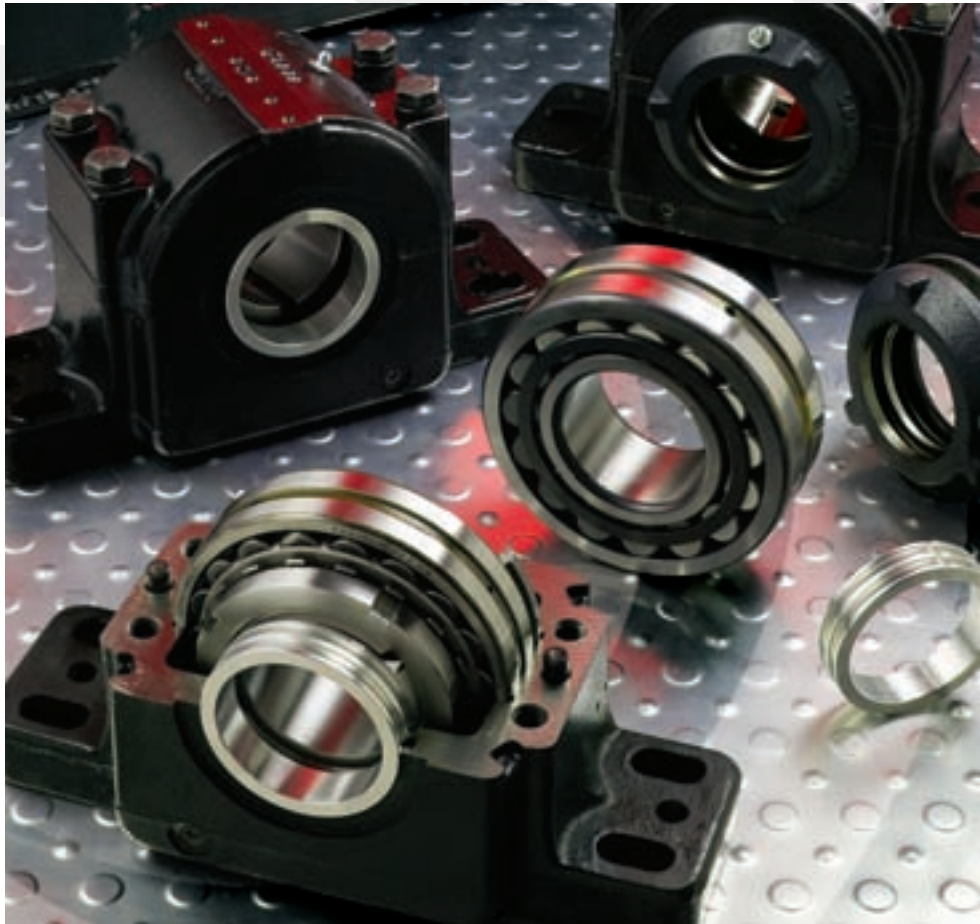


Bearings | Link-Belt® Large Bore



Large Bore Nomenclature

Symbol	Description	P	LB	222	44	K	C	71516
P	Pillow block; two piece	}	}	}	}	}	}	}
PK	Pillow block; two piece cast steel							
LB	Spherical Roller Bearing							
222	Direct shaft mounted with 22200LB bearing	}	}	}	}	}	}	}
223	Direct shaft mounted with 22300LB bearing							
225	Adapter mounted with 22200LBK bearing							
226	Adapter mounted with 22300LBK bearing							
230	Adapter or direct shaft mounted with 23000 bearing							
231	Adapter or direct shaft mounted with 23100 bearing							
232	Adapter or direct shaft mounted with 23200 bearing							
44	One-fifth bearing bore diameter in mm							
K	Tapered bore bearing							
C	End closure							
71516	7 15/16" – shaft size							

Symbol	Description	2	22	16	LB	K	W33	C0	C40	W4
2	Used to distinguish from other series									
22	Bearing dimension series (22, 23, 30, 31, 32, 39)									
16	One-fifth of bore diameter (mm)									
LB	Designation for Link-Belt spherical roller bearing									
None	Cylindrical bore									
K	Tapered bore									
W33	Lubrication holes and groove in outer ring (standard)									
C2	Internal clearance less than C0									
C0	Basic internal clearance									
C3	Internal clearance greater than C0 (standard)									
C4	Internal clearance greater than C3									
W22	Reduced O.D. tolerance in center of standard tolerance range									
C40	Reduced O.D. tolerance on high side									
C50	Reduced O.D. tolerance on low side									
W4	Inner ring marked to show high point of eccentricity									

Series 22200, 22300, and 23000

To select a pillow block, determine the applied radial load, the applied thrust load, the desired Rating Life, the required minimum shaft size, and applicable operating conditions. The procedure shown here will aid in selecting a pillow block to meet an L₁₀ design life. The formulas for calculating life expectancy should be used to determine the Rating Life L₁₀ for the pillow block selected. Because a number of series are available, several different pillow blocks that will fulfill and L₁₀ life requirement can often be chosen. Some of the factors to consider when

choosing between series are: cost, speed limit, minimum shaft diameter, thrust load, space limitations, and type of shaft mounting. The selection procedures and rating formulas shown here are in agreement with The American Bearing Manufacturers Association Standards and ANSI/ ABMA Standards STD 11-1990. Ratings are based on fatigue life. The Rating Life L₁₀ or fatigue life at 90% reliability is the usual basis for bearing selection.

For radial load applications only, Table 3 can be used to select a unit or to determine L₁₀ life expectancy. To assure a satisfactory bearing application, fitting practice, mounting, lubrication, sealing, static rating, housing strength, operating conditions and maintenance must be considered.

Selection

Step 1

Determine an appropriate L₁₀ design life.

Type of service	Operating time, hours per year	Design life, years	L ₁₀ design life, hours
Heavy seasonal usage	1,400 to 1,600	4-6	8,000
Industrial—8 hour shift	2,000	10	20,000
Industrial—16 hour shift	4,000	10	40,000
Industrial—continuous	8,700	10	80,000 to 100,000
Industrial—High reliability	—	—	120,000 to 300,000

Step 2

Determine a required $\left(\frac{C}{P}\right)$ from Table 1.

Step 3

Calculate the required C and select a roller bearing pillow block.

a For radial load only: $P = F_r$

Required $C = \left(\frac{C}{P}\right) P$ using $\left(\frac{C}{P}\right)$ from Step 2

Select a roller bearing pillow block from Table 2 or Table 4 having a basic load rating C equal to or greater than the required C.

b For combined radial and thrust loads:

Select a roller bearing pillow block of the desired shaft size from Table 2 or Table 4 Calculate the ratio of thrust load F_a to the radial load F_r .

$$\frac{F_a}{F_r}$$

Calculate the equivalent radial load P

$$P = X F_r + Y F_a$$

If $\frac{F_a}{F_r}$ is equal to or less than e, then $P = X_1 F_r + Y_1 F_a$

If $\frac{F_a}{F_r}$ is greater than e, then $P = X_2 F_r + Y_2 F_a$

For values of e, X₁, Y₁, X₂, and Y₂, see Table 2 or Table 4

Required $C = \left(\frac{C}{P}\right) P$ using $\left(\frac{C}{P}\right)$ from Step 2

Consult the bearing rating Table 2 or Table 4, to see if the selected bearing meets or exceeds the required C. The life expectancy of other sizes and series of bearings can be calculated similarly.

