MB 4	0,020
M 25 X 1,50	KM 5	32,0	38	7	5	2,0	KM 5	MB 5	0,028
M 30 X 1,50	KM 6	38,0	45	7	5	2,0	KM 6	MB 6	0,038
M 35 X 1,50	KM 7	44,0	52	8	5	2,0	KM 7	MB 7	0,058
M 40 X 1,50	KM 8	50,0	58	9	6	2,5	KM 8	MB 8	0,078
M 45 X 1,50	KM 9	56,0	65	10	6	2,5	KM 9	MB 9	0,110
M 50 X 1,50	KM 10	61,0	70	11	6	2,5	KM 10	MB 10	0,140
M 55 X 2,00	KM 11	67,0	75	11	7	3,0	KM 11	MB 11	0,150
M 60 X 2,00	KM 12	73,0	80	11	7	3,0	KM 12	MB 12	0,160
M 65 X 2,00	KM 13	79,0	85	12	7	3,0	KM 13	MB 13	0,190
M 70 X 2,00	KM 14	85,0	92	12	8	3,5	KM 14	MB 14	0,220
M 75 X 2,00	KM 15	90,0	98	13	8	3,5	KM 15	MB 15	0,270
M 80 X 2,00	KM 16	95,0	105	15	8	3,5	KM 16	MB 16	0,360
M 85 X 2,00	KM 17	102,0	110	16	8	3,5	KM 17	MB 17	0,420
M 90 X 2,00	KM 18	108,0	120	16	10	4,0	KM 18	MB 18	0,510
M 95 X 2,00	KM 19	113,0	125	17	10	4,0	KM 19	MB 19	0,580
M 100X2,00	KM 20	120,0	130	18	10	4,0	KM 20	MB 20	0,680
M 105X2,00	KM 21	126,0	140	18	12	5,0	KM 21	MB 21	0,810
M 110X2,00	KM 22	133,0	145	19	12	5,0	KM 22	MB 22	0,890
M 115X2,00	KM 23	137,0	150	19	12	5,0	KM 23	MB 23	0,910
M 120X2,00	KM 24	138,0	155	20	12	5,0	KM 24	MB 24	0,980
M 125X2,00	KM 25	148,0	160	21	12	5,0	KM 25	MB 25	1,100
M 130X2,00	KM 26	149,0	165	21	12	5,0	KM 26	MB 26	1,200
M 135X2,00	KM 27	160,0	175	22	14	6,0	KM 27	MB 27	1,400
M 140X2,00	KM 28	160,0	180	22	14	6,0	KM 28	MB 28	1,400
M 145X2,00	KM 29	171,0	190	24	14	6,0	KM 29	MB 29	1,850
M 150X2,00	KM 30	171,0	195	24	14	6,0	KM 30	MB 30	1,850



Inner bore d mm	Bearing number	Principal dimensions					Weight kg
		d_1	d_2	B mm	f	M	
10	MB 0	13,5	21	1,00	3	8,5	0,001
12	MB 1	17,0	25	1,00	3	10,5	0,002
15	MB 2	21,0	28	1,00	4	13,5	0,003
17	MB 3	24,0	32	1,00	4	15,5	0,003
20	MB 4	26,0	36	1,00	4	18,5	0,004
25	MB 5	32,0	42	1,25	5	23,0	0,006
30	MB 6	38,0	49	1,25	5	27,5	0,008
35	MB 7	44,0	57	1,25	6	32,5	0,011
40	MB 8	50,0	62	1,25	6	37,5	0,013
45	MB 9	56,0	69	1,25	6	42,5	0,015
50	MB 10	61,0	74	1,25	6	47,5	0,016
55	MB 11	67,0	81	1,50	8	52,5	0,022
60	MB 12	73,0	86	1,50	8	57,5	0,024
65	MB 13	79,0	92	1,50	8	62,5	0,030
70	MB 14	85,0	98	1,50	8	66,5	0,032
75	MB 15	90,0	104	1,50	8	71,5	0,035
80	MB 16	95,0	112	1,75	10	76,5	0,046
85	MB 17	102,0	119	1,75	10	81,5	0,053
90	MB 18	108,0	126	1,75	10	86,5	0,061
95	MB 19	113,0	133	1,75	10	91,5	0,066
100	MB 20	120,0	142	1,75	12	96,5	0,077
105	MB 21	126,0	145	1,75	12	100,5	0,083
110	MB 22	133,0	154	1,75	12	105,5	0,091
115	MB 23	137,0	159	2,00	12	110,5	0,107
120	MB 24	138,0	164	2,00	14	115,0	0,108
125	MB 25	148,0	170	2,00	14	120,0	0,115
130	MB 26	149,0	175	2,00	14	125,0	0,115
135	MB 27	160,0	185	2,00	14	130,0	0,140
140	MB 28	160,0	192	2,00	16	135,0	0,135
145	MB 29	172,0	202	2,00	16	140,0	0,165
150	MB 30	171,0	205	2,00	16	145,0	0,180



NOTE