

Kilian Precision Machined Bearings

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INTRODUCTION

Some applications in equipment such as conveyor rollers, drawer slides, door tracks and others may permit the use of bearings of less than ABEC-1 quality. For these lighter duty applications the Torrington Company supplies low cost precision machined ball bearings.

These bearings feature one-piece outers thus eliminating any possibility of the outer raceway spreading or splitting. Rings and balls of precision machined bearings are appropriately heat treated.

Bearings are available with parts coated for corrosion resistance as

well as appearance. These include; zinc, cadmium, black oxide, nickel and chrome. In conditions of high humidity, stainless steel balls should be considered. Material variations for bearing parts such as nylon and stainless steel can be supplied to accommodate particular applications.

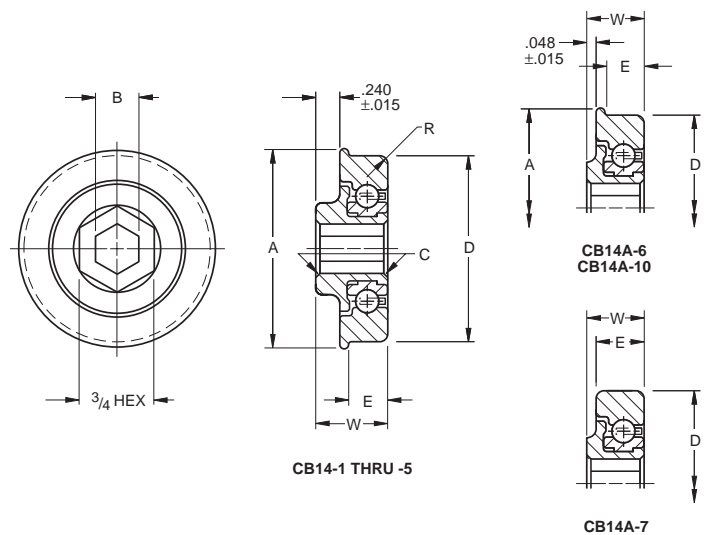
To obtain bearings with the above described variations plus other special bearing configurations, consult the Torrington Company sales engineers for details.

CB14 Series

The Fafnir CB14 series* is designed to meet the speed and reliability requirements of driven conveyor rolls and significantly reduce the noise level of the system in which they are installed.

CB14 bearings are precision machined from hardened steel and feature a flanged O.D. for easier mounting in the tube. Both rings are a one-piece construction. Use of a nylon ball retainer makes the bearing capable of reliable operation up to 2000 R.P.M., higher than full type standard bearings. CB14 bearings utilize unique nylon adapters pressed into the bore of the bearing with an hexagonal bore to accommodate standard 3/16" hex shafting. The adapter is flanged and serves as a bearing shield. Both the nylon retainer and the adapter help reduce noise levels of conveyor systems. The retainer prevents balls from cascading and contacting each other while the adapter eliminates metal-to-metal contact between the bearing and the shaft, deadening the noise normally transmitted to the conveyor frame.

The conveyor roll bearing series is designed with the same interior system and ball cage for all sizes. Static (C₀) and Dynamic Load (C_E) ratings apply to all sizes shown. Life calculations based on these ratings should be performed according to page E50 of the Engineering section.



To order, specify Bearing Number. Example: CB14-1.