Selection

Symbols for formulas:

C = basic load rating, pounds (or newtons)
 Co = static load rating, pounds (or newtons)
 e = a reference value
 Fa = thrust load, pounds (or newtons)
 Fr = radial load, pounds (or newtons)

L₁₀ = rating life, hours
 n = speed, revolutions per minute
 P = equivalent radial load, pounds (or newtons)
 X = radial factor
 Y = thrust factor

Basic Formula

$$\left(\frac{C}{P}\right) = \left(\frac{L_{10} \times n \times 60}{1,000,000}\right)^{3/10}$$

$$L_{10} = \frac{\left(\frac{C}{P}\right)^{10/3} \times 1,000,000}{n \times 60}$$

Life Expectancy

To calculate the Rating Life L₁₀ of any selected or trial bearing:

Step 1

Determine the equivalent radial load P.

a For radial load only:

$$P = Fr$$

b For combined radial and thrust load:

$$P = XFr + YFa$$

if $\frac{Fa}{Fr}$ is equal to or less than e, then

$$P = X1Fr + Y1Fa$$

if $\frac{Fa}{Fr}$ is greater than e, then

$$P = X2Fr + Y2Fa$$

For values of e, X1, Y1, X2, and Y2, consult the appropriate bearing rating Table 2 Table 4.

Step 2

Calculate the ratio of the basic load rating C to the equivalent radial load.

$$\left(\frac{C}{P}\right)$$

Step 3

Approximate the bearing life from Table 1.

Life Adjustment

The Rating Life, L₁₀, may be modified for some applications in accordance with the formula

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

where L_n = Adjusted life for (100-n) % reliability,

a₁ = Life adjustment factor for reliability

a₂ = Life adjustment factor

for material and processing

a₃ = Life adjustment factor for operating conditions.

For most normal applications, all factors will be taken as 1, and the Rating Life used as the selection basis or life estimate. In addition, as long as standard catalog bearings are used, a₂ will be normally set equal to one.

The factor a₃ covers such things as lubrication, misalignment, and temperature. Some conditions that could yield a₃ significantly different than unity include speeds less than 20000 DN or greater than 200000 DN, temperatures below -40°F (-40°C) or above 275°F (135°C). For other possible conditions, as well as additional information on life adjustment factors, consult Rexnord Bearing Division.

Table 1 • Relation of L₁₀ life and speed to $\left(\frac{C}{P}\right)$

Bearing Life Hours L ₁₀	Speed, N									
	50	100	200	300	400	500	600	700	800	
3000	1.93	2.38	2.93	3.31	3.61	3.86	4.07	4.27	4.44	
4000	2.11	2.59	3.19	3.61	3.93	4.20	4.44	4.65	4.84	
5000	2.25	2.77	3.42	3.86	4.20	4.50	4.75	4.97	5.18	
6000	2.38	2.93	3.61	4.07	4.44	4.75	5.02	5.25	5.47	
8000	2.59	3.19	3.93	4.44	4.84	5.18	5.47	5.73	5.96	
10000	2.77	3.42	4.20	4.75	5.18	5.54	5.85	6.12	6.37	
12000	2.93	3.61	4.44	5.02	5.47	5.85	6.18	6.47	6.73	
14000	3.07	3.78	4.65	5.25	5.73	6.12	6.47	6.77	7.05	
16000	3.19	3.93	4.84	5.47	5.96	6.37	6.73	7.05	7.34	
18000	3.31	4.07	5.02	5.66	6.18	6.60	6.97	7.30	7.60	
20000	3.42	4.20	5.18	5.85	6.37	6.81	7.20	7.54	7.85	
25000	3.65	4.50	5.54	6.25	6.81	7.29	7.70	8.06	8.39	
30000	3.86	4.75	5.85	6.60	7.20	7.70	8.13	8.51	8.86	
35000	4.04	4.97	6.12	6.92	7.54	8.06	8.51	8.92	9.28	
40000	4.20	5.18	6.37	7.20	7.85	8.39	8.86	9.28	9.66	
45000	4.36	5.36	6.60	7.46	8.13	8.69	9.18	9.61	10.00	
50000	4.50	5.54	6.81	7.70	8.39	8.97	9.48	9.92	10.30	
60000	4.75	5.85	7.20	8.13	8.86	9.48	10.00	10.50	10.90	
70000	4.97	6.12	7.54	8.51	9.28	9.92	10.50	11.00	11.40	
80000	5.18	6.37	7.85	8.86	9.66	10.30	10.90	11.40	11.90	
90000	5.36	6.60	8.13	9.18	10.00	10.70	11.30	11.80	12.30	
100000	5.54	6.81	8.39	9.48	10.30	11.00	11.70	12.20	12.70	
150000	6.25	7.70	9.48	10.70	11.70	12.50	13.20	13.80	14.40	
200000	6.81	8.39	10.30	11.70	12.70	13.60	14.40	15.00	15.70	
	Speed, n									
	900	1000	1200	1500	1800	2400	3000	3600	6000	
3000	4.60	4.75	5.02	5.36	5.66	6.18	6.60	6.97	8.13	
4000	5.02	5.18	5.47	5.85	6.18	6.73	7.20	7.60	8.86	
5000	5.36	5.54	5.85	6.25	6.60	7.20	7.70	8.13	9.48	
6000	5.66	5.85	6.18	6.60	6.97	7.60	8.13	8.59	10.00	
8000	6.18	6.37	6.73	7.20	7.60	8.29	8.86	9.36	10.90	
10000	6.60	6.81	7.20	7.70	8.13	8.86	9.48	10.00	11.70	
12000	6.97	7.20	7.60	8.13	8.59	9.36	10.00	10.60	12.30	
14000	7.30	7.54	7.96	8.51	8.99	9.80	10.50	11.10	12.90	
16000	7.60	7.85	8.29	8.86	9.36	10.20	10.90	11.50	13.40	
18000	7.88	8.13	8.59	9.18	9.70	10.60	11.30	11.90	13.90	
20000	8.13	8.39	8.86	9.48	10.00	10.90	11.70	12.30	14.40	
25000	8.69	8.97	9.48	10.10	10.70	11.70	12.50	13.20	15.40	
30000	9.18	9.48	10.00	10.70	11.30	12.30	13.20	13.90	16.20	
35000	9.61	9.92	10.50	11.20	11.80	12.90	13.80	14.60	17.00	
40000	10.00	10.30	10.90	11.70	12.30	13.40	14.40	15.20	17.70	
45000	10.40	10.70	11.30	12.10	12.80	13.90	14.90	15.70	18.30	
50000	10.70	11.00	11.70	12.50	13.20	14.40	15.40	16.20	18.90	
60000	11.30	11.70	12.30	13.20	13.90	15.20	16.20	17.10	20.00	
70000	11.80	12.20	12.90	13.80	14.60	15.90	17.00	17.90	20.90	
80000	12.30	12.70	13.40	14.40	15.20	16.50	17.70	18.70	21.80	
90000	12.80	13.20	13.90	14.90	15.70	17.10	18.30	19.40	22.60	
100000	13.20	13.60	14.40	15.40	16.20	17.70	18.90	20.00	23.30	
150000	14.90	15.40	16.20	17.30	18.30	20.00	21.40	22.60	26.30	
200000	16.20	16.70	17.70	18.90	20.00	21.80	23.30	24.60	28.70	

