

Specialty Ball Bearings

NICE®

ER Series Ball Bearings

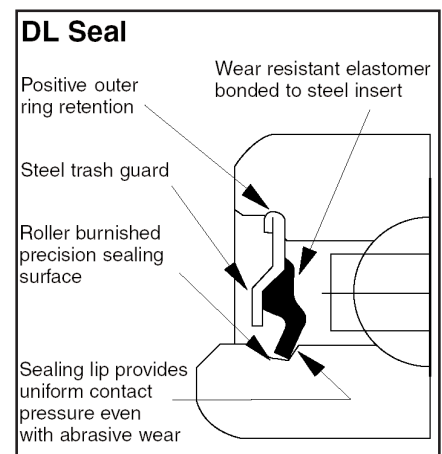


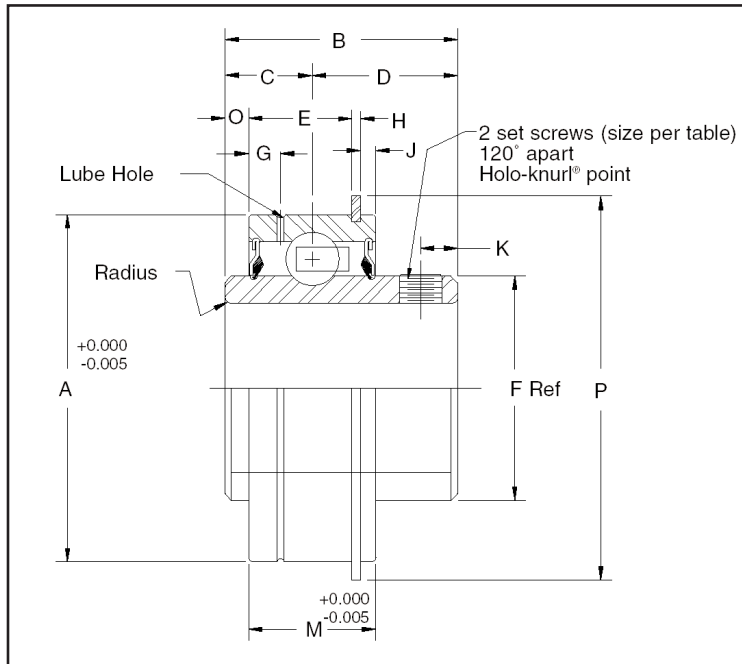
ER series ball bearings, an industry standard, are used in demanding applications such as:

- Cardboard/Packaging Machinery
- Paper/Printing Machinery
- Carpet Tufting/Manufacturing
- General Conveyor Equipment
- Pumps/Blowers

ER Series Features and Benefits

- Exclusive, heavy duty "DL" seals
 - Permanently sealed and prelubricated for long life
 - Steel trash guard and inner ring labyrinth groove provide superior protection of sealing member
 - Better protection in wet/moist environments
 - Optional low-torque seal is available
- Two lubrication holes allow for re-greasing
- Two knurled cup point set screws offer excellent resistance to loosening under vibratory conditions
- Fully ground, SAE 52100 chrome alloy steel races
- Black oxide finish provides added corrosion resistance
- Interchanges with Sealmaster®, Fafnir, and MB/Rexnord ER series





Material

Inner and Outer Ring
 52100 Hardened & Ground:
 Black Oxide Finish
 Balls: Chrome
 Retainer: Nylon
 Seals: Nitrile/CRS
 Snap Ring: CRS

Item	Shaft Dia.	A	B	C	D	E	F	G	H	K	J	M	Radius	O	P	Set Screws
RBC ER10	5/8	1.8504	1 7/32	13/32	13/16	31/64	1 7/64	9/64	3/64	3/32	3/16	5/8	0.040	0.094	2 1/16	10-32
RBC ER12	3/4	1.8504	1 7/32	13/32	13/16	31/64	1 7/64	9/64	3/64	3/32	3/16	5/8	0.040	0.094	2 1/16	10-32
RBC ER16	1	2.0472	1 3/8	33/64	55/64	39/64	1 21/64	3/16	3/64	3/32	7/32	3/4	0.040	0.141	2 17/64	1/4-28
RBC ER19	1 3/16	2.4409	1 1/2	5/8	7/8	11/16	1 9/16	7/32	1/16	1/8	7/32	7/8	0.040	0.188	2 21/32	1/4-28
RBC ER20	1 1/4	2.8346	1 11/16	11/16	1	3/4	1 13/16	7/32	1/16	1/8	1/4	15/16	0.040	0.219	3 5/64	1/4-28
RBC ER23	1 7/16	2.8346	1 11/16	11/16	1	3/4	1 13/16	7/32	1/16	1/8	1/4	15/16	0.040	0.219	3 5/64	1/4-28
RBC ER24	1 1/2	3.1496	1 15/16	3/4	1 3/16	29/32	2 3/64	1/4	1/16	1/8	5/16	1 3/32	0.062	0.203	3 13/32	5/16-24
RBC ER31	1 15/16	3.5433	2 1/32	3/4	1 9/32	29/32	2 15/32	19/64	3/32	1/8	3/8	1 1/8	0.062	0.187	3 25/32	3/8-24
RBC ER35	2 3/16	3.9370	2 3/16	7/8	1 5/16	31/32	2 23/32	19/64	3/32	1/8	3/8	1 3/16	0.080	0.281	4 3/16	3/8-24

ER Series Load Ratings

Radial capacities in table are based on L10 life of 10,000 hours.