Bearing Number	Hex Bore B		Outside Diameter D				Width				C		R		Manufacturer's Part No. Interchange ⁽¹⁾	Static Load Rating C ₀	Extended Dynamic Load Rating C _E				
	in.	mm	in.	mm	in.	mm	Flange A	W	E	in.	mm	in.	mm	lbs.				N	lbs.	N	
CB14-1	0.466/0.456	11.84/11.58	1.469/1.464	37.31/37.19	1.537	39.04	±.015"	0.712	18.08	0.372	9.45	±.015"	0.040/0.020	1.02/.51	3/16	4.8	Rapistan 4933-70481	390	1730	330	1480
CB14-2	0.466/0.456	11.84/11.58	1.503/1.498	38.18/38.05	1.574	39.98	±.015"	0.712	18.08	0.410	10.41	±.015"	0.040/0.020	1.02/.51	3/16	2	Frantz01, Bush190	390	1730	330	1480
CB14-3	0.466/0.456	11.84/11.58	1.529/1.524	38.84/38.71	1.600	40.64	±.015"	0.712	18.08	0.410	10.41	±.015"	0.040/0.020	1.02/.51	3/16	2	Matthews B 1020-1,-2	390	1730	330	1480
CB14-4	0.466/0.456	11.84/11.58	1.880/1.875	47.75/47.62	1.951	49.56	±.015"	0.712	18.08	0.410	10.41	±.015"	0.040/0.020	1.02/.51	3/16	2	Kendale BFC1877-446	390	1730	330	1480
CB14-5	0.466/0.456	11.84/11.58	1.603/1.598	40.72/40.59	1.675	42.54	±.015"	0.712	18.08	0.410	10.41	±.015"	0.040/0.020	1.02/.51	3/16	2	Standard 231	390	1730	330	1480
CB14A-6	0.466/0.456	11.84/11.58	1.712/1.707	43.48/43.36	1.783	45.29	±.015"	0.520	13.21	0.410	10.41	±.015"	0.040/0.020	1.02/.51	3/16	2	Litton 200 PL	390	1730	330	1480
CB14A-7	0.466/0.456	11.84/11.58	1.712/1.707	43.48/43.36	—	—	±.015"	0.520	13.21	0.472	11.99	±.015"	0.040/0.020	1.02/.51	3/16	2	B30194(195PL)	390	1730	330	1480
CB14A-10	0.466/0.456	11.84/11.58	1.628/1.623	41.35/41.22	1.700	43.18	±.015"	0.520	13.21	0.410	10.41	±.015"	0.040/0.020	1.02/.51	3/16	2	Schantz AFH2852 Frantz 1624Z	390	1730	330	1480

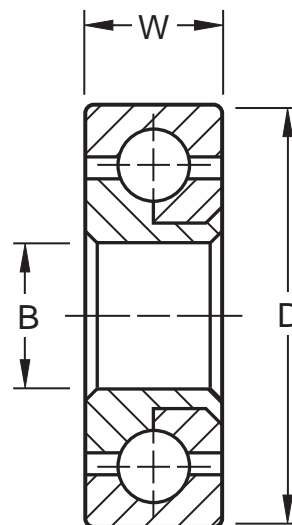
⁽¹⁾ Applies to Bore and O.D. only

*U.S. Patent #3897988.



Single Row Ball Bearings

- Full complement of balls
- Zinc plated races
- Pre-lubricated
- Thrust rating in either direction is 50% of the listed radial rating
- The sum of the radial and thrust loads should not exceed the listed load rating
- On all standard single row bearings the inner and outer ring faces are flush. When sufficient quantities permit, shoulders on one or both sides of the inner rings and variations from standard bore may be specified.
- These bearings are designed for light loads and speeds up to 1200 RPM