Table 6 • Series 22200LB, 22200LBK Load Ratings and Speed Limits

Bearing Number		Co Static Load Rating		C Basic Load Rating		Speed Limit, rpm		e	$\frac{F_a}{F_r} \leq e$		$\frac{F_a}{F_r} > e$	
Cylindrical Bore	Tapered bore	newtons	pounds	newtons	pounds	Grease	Oil		X1	Y1	X2	Y2
22209LB	22209LBK	105000	23600	92500	20800	5300	6200	0.26	1.00	2.6	0.67	3.9
22210LB	22210LBK	113000	25500	97900	22000	5000	5500	0.26	1.00	2.8	0.67	4.2
22211LB	22211LBK	145000	32500	120000	27000	4500	5000	0.23	1.00	2.9	0.67	4.4
22212LB	22212LBK	180000	40500	151000	34000	4000	4500	0.24	1.00	2.8	0.67	4.2
22213LB	22213LBK	207000	46500	169000	38000	3800	4300	0.24	1.00	2.8	0.67	4.2
22214LB	22214LBK	222000	50000	178000	40000	3600	4000	0.23	1.00	2.9	0.67	4.4
22215LB	22215LBK	236000	53000	185000	41500	3400	3700	0.22	1.00	3.1	0.67	4.6
22216LB	22216LBK	260000	58500	207000	46500	3200	3500	0.22	1.00	3.1	0.67	4.7
22217LB	22217LBK	327000	73500	260000	58500	3000	3250	0.22	1.00	3.0	0.67	4.5
22218LB	22218LBK	363000	81500	285000	64000	2600	3000	0.23	1.00	2.9	0.67	4.3
22219LB	22219LBK	400000	90000	316000	71000	2400	2900	0.24	1.00	2.9	0.67	4.3
22220LB	22220LBK	463000	104000	356000	80000	2200	2800	0.24	1.00	2.8	0.67	4.2
22222LB	22222LBK	587000	132000	454000	102000	2000	2500	0.25	1.00	2.7	0.67	4.0
22224LB	22224LBK	725000	163000	534000	120000	1900	2300	0.25	1.00	2.7	0.67	4.0
22226LB	22226LBK	872000	196000	636000	143000	1800	2100	0.26	1.00	2.6	0.67	3.9
22228LB	22228LBK	1010000	228000	738000	166000	1700	1950	0.25	1.00	2.7	0.67	4.0
22230LB	22230LBK	1200000	270000	845000	190000	1600	1850	0.25	1.00	2.7	0.67	4.0
22232LB	22232LBK	1380000	310000	961000	216000	1500	1700	0.26	1.00	2.6	0.67	3.9
22234LB	22234LBK	1530000	345000	1110000	250000	1300	1600	0.26	1.00	2.6	0.67	3.9
22236LB	22236LBK	1620000	365000	1130000	255000	1300	1500	0.25	1.00	2.7	0.67	4.0
22238LB	22238LBK	1850000	415000	1200000	270000	1200	1400	0.28	1.00	2.4	0.67	3.6
22240LB	22240LBK	2000000	450000	1330000	300000	1100	1300	0.29	1.00	2.3	0.67	3.5
22244LB	22244LBK	2450000	550000	1620000	365000	1000	1200	0.29	1.00	2.3	0.67	3.5
22248LB	22248LBK	2890000	650000	1870000	420500	750	950	0.27	1.00	2.5	0.67	3.7

If the load P is greater than .25C, consult Rexnord Bearing Division.

Speed limits are based on the following:

1. Negligible seal torque (e.g., non-contact seals)
2. Proper operating internal clearance.
3. Adequate lubrication and maintenance (special lubricants and/or more frequent relubrication may be required).
4. Normal room temperature environment and no extraneous heat sources, such that bearing operating temperature does not exceed 100°C (212°F).
5. Equivalent radial load not greater than 7% of C.
6. Axial load, if any, not greater than 20% of radial load.

Table 7 • Series 22300LB,22300LBK Load Ratings and Speed Limits

Bearing Number		Co Static Load Rating		C Basic Load Rating		Speed Limit rpm			$\frac{F_a}{F_r} \leq e$		$\frac{F_a}{F_r} > e$	
Cylindrical Bore	Tapered Bore	newtons	pounds	newtons	pounds	Grease	Oil	e	X1	Y1	X2	Y2
22308LB	22308LBK	145000	32500	129000	29000	4500	5600	0.36	1.00	1.9	0.67	2.8
22309LB	22309LBK	178000	40000	158000	35500	3800	4800	0.36	1.00	1.9	0.67	2.8
22310LB	22310LBK	214000	48000	189000	42500	3600	4300	0.36	1.00	1.9	0.67	2.8
22311LB	22311LBK	254000	57000	222000	50000	3200	4000	0.36	1.00	1.9	0.67	2.8
22312LB	22312LBK	302000	68000	260000	58500	3000	3800	0.35	1.00	1.9	0.67	2.8
22313LB	22313LBK	356000	80000	291000	65500	2600	3400	0.34	1.00	2.0	0.67	3.0
22314LB	22314LBK	378000	85000	320000	72000	2400	3200	0.34	1.00	2.0	0.67	3.0
22315LB	22315LBK	436000	98000	369000	83000	2200	3000	0.34	1.00	2.0	0.67	3.0
22316LB	22316LBK	498000	112000	414000	93000	2000	2800	0.34	1.00	2.0	0.67	3.0
22317LB	22317LBK	543000	122000	454000	102000	1900	2600	0.33	1.00	2.0	0.67	3.0
22318LB	22318LBK	623000	140000	507000	114000	1800	2400	0.33	1.00	2.0	0.67	3.0
22319LB	22319LBK	681000	153000	556000	125000	1800	2400	0.33	1.00	2.0	0.67	3.0
22320LB	22320LBK	814000	183000	649000	146000	1700	2200	0.34	1.00	2.0	0.67	3.0
22322LB	22322LBK	1050000	236000	801000	180000	1600	2000	0.33	1.00	2.1	0.67	3.1
22324LB	22324LBK	1160000	260000	907000	204000	1400	1800	0.33	1.00	2.1	0.67	3.1
22326LB	22326LBK	1360000	305000	1050000	236000	1300	1700	0.33	1.00	2.1	0.67	3.1
22328LB	22328LBK	1600000	360000	1220000	275000	1100	1500	0.34	1.00	2.0	0.67	3.0
22330LB	22330LBK	1800000	405000	1380000	310000	1000	1400	0.33	1.00	2.0	0.67	3.0
22332LB	22332LBK	1890000	425000	1450000	325000	950	1300	0.37	1.00	1.8	0.67	2.7
22334LB	22334LBK	2110000	475000	1600000	360000	950	1300	0.37	1.00	1.8	0.67	2.7
22336LB	22336LBK	2360000	530000	1730000	390000	900	1200	0.37	1.00	1.8	0.67	2.7
22338LB	22338LBK	2540000	570000	1850000	415000	850	1100	0.37	1.00	1.8	0.67	2.7
22340LB	22340LBK	2800000	630000	2070000	465000	850	1100	0.36	1.00	1.9	0.67	2.8
22344LB	22344LBK	3340000	750000	2360000	530000	700	900	0.35	1.00	2.0	0.67	2.9
22348LB	22348LBK	3800000	854500	2600000	584500	670	850	0.32	1.00	2.1	0.67	3.2
22356LB	22356LBK	5150000	1157800	3500000	787000	560	710	0.31	1.00	2.1	0.67	3.2