Bearing Number	Bore B		Outside Diameter D		Width W		Balls		Radial Load Rating at 600 RPM ⁽¹⁾	
	tolerance +0.005 0.000		tolerance -0.005 +0.000		tolerance ±.005*		No.	Size	lbs.	N
	in.	mm	in.	mm	in.	mm		in.		
SR-253	3/16	4.8	11/16	17.5	1/4	6.4	11	1/8	29	129
SR-254	1/4	6.4	11/16	17.5	1/4	6.4	12	1/8	32	142
SR-255	1/4	6.4	3/4	19.1	1/4	6.4	13	1/8	34	151
SR-255-89	3/16	4.8	3/4	19.1	1/4	6.4	10	5/32	41	182
SR-266	3/16	4.8	7/8	22.2	1/4	6.4	12	5/32	49	218
SR-267	1/4	6.4	7/8	22.2	1/4	6.4	12	5/32	49	218
SR-268	5/16	7.9	7/8	22.2	1/4	6.4	15	1/8	40	178
SR-269	3/8	9.5	7/8	22.2	1/4	6.4	16	1/8	42	187
SR-270	5/16	7.9	29/32	23	5/16	7.9	13	5/32	53	236
SR-280-1	5/16	7.9	15/16	23.8	5/16	7.9	13	5/32	53	236
SR-281	3/8	9.5	15/16	23.8	5/16	7.9	17	1/8	45	200
SR-290	1/4	6.4	1	25.4	3/8	9.5	13	5/32	53	236
SR-311	1/4	6.4	1 1/16	27	1/4	6.4	13	5/32	53	236
SR-312	5/16	7.9	1 1/16	27	1/4	6.4	13	5/32	53	236
SR-314	5/16	7.9	1 1/16	27	3/8	9.5	13	5/32	53	236
SR-315	3/8	9.5	1 1/16	27	3/8	9.5	14	5/32	57	254
SR-333	3/8	9.5	1 1/8	28.6	3/8	9.5	14	5/32	57	254
SR-337	1/2	12.7	1 1/8	28.6	3/8	9.5	16	5/32	66	294
SR-340-1	3/8	9.5	1 3/16	30.2	3/8	9.5	13	3/16	81	360
SR-342	3/8	9.5	1 1/4	31.8	3/8	9.5	13	3/16	81	360
SR-342-58	1/2	12.7	1 1/4	31.8	3/8	9.5	15	3/16	87	387
SR-347	1/2	12.7	1 1/32	32.5	5/16	7.9	15	3/16	87	387
SR-381	1/2	12.7	1 3/8	34.9	7/16	11.1	17	3/16	99	441
SR-500	1/2	12.7	1 1/2	38.1	7/16	11.1	13	1/4	136	605
SR-503	5/8	15.9	1 1/2	38.1	7/16	11.1	13	1/4	136	605
SR-550	1/2	12.7	1 7/16	39.7	7/16	11.1	14	1/4	147	654
SR-620	3/4	19.1	1 5/8	41.3	3/8	9.5	15	1/4	157	699

⁽¹⁾ LOAD RATING FACTORS

Radial load ratings given in the tabular data in this catalog are based on a speed of 600 RPM. For radial load ratings at speeds other than 600 RPM, multiply the listed capacity by the appropriate factor listed in Table 1.

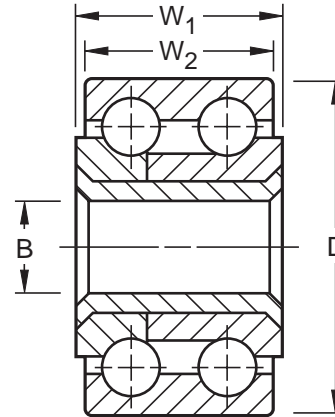
Table 1

Speed (RPM)	Factor
50	3.6
100	2.7
300	1.4
900	.8
1000	.7
1200	.6



Double Row Ball Bearings

- Full complement of double ball rows
- Zinc plated races
- Pre-lubricated
- Thrust rating in either direction is 33% of the listed radial rating
- The sum of the radial and thrust loads should not exceed the listed load rating
- These bearings are designed for light loads and speeds up to 1200 RPM