If the load P is greater than .25C, consult Rexnord Bearing Division.

Speed limits are based on the following:

1. Negligible seal torque (e.g., non-contact seals)
2. Proper operating internal clearance.
3. Adequate lubrication and maintenance (special lubricants and/or more frequent relubrication may be required).
4. Normal room temperature environment and no extraneous heat sources, such that bearing operating temperature does not exceed 100°C (212°F).
5. Equivalent radial load not greater than 7% of C.
6. Axial load, if any, not greater than 20% of radial load.

Table 8 – Series 23000LB, 23000LBK Load Ratings and Speed Limits

Bearing Number		Co Static Load Rating		C Basic Dynamic Load Rating		Speed Limit, rpm		Fa/Fr ≤ e			Fa/Fr > e	
Cylindrical Bore	Tapered Bore	newtons	pounds	newtons	pounds	Grease	Oil	e	X1	Y1	X2	Y2
23044LB	23044LBK	1980000	445100	1090000	245000	950	1200	0.24	1.00	2.8	0.67	4.1
23048LB	23048LBK	2180000	490000	1160000	260000	950	1100	0.25	1.00	2.7	0.67	4.1
23052LB	23052LBK	2580000	580000	1430000	321500	800	950	0.25	1.00	2.7	0.67	4.1
23056LB	23056LBK	2980000	670000	1530000	345000	800	950	0.25	1.00	2.7	0.67	4.1
23060LB	23060LBK	3700000	832000	1920000	431600	670	850	0.24	1.00	2.8	0.67	4.2
23064LB	23064LBK	3850000	865500	1960000	440600	630	800	0.24	1.00	2.8	0.67	4.2
23068LB	23068LBK	4400000	989200	2280000	512600	560	710	0.24	1.00	2.8	0.67	4.2
23072LB	23072LBK	4700000	1056600	2390000	537500	530	670	0.24	1.00	2.8	0.67	4.2
23076LB	23076LBK	5100000	1146500	2500000	562000	530	630	0.22	1.00	3.0	0.67	4.5
23080LB	23080LBK	5900000	1326500	2970000	668000	480	600	0.23	1.00	3.0	0.67	4.4
23084LB	23084LBK	5850000	1315200	2910000	654200	450	560	0.23	1.00	2.9	0.67	4.3
23088LB	23088LBK	6350000	1427500	3150000	708200	430	530	0.23	1.00	2.9	0.67	4.3
23092LB	23092LBK	7100000	1596200	3450000	775600	400	500	0.22	1.00	3.1	0.67	4.6
23096LB	23096LBK	7950000	1787200	3800000	854300	400	480	0.22	1.00	3.1	0.67	4.6
230530LB	230530LBK	9200000	2068200	4400000	989200	340	430	0.22	1.00	3.1	0.67	4.6
230560LB	230560LBK	10700000	2405500	5000000	1124000	320	400	0.22	1.00	3.0	0.67	4.5
230600LB	230600LBK	12200000	2743000	5450000	1225200	300	360	0.21	1.00	3.3	0.67	4.8
230630LB	230630LBK	12700000	2855000	5900000	1326400	280	340	0.22	1.00	3.1	0.67	4.7

If the load P is greater than .25C, consult Rexnord Bearing Division.

Speed limits are based on the following:

1. Negligible seal torque (e.g., non-contact seals)
2. Proper operating internal clearance.
3. Adequate lubrication and maintenance (special lubricants and/or more frequent relubrication may be required).

4. Normal room temperature environment and no extraneous heat sources, such that bearing operating temperature does not exceed 100°C (212°F).

5. Equivalent radial load not greater than 7% of C.
6. Axial load, if any, not greater than 20% of radial load.

Table 9 – Series 23100LB, 23100LBK Load Ratings and Speed Limits

Bearing Number		Co Static Load Rating		C Basic Dynamic Load Rating		Speed Limit, rpm		Fa/Fr ≤ e			Fa/Fr > e	
Cylindrical Bore	Tapered Bore	newtons	pounds	newtons	pounds	Grease	Oil	e	X1	Y1	X2	Y2
23144LB	23144LBK	2710000	609200	1570000	353000	710	950	0.30	1.00	2.2	0.67	3.3
23148LB	23148LBK	3100000	697000	1790000	402500	670	850	0.30	1.00	2.2	0.67	3.3
23152LB	23152LBK	3750000	843000	2160000	485500	600	800	0.32	1.00	2.1	0.67	3.2
23156LB	23156LBK	4000000	899300	2230000	501500	560	750	0.30	1.00	2.2	0.67	3.3
23160LB	23160LBK	4800000	1079000	2670000	600500	500	670	0.31	1.00	2.2	0.67	3.3
23164LB	23164LBK	5500000	1236500	3050000	685700	480	600	0.31	1.00	2.1	0.67	3.2
23168LB	23168LBK	6600000	1483800	3600000	809500	430	560	0.31	1.00	2.1	0.67	3.2
23172LB	23172LBK	7100000	1596200	3800000	854500	400	530	0.31	1.00	2.2	0.67	3.2
23176LB	23176LBK	7600000	1708500	4000000	899200	400	500	0.30	1.00	2.2	0.67	3.3
23180LB	23180LBK	7900000	1776000	4150000	933000	380	480	0.29	1.00	2.3	0.67	3.4
23184LB	23184LBK	9400000	2113200	5000000	1124000	340	450	0.31	1.00	2.2	0.67	3.3
23188LB	23188LBK	10300000	2315500	5300000	1191500	320	430	0.30	1.00	2.2	0.67	3.3
23192LB	23192LBK	10900000	2450500	5700000	1281400	300	400	0.31	1.00	2.2	0.67	3.3
23196LB	23196LBK	11700000	2630500	6050000	1360100	300	380	0.31	1.00	2.2	0.67	3.3
231530LB	231530LBK	14100000	3169800	7150000	1607400	260	340	0.30	1.00	2.2	0.67	3.3
231560LB	231560LBK	15500000	3484500	7850000	1764800	240	320	0.30	1.00	2.3	0.67	3.4
231600LB	231600LBK	17500000	3934000	8750000	1967000	220	280	0.30	1.00	2.3	0.67	3.4
231630LB	231630LBK	19400000	4361100	9600000	2158100	200	260	0.30	1.00	2.3	0.67	3.4

If the load P is greater than .25C, consult Rexnord Bearing Division.

Speed limits are based on the following:

1. Negligible seal torque (e.g., non-contact seals)
2. Proper operating internal clearance.
3. Adequate lubrication and maintenance (special lubricants and/or more frequent relubrication may be required).

4. Normal room temperature environment and no extraneous heat sources, such that bearing operating temperature does not exceed 100°C (212°F).

5. Equivalent radial load not greater than 7% of C.
6. Axial load, if any, not greater than 20% of radial load.

Table 10 – Series 23200LB, 23200LBK Load Ratings and Speed Limits

Bearing Number		Co Static Load Rating		C Basic Dynamic Load Rating		Speed Limit, rpm		Fa/Fr ≤ e			Fa/Fr > e	
Cylindrical Bore	Tapered Bore	newtons	pounds	newtons	pounds	Grease	Oil	e	X1	Y1	X2	Y2
23244LB	23244LBK	3400000	764500	2020000	454000	670	900	0.35	1.00	1.9	0.67	2.9
23248LB	23248LBK	4050000	910500	2440000	548500	630	800	0.37	1.00	1.8	0.67	2.7
23252LB	23252LBK	4550000	1022900	2740000	616000	560	750	0.37	1.00	1.8	0.67	2.7
23256LB	23256LBK	4900000	1101600	2880000	647500	530	670	0.35	1.00	1.9	0.67	2.9
23260LB	23260LBK	5900000	1326400	3400000	764500	480	630	0.35	1.00	1.9	0.67	2.9
23264LB	23264LBK	6900000	1551200	3900000	877000	450	600	0.36	1.00	1.9	0.67	2.8
23268LB	23268LBK	7800000	1753500	4400000	989200	400	530	0.36	1.00	1.9	0.67	2.8
23272LB	23272LBK	8550000	1922100	4800000	1079000	380	500	0.36	1.00	1.9	0.67	2.8
23276LB	23276LBK	9200000	2068500	5150000	1157800	360	480	0.35	1.00	1.9	0.67	2.9
23280LB	23280LBK	10400000	2338000	5800000	1303900	340	450	0.36	1.00	1.9	0.67	2.8
23284LB	23284LBK	11700000	2630500	6450000	1450000	320	430	0.35	1.00	1.9	0.67	2.9
23288LB	23288LBK	12800000	2877500	6900000	1551200	300	400	0.35	1.00	1.9	0.67	2.9
23292LB	23292LBK	13700000	3080000	7350000	1652400	280	380	0.36	1.00	1.9	0.67	2.8
23296LB	23296LBK	14400000	3237500	7850000	1764800	260	360	0.36	1.00	1.9	0.67	2.8

If the load P is greater than .25C, consult Rexnord Bearing Division.

Speed limits are based on the following:

1. Negligible seal torque (e.g., non-contact seals)
2. Proper operating internal clearance.
3. Adequate lubrication and maintenance (special lubricants and/or more frequent relubrication may be required).
4. Normal room temperature environment and no extraneous heat sources, such that bearing operating temperature does not exceed 100°C (212°F).
5. Equivalent radial load not greater than 7% of C.
6. Axial load, if any, not greater than 20% of radial load.

Table 11 – Series 23900LB, 23900LBK Load Ratings and Speed Limits

Bearing Number		Co Static Load Rating		C Basic Dynamic Load Rating		Speed Limit, rpm		Fa/Fr ≤ e			Fa/Fr > e	
Cylindrical Bore	Tapered Bore	newtons	pounds	newtons	pounds	Grease	Oil	e	X1	Y1	X2	Y2
23944LB	23944LBK	1240000	279000	625000	140500	1000	1300	0.18	1.00	3.8	0.67	5.7
23948LB	23948LBK	1300000	292500	635000	143000	950	1200	0.17	1.00	4.0	0.67	6.0

If the load P is greater than .25C, consult Rexnord Bearing Division.

Speed limits are based on the following:

1. Negligible seal torque (e.g., non-contact seals)
2. Proper operating internal clearance.
3. Adequate lubrication and maintenance (special lubricants and/or more frequent relubrication may be required).
4. Normal room temperature environment and no extraneous heat sources, such that bearing operating temperature does not exceed 100°C (212°F).
5. Equivalent radial load not greater than 7% of C.
6. Axial load, if any, not greater than 20% of radial load.

Cylindrical Bore Bearings - Radial Clearances									
Series 22200, 22300, 23000, 23100, 23200		Radial Internal Clearance, Inches							
		C2		C0		C3 (basic)		C4	
Basic Size	Bore (mm)	Min	Max	Min	Max	Min	Max	Min	Max
08	40	0.0006	0.0012	0.0012	0.0018	0.0018	0.0024	0.0024	0.0032
09	45	0.0008	0.0014	0.0014	0.0022	0.0022	0.0030	0.0030	0.0039
10	50								
11	55	0.0010	0.0017	0.0017	0.0026	0.0026	0.0036	0.0036	0.0047
12	60								
13	65								
14	70	0.0012	0.0020	0.0020	0.0032	0.0032	0.0044	0.0044	0.0057
15	75								
16	80								
17	85								
18	90	0.0014	0.0025	0.0025	0.0039	0.0039	0.0053	0.0053	0.0071
19	95								
20	100								
22	110								
24	120	0.0017	0.0031	0.0031	0.0048	0.0048	0.0064	0.0064	0.0083
26	130								
28	140	0.0020	0.0038	0.0038	0.0057	0.0057	0.0075	0.0075	0.0095
30	150								
32	160	0.0024	0.0043	0.0043	0.0065	0.0065	0.0087	0.0087	0.0110
34	170								
36	180	0.0026	0.0047	0.0047	0.0071	0.0071	0.0095	0.0095	0.0122
38	190								
40	200	0.0028	0.0051	0.0051	0.0079	0.0079	0.0103	0.0103	0.0133
44	220								
48	240	0.0032	0.0055	0.0055	0.0087	0.0087	0.0114	0.0114	0.0149
52	260								
56	280	0.0039	0.0067	0.0067	0.0103	0.0103	0.0138	0.0138	0.0180
60	300								
64	320	0.0044	0.0075	0.0075	0.0110	0.0110	0.0145	0.0145	0.0197
68	340								
72	360	0.0047	0.0079	0.0079	0.0122	0.0122	0.0161	0.0161	0.0217
76	380								
80	400								
84	420								
88	440	0.0055	0.0094	0.0094	0.0146	0.0146	0.0197	0.0197	0.0260
92	460								
96	480	0.0055	0.0102	0.0102	0.0161	0.0161	0.0217	0.0217	0.0283
	530								
	560	0.0059	0.0110	0.0110	0.0173	0.0173	0.0236	0.0236	0.0307
	600								
	630	0.0067	0.0122	0.0122	0.0189	0.0189	0.0256	0.0256	0.0335