Bearing Number	Bore B		Outside Diameter D		Width W ₁		Width W ₂		Balls		Radial Load Rating at 600 RPM ⁽¹⁾	
	tolerance +0.005", 0.000"		tolerance -0.005", +0.000"		tolerance ±005"				No.	Size	lbs.	N
	in.	mm	in.	mm	in.	mm	in.	mm		in.		
D-2253	$\frac{3}{16}$	4.8	$\frac{11}{16}$	17.5	$\frac{7}{16}$	11.1	$\frac{13}{32}$	10.3	22	$\frac{1}{8}$	43	191
D-2254	$\frac{1}{4}$	6.4	$\frac{11}{16}$	17.5	$\frac{7}{16}$	11.1	$\frac{13}{32}$	10.3	24	$\frac{1}{8}$	48	214
D-2255	$\frac{1}{4}$	6.4	$\frac{3}{4}$	19.1	$\frac{7}{16}$	11.1	$\frac{13}{32}$	10.3	24	$\frac{1}{8}$	48	214
D-2267	$\frac{1}{4}$	6.4	$\frac{7}{8}$	22.2	$\frac{7}{16}$	11.1	$\frac{13}{32}$	10.3	24	$\frac{5}{32}$	73	325
D-2269	$\frac{3}{8}$	9.5	$\frac{7}{8}$	22.2	$\frac{7}{16}$	11.1	$\frac{13}{32}$	10.3	32	$\frac{1}{8}$	63	280
D-2290	$\frac{3}{8}$	9.5	1	25.4	$\frac{7}{16}$	11.1	$\frac{13}{32}$	10.3	28	$\frac{5}{32}$	85	378
D-2337	$\frac{1}{2}$	12.7	1 $\frac{1}{8}$	28.6	$\frac{9}{16}$	14.3	$\frac{17}{32}$	13.5	32	$\frac{5}{32}$	99	441
D-2383	$\frac{5}{8}$	15.9	1 $\frac{3}{8}$	34.9	$\frac{5}{8}$	15.9	$\frac{19}{32}$	15.08	34	$\frac{3}{16}$	148	659
D-2500	$\frac{1}{2}$	12.7	1 $\frac{1}{2}$	38.1	$\frac{3}{4}$	19.1	$\frac{23}{32}$	18.3	26	$\frac{1}{4}$	204	908
D-3010	$\frac{3}{4}$	19.1	2	50.8	$\frac{7}{8}$	22.2	$\frac{27}{32}$	21.4	38	$\frac{1}{4}$	300	1335

⁽¹⁾ LOAD RATING FACTORS

Radial load ratings given in the tabular data in this catalog are based on a speed of 600 RPM. For radial load ratings at speeds other than 600 RPM, multiply the listed capacity by the appropriate factor listed in Table 1.

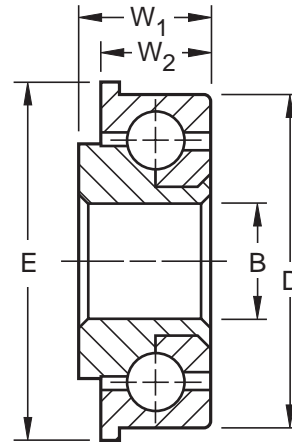
Table 1

Speed (RPM)	Factor
50	3.6
100	2.7
300	1.4
900	.8
1000	.7
1200	.6



Flange Type Ball Bearings

- Mount directly into wheel hubs, pulleys and conveyor rollers
- Full complement of balls
- Zinc plated races
- Pre-lubricated
- Thrust rating in either direction is 50% of the listed radial rating
- The sum of the radial and thrust loads should not exceed the listed load rating
- All flanges are 1/16" thick except sizes F-150 through F-165 where flange thickness is 3/64"
- These bearings are designed for light loads and speeds up to 1200 RPM