C2 = Internal clearance less than C0
 C0 = Internal clearance
 C3 = Internal clearance greater than C0
 C4 = Internal clearance greater than C3

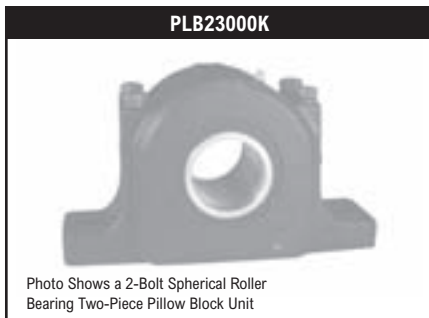
Tapered Bore Bearings - Radial Clearances									
Series 22200, 22300, 23000, 23100, 23200		Radial Internal Clearance, Inches							
		C2		C0		C3 (basic)		C4	
Basic Size	Bore (mm)	Min	Max	Min	Max	Min	Max	Min	Max
08	40	0.0008	0.0014	0.0014	0.0020	0.0020	0.0026	0.0026	0.0033
09	45	0.0012	0.0018	0.0018	0.0024	0.0024	0.0031	0.0031	0.0039
10	50								
11	55	0.0014	0.0022	0.0022	0.0030	0.0030	0.0037	0.0037	0.0047
12	60								
13	65								
14	70	0.0018	0.0028	0.0028	0.0037	0.0037	0.0047	0.0047	0.0059
15	75								
16	80								
17	85								
18	90	0.0020	0.0030	0.0030	0.0043	0.0043	0.0055	0.0055	0.0071
19	95								
20	100								
22	110								
24	120	0.0025	0.0039	0.0039	0.0053	0.0053	0.0067	0.0067	0.0087
26	130								
28	140	0.0030	0.0047	0.0047	0.0063	0.0063	0.0079	0.0079	0.0102
30	150								
32	160	0.0033	0.0051	0.0051	0.0071	0.0071	0.0091	0.0091	0.0118
34	170								
36	180	0.0037	0.0055	0.0055	0.0079	0.0079	0.0102	0.0102	0.0134
38	190								
40	200	0.0041	0.0063	0.0063	0.0087	0.0087	0.0114	0.0114	0.0146
44	220								
48	240	0.0047	0.0071	0.0071	0.0098	0.0098	0.0126	0.0126	0.0161
52	260								
56	280	0.0053	0.0079	0.0079	0.0106	0.0106	0.0138	0.0138	0.0177
60	300								
64	320	0.0059	0.0087	0.0087	0.0118	0.0118	0.0154	0.0154	0.0193
68	340								
72	360	0.0065	0.0094	0.0094	0.0130	0.0130	0.0169	0.0169	0.0213
76	380								
80	400	0.0075	0.0106	0.0106	0.0142	0.0142	0.0185	0.0185	0.0232
84	420								
88	440	0.0083	0.0118	0.0118	0.0157	0.0157	0.0205	0.0205	0.0256
92	460								
96	480	0.0091	0.0130	0.0130	0.0173	0.0173	0.0224	0.0224	0.0283
	530								
	560	0.0102	0.0146	0.0146	0.0193	0.0193	0.0248	0.0248	0.0311
	600								
	630	0.0114	0.0161	0.0161	0.0213	0.0213	0.0268	0.0268	0.0343
	600								
	630	0.0126	0.0181	0.0181	0.0236	0.0236	0.0299	0.0299	0.0386
	630								

C2 = Internal clearance less than C0

C0 = Internal clearance

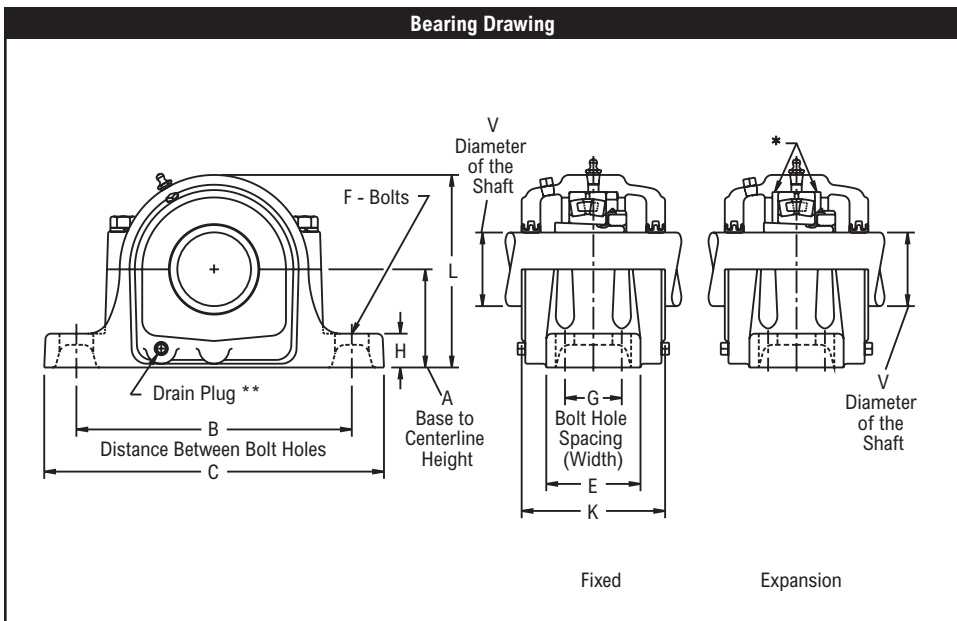
C3 = Internal clearance greater than C0

C4 = Internal clearance greater than C3



Product Features

- Corrosion resistant powder coating
- Two piece cast iron housing
- Broad range of sealing options
- Fixed or Expansion - Up to 3/8" expansion
- Matched base & cap
- Large reservoir for grease or oil storage
- Tapered adapter mounted
- See Features & Benefits for additional info.