Bearing Number	Bore B		Outside Diameter D		Width W ₁		W ₂		E		Balls		Radial Load Rating at 600 RPM ⁽¹⁾	
	tolerance +0.005", -0.000"		tolerance -0.005", +0.000"				tolerance ±.005"				No.	Size	lbs.	N
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm		in.		
F-150	1/4	6.4	13/16	17.5	5/16	7.9	1/4	6.4	13/16	20.6	12	1/8	32	142
F-155	1/4	6.4	3/4	19.1	5/16	7.9	1/4	6.4	7/8	22.2	12	1/8	32	142
F-160	1/4	6.4	13/16	20.6	5/16	7.9	1/4	6.4	29/32	23	13	1/8	34	151
F-165	3/16	7.9	7/8	22.2	5/16	7.9	1/4	6.4	1	25.4	15	1/8	40	178
F-175-1	1/4	6.4	29/32	23	7/16	11.1	3/8	9.5	1	25.4	13	5/32	53	236
F-175-2	3/16	7.9	29/32	23	7/16	11.1	3/8	9.5	1	25.4	13	5/32	53	236
F-175-3	3/8	9.5	29/32	23	7/16	11.1	3/8	9.5	1	25.4	16	1/8	42	187
F-175-4	7/16	11.1	29/32	23	7/16	11.1	3/8	9.5	1	25.4	17	1/8	45	200
F-200-1	7/16	11.1	29/32	23	7/16	11.1	11/32	8.7	1 1/16	27	17	1/8	45	200
F-225	3/8	9.5	1	25.4	7/16	11.1	3/8	9.5	1 1/8	28.6	14	5/32	57	254
F-250	7/16	11.1	1 1/16	27	7/16	11.1	3/8	9.5	1 3/16	30.2	15	5/32	61	271
F-250-2	3/8	9.5	1 1/16	27	7/16	11.1	3/8	9.5	1 3/16	30.2	15	5/32	61	271
F-300	1/2	12.7	1 1/8	28.6	1/2	12.7	3/8	9.5	1 1/4	31.8	16	5/32	65	289
F-300-19	3/8	9.5	1 1/8	28.6	1/2	12.7	3/8	9.5	1 1/4	31.8	16	5/32	65	289
F-310	1/2	12.7	1 3/16	30.2	1/2	12.7	3/8	9.5	1 3/16	32.3	16	5/32	65	289
F-325	3/16	14.3	1 1/4	31.8	1/2	12.7	7/16	11.1	1 3/8	34.9	18	5/32	74	329
F-350-11	3/8	9.5	1 3/8	34.9	1/2	12.7	7/16	11.1	1 1/2	38.1	11	1/4	115	512
F-350-12	1/2	12.7	1 3/8	34.9	1/2	12.7	7/16	11.1	1 1/2	38.1	12	1/4	125	556
F-350-13	3/8	15.9	1 3/8	34.9	1/2	12.7	7/16	11.1	1 1/2	38.1	17	3/16	99	440
F-350-89	3/4	19.1	1 3/8	34.9	7/16	11.1	3/8	9.5	1 1/2	38.1	22	5/32	90	400
F-500	11/16	17.5	1 1/2	38.1	5/8	15.9	7/16	11.1	1 5/8	41.3	18	3/16	110	490
F-550	1/2	12.7	1 9/16	39.7	29/32	16.7	17/32	13.5	1 11/16	42.9	12	1/4	125	556
F-600-3	3/4	19.1	1 5/8	41.3	9/16	14.3	1/2	12.7	1 3/4	44.5	15	1/4	157	699
F-700	3/4	19.1	1 11/16	42.9	9/16	14.3	1/2	12.7	1 13/16	46	15	1/4	157	699
F-750	3/4	19.1	1 3/4	44.5	5/8	15.9	9/16	14.3	1 7/8	47.6	15	1/4	157	699
F-850	3/8	15.9	1 7/8	47.6	5/8	15.9	9/16	14.3	2	50.8	17	1/4	178	792
F-1000	7/8	22.2	2	50.8	5/8	15.9	5/8	14.3	2 1/8	54	19	1/4	200	890
F-1000-4	1	25.4	2	50.8	5/8	15.9	5/8	14.3	2 1/8	54	19	1/4	200	890
F-1100	1 1/4	31.8	2 1/8	54	5/8	15.9	5/8	14.3	2 1/4	57.2	21	1/4	220	979

(1) LOAD RATING FACTORS

Radial load ratings given in the tabular data in this catalog are based on a speed of 600 RPM. For radial load ratings at speeds other than 600 RPM, multiply the listed capacity by the appropriate factor listed in Table 1.

Table 1

Speed (RPM)	Factor
50	3.6
100	2.7
300	1.4
900	.8
1000	.7
1200	.6