Bearing Dimensions													
Size Code	Shaft Diameter	Part Number	A Base to Centerline Height	B Min. Distance Between Bolt Holes	B Max. Distance Between Bolt Holes	G Bolt Hole Spacing (Width)	C	E	F Bolts	H	K	L	Approx. Weight
Four-Bolt Pillow Block													
23044	7 15/16	PLB23044K71516	7 7/8	21 5/8	24 3/8	4 1/2	28	7 1/2	1 1/4	3 1/8	10 3/4	15 11/16	413.00
	8	PLB23044K8											
23048	8 1/2	PLB23048K812	8 1/4	22 1/2	25	5	29 1/2	8	1 1/4	3 3/8	11 1/8	16 11/16	474.00
	8 15/16	PLB23048K81516											
23052	9	PLB23048K9	9 1/2	24 3/4	27 7/8	5 1/4	32 3/4	8 3/4	1 1/2	3 3/4	11 7/8	18 13/16	530.00
	9 7/16	PLB23052K9716											
23056	9 1/2	PLB23052K912	9 7/8	26 1/4	29 1/2	5 1/2	34 1/4	9	1 1/2	4	12 1/16	20 3/16	800.00
	9 15/16	PLB23056K91516											
23060	10	PLB23056K10	12	32 3/4	33 1/2	9	38 1/4	14 3/4	1 5/8	3 1/2	15 1/2	24	1,200.00
	10 7/16	PLB23056K10716											
23064	11	PLB23060K101516	12	32 3/4	33 1/2	9	38 1/4	15 1/8	1 5/8	3 1/2	16 1/2	24	1,250.00
	11 15/16	PLB23064K111516											
23068	12	PLB23064K12	12	32	33 1/2	10	39	15 1/4	1 7/8	4 3/16	15 3/4	24	1,550.00
	12 1/2	PLB23068K1212											
23072	12 15/16	PLB23072K121516	12 13/16	35	36 1/2	10 1/2	41 3/4	15 3/4	1 7/8	4 1/2	16 1/4	26	1,650.00
	13	PLB23072K13											
23076	13 15/16	PLB23076K131516	12 13/16	35	36 1/2	10 1/2	41 3/4	15 3/4	1 7/8	4 1/2	16 1/4	26	1,700.00
	14	PLB23076K14											3,245.00
23080	15	PLB23080K15	14 1/2	39 1/4	40 3/4	11	46	17 1/8	2	5	18	28 3/4	2,300.00
23084	15 3/4	PLB23084K1534	14 1/2	39 1/4	40 3/4	11	46	17 1/8	2	5	18	28 3/4	2,300.00
23088	16 1/2	PLB23088K1612	15 1/2	41 1/2	43 1/2	12 1/4	48 3/4	18 3/4	2 1/4	5 1/2	19 3/8	31	2,550.00
23092	17	PLB23092K17	15 1/2	41 1/2	43 1/2	12 1/4	48 3/4	18 3/4	2 1/4	5 1/2	19 3/8	31	2,850.00
23096	18	PLB23096K18	17	44 1/2	46 5/8	14 1/2	52 3/4	22 1/4	2 1/4	5 1/2	21 3/4	34	4,250.00
230530	19 1/2	PLB230530K1912	18	47 1/8	48 7/8	15	54 1/4	21 5/8	2 1/2	5 3/4	22 3/4	35 3/4	5,200.00
230560	21	PLB230560K21	18	47 1/8	48 7/8	15	54 1/4	21 5/8	2 1/2	5 3/4	22 3/4	35 3/4	3,745.00
230600	22	PLB230600K22	20	52 1/2	54	16	60	22	3	6	24 5/8	40	5,525.00
230630	24	PLB230630K24	20	52 1/2	54	16	60	22	3	6	24 5/8	40	5,356.00

Additional Notes

Please Call 1-866-REXNORD for availability
 Lubrication Fitting Tap Size, 1/4" PT
 Expansion is 3/8" for all shaft sizes
 Multi-labyrinth seals standard
 Selection Guide, see Link-Belt Split Spherical Roller Bearing Selection Guide section
 Load Ratings & Speed Limits, see Link-Belt Split Spherical Roller Bearing Load Ratings & Speed Limits section

Note: Dimensions subject to change. Certified dimensions of ordered material furnished on request.

PLB23000

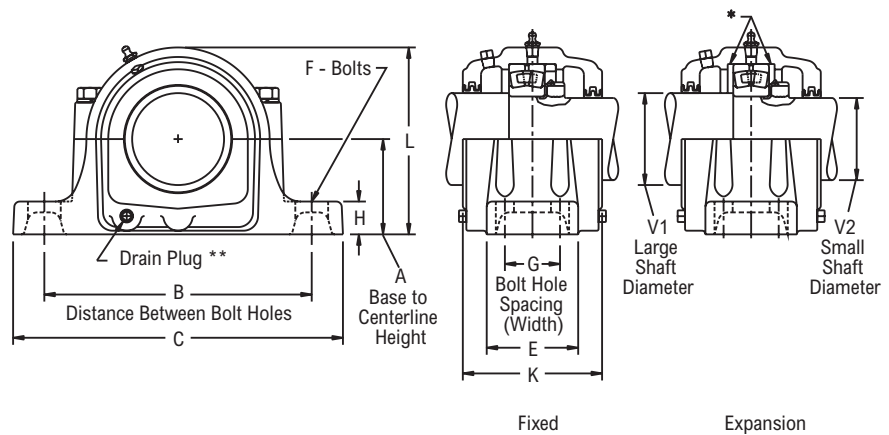


Photo Shows a 2-Bolt Spherical Roller Bearing Two-Piece Pillow Block Unit

Product Features

- Corrosion resistant powder coating
- Two piece cast iron housing
- Fixed or Expansion - Up to 3/8" expansion
- Matched base & cap
- Large reservoir for grease or oil storage
- Direct shaft mounted
- See Features & Benefits for additional info.

Bearing Drawing



Bearing Dimensions

Size Code	Shaft Diameter	V1 Large Shaft Diameter	V2 Small Shaft Diameter	Part Number	A Base to Centerline Height	B Min. Distance Between Bolt Holes	B Max. Distance Between Bolt Holes	G Bolt Hole Spacing (Width)	C	E	F Bolts	H	L	Approx. Weight
Four-Bolt Pillow Block														
23044	8.66	9 9/16	8 5/16	PLB23044	7 7/8	21 5/8	24 3/8	4 1/2	28	7 1/2	1 1/4	3 1/8	15 11/16	413.00
23048	9.45	10 1/2	9 3/16	PLB23048	8 1/4	22 1/2	25	5	29 1/2	8	1 1/4	3 3/8	16 11/16	388.00
23052	10.24	11 1/2	9 15/16	PLB23052	9 1/2	24 3/4	27 7/8	5 1/4	32 3/4	8 3/4	1 1/2	3 3/4	18 13/16	547.00
23056	11.02	12 1/2	10 3/4	PLB23056	9 7/8	26 1/4	29 1/2	5 1/2	34 1/4	9	1 1/2	4	20 3/16	528.00
23060	11.81	13	11 1/2	PLB23060	12	32 3/4	33 1/2	9	38 1/4	14 3/4	1 5/8	3 1/2	24	1,200.00
23064	12.60	13 3/4	12 1/4	PLB23064	12	32 3/4	33 1/2	9	38 1/4	15 1/8	1 5/8	3 1/2	24	1,300.00
23068	13.39	15	13	PLB23068	12	32	33 1/2	10	39	15 1/4	1 7/8	4 3/16	24	1,550.00
23072	14.17	15 3/4	13 3/4	PLB23072	12 13/16	35	36 1/2	10 1/2	41 3/4	15 3/4	1 7/8	4 1/2	26	1,650.00
23076	14.96	16 3/4	14 1/2	PLB23076	12 13/16	35	36 1/2	10 1/2	41 3/4	15 3/4	1 7/8	4 1/2	26	1,700.00
23080	15.75	17 1/2	15 3/8	PLB23080	14 1/2	39 1/4	40 3/4	11	46	17 1/8	2	5	28 3/4	2,300.00
23084	16.54	18	16	PLB23084	14 1/2	39 1/4	40 3/4	11	46	17 1/8	2	5	28 3/4	2,300.00
23088	17.32	19 1/2	17	PLB23088	15 1/2	41 1/2	43 1/2	12 1/4	48 3/4	18 3/4	2 1/4	5 1/2	31	2,550.00
23092	18.11	20	17 3/4	PLB23092	15 1/2	41 1/2	43 1/2	12 1/4	48 3/4	18 3/4	2 1/4	5 1/2	31	2,850.00
23096	18.90	21	18 1/2	PLB23096	17	44 1/2	46 5/8	14 1/2	52 3/4	22 1/4	2 1/4	5 1/2	34	4,250.00
230530	20.87	22 1/2	20 3/8	PLB230530	18	47 1/8	48 7/8	15	54 1/4	21 5/8	2 1/2	5 3/4	35 3/4	5,200.00
230560	22.05	-	-	PLB230560	18	47 1/8	48 7/8	15	54 1/4	21 5/8	2 1/2	5 3/4	35 3/4	3,745.00

Additional Notes

Please Call 1-866-REXNORD for availability
 Lubrication Fitting Tap Size, 1/4" PT
 Expansion is 3/8" for all shaft sizes
 Multi-labyrinth seals standard
 Selection Guide, see Link-Belt Split Spherical Roller Bearing Selection Guide section
 Load Ratings & Speed Limits, see Link-Belt Split Spherical Roller Bearing Load Ratings & Speed Limits section

Note: Dimensions subject to change. Certified dimensions of ordered material furnished on request.

22300LB, 22300LBC

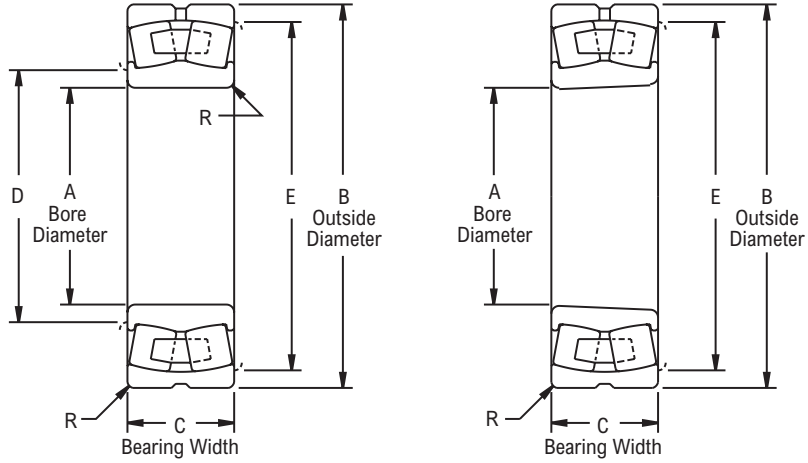


Photo Shows an Unmounted Spherical Roller Bearing Unit

Product Features

- Cylindrical or Tapered bore
- Roller riding retainers
- Self aligning
- Extra high capacity
- See Features & Benefits for additional info.

Bearing Drawing



Cylindrical Bore

Tapered Bore

Bearing Dimensions

Cylindrical Part Number	Tapered Part Number	A Bore Diameter	B Outside Diameter	C Bearing Width	D	E	R	Approx. Weight
22308LBC3	22308LBK3	1.5748	3.5433	1.2992	1.90	3.20	0.059	2.80
22309LBC3	22309LBK3	1.7717	3.9370	1.4173	2.20	3.60		3.10
22310LBC3	22310LBK3	1.9685	4.3307	1.5748	2.40	3.90		4.00
22311LBC3	22311LBK3	2.1654	4.7244	1.6929	2.60	4.30		5.20
22312LBC3	22312LBK3	2.3622	5.1181	1.8110	2.90	4.60	0.079	6.60
22313LBC3	22313LBK3	2.5591	5.5118	1.8898	3.10	5.00		7.90
22314LBC3	22314LBK3	2.7559	5.9055	2.0079	3.30	5.40		9.80
22315LBC3	22315LBK3	2.9528	6.2992	2.1654	3.50	5.80		11.90
22316LBC3	22316LBK3	3.1496	6.6929	2.2835	3.70	6.20	0.098	14.10
22317LBC3	22317LBK3	3.3465	7.0866	2.3622	3.90	6.50		16.30
22318LBC3	22318LBK3	3.5433	7.4803	2.5197	4.10	6.90		19.50
22319LBC3	22319LBK3	3.7402	7.8740	2.6378	4.30	7.30		22.60
22320LBC3	22320LBK3	3.9370	8.4646	2.8740	4.50	7.90	0.118	28.90
22322LBC3	22322LBK3	4.3307	9.4488	3.1496	4.90	8.90		40.00
22324LBC3	22324LBK3	4.7244	10.2362	3.3858	5.30	9.70		49.00
22326LBC3	22326LBK3	5.1181	11.0236	3.6614	5.90	10.30		62.50
22328LBC3	22328LBK3	5.5118	11.8110	4.0157	6.30	11.10	0.157	78.20
22330LBC3	22330LBK3	5.9055	12.5984	4.2520	6.60	11.90		92.00
22332LBC3	22332LBK3	6.2992	13.3858	4.4882	7.10	12.70		110.00
22334LBC3	22334LBK3	6.6929	14.1732	4.7244	7.40	13.50		129.00
22336LBC3	22336LBK3	7.0866	14.9606	4.9606	7.80	14.30	0.197	153.00
22338LBC3	22338LBK3	7.4803	15.7480	5.1968	8.40	14.90		176.00
22340LBC3	22340LBK3	7.8740	16.5354	5.4331	8.80	15.70		200.00
22344LBC3	22344LBK3	8.6614	18.1102	5.7087	9.60	17.30		287.00
22348LBC3	22348LBK3	9.4488	19.6850	6.1024	10.70	18.40	0.236	321.90
22356LBC3	22356LBK3	11.0236	22.8346	6.8898	12.60	21.30		482.80

Additional Notes

Please call 1-866-REXNORD for availability
 Tapered bore, 1:12 on diameter
 Dimension "R" is the largest fillet radius that will clear bearing corners
 Selection Guide, see Link-Belt Split Spherical Roller Bearings Selection Guide section
 Load Ratings & Speed Limits, see Link-Belt Split Spherical Bearings Load Ratings & Speed Limits section

For shaft bearing seat diameters, see Link-Belt Split Spherical Bearings Shaft & Housing Seat Diameters section
 Note: Dimensions subject to change. Certified dimensions of ordered material furnished on request.

World Class Customer Service

For more than 100 years, the dedicated people of Rexnord have delivered excellence in quality and service to our customers around the globe. Rexnord is a trusted name when it comes to providing skillfully engineered products that improve productivity and efficiency for industrial applications worldwide. We are committed to exceeding customer expectations in every area of our business: product design, application engineering, operations, and customer service.

Because of our customer focus, we are able to thoroughly understand the needs of your business and have the resources available to work closely with you to reduce maintenance costs, eliminate redundant inventories and prevent equipment down time.

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