To determine the capacity for a different L10 life, multiply the capacity from the table below by the appropriate factor:

L10, Hrs. Factor	5,000	30,000	50,000	100,000
	1.26	0.69	0.59	0.46

Size	Basic Load Rating C, lbf	Static Load Rating Co, lbf	Radial Capacity in Pounds vs. Revolutions per Minute (for L10 life of 10,000 hours)							
			50	150	300	500	1200	1800	2500	5000
RBC ER10	2860	1480	921	638	506	427	319	278	250	198
RBC ER12	2860	1480	921	638	506	427	319	278	250	198
RBC ER16	3145	1770	1012	702	557	469	351	306	274	218
RBC ER19	4360	2535	1403	973	772	651	486	425	381	302
RBC ER20	5755	3450	1852	1284	1019	859	642	561	502	399
RBC ER23	5755	3450	1852	1284	1019	859	642	561	502	399
RBC ER24	6535	4025	2103	1458	1157	976	729	637	571	453
RBC ER31	7900	5250	2542	1762	1399	1180	881	770	690	547
RBC ER35	9760	6610	3142	2178	1729	1458	1089	951	852	676

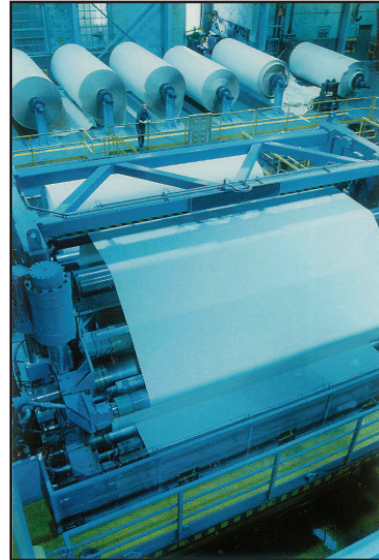


Material Handling Industry

Recommended Relubrication Intervals (hours @ ambient temperature)		
Size	1000 rpm	5000 rpm
RBC ER10	21000	9000
RBC ER12	18000	7000
RBC ER16	17000	6000
RBC ER19	16000	5000
RBC ER20	16000	5000
RBC ER23	15000	4000
RBC ER24	15000	3000
RBC ER31	14000	2000
RBC ER35	14000	1500

Maximum Recommended Torques Holo-knurl® Point Set Screws	
Nominal Size	Max. Torque (inch-lbs)
10	34
1/4	78
5/16	156
3/8	273

Recommended Shaft Tolerances For Light & Medium Duty Applications	
Nominal Shaft-Size	Shaft Tolerance
5/8 to 1-15/16 in. 2 to 3 in.	+ 0.0000 to - 0.0005 in. + 0.0000 to - 0.0010 in.



Paper/Printing Industry

Recommended Housing Fits										
Bearing Number	Outside Diameter of Bearing		Rotating Housing				Stationary Housing			
			Diameter		Resultant Fit		Diameter		Resultant Fit	
			Min.	Max.	Loose	Tight	Min.	Max.	Loose	Tight
RBC ER10	1.8499	1.8504	1.8498	1.8504	0.0005	0.0006	1.8503	1.8509	0.0010	0.0001
RBC ER12	1.8499	1.8504	1.8498	1.8504	0.0005	0.0006	1.8503	1.8509	0.0010	0.0001
RBC ER16	2.0466	2.0472	2.0466	2.0471	0.0005	0.0006	2.0471	2.0476	0.0010	0.0001
RBC ER19	2.4403	2.4409	2.4403	2.4408	0.0005	0.0006	2.4408	2.4413	0.0010	0.0001
RBC ER20	2.8340	2.8346	2.8340	2.8345	0.0005	0.0006	2.8345	2.8350	0.0010	0.0001
RBC ER23	2.8340	2.8346	2.8340	2.8345	0.0005	0.0006	2.8345	2.8350	0.0010	0.0001
RBC ER24	3.1490	3.1496	3.1490	3.1495	0.0005	0.0006	3.1495	3.1500	0.0010	0.0001
RBC ER31	3.5425	3.5433	3.5426	3.5432	0.0007	0.0007	3.5432	3.5438	0.0013	0.0001
RBC ER35	3.9362	3.9370	3.9363	3.9369	0.0007	0.0007	3.9369	3.9375	0.0013	0.0001

The fits above are recommended based on standard ball bearing fitting practices for bearings with rigid outer ring mountings. They are intended for general purpose applications. Consult with RBC engineering for evaluation of fits for severe applications.

Innovation. Commitment. Quality.

RBC has been producing bearings in the USA since 1919. In addition to unique custom bearings, RBC offers a full line of standard industrial and aerospace bearings, including:



Spherical Plain Bearings

Radial, angular contact, extended inner ring, high misalignment. **QuadLube**[®], **ImpactTuff**[®], **SpreadLock**[®] Seal, **CrossLube**[®], **DuraLube**[®], **MillTuff**[®] bearings, and self-lubricating bearings. Available in inch and metric sizes.



Rod Ends

Commercial and industrial, precision, Mil-Spec series, self-lubricating, and aircraft. **Heim**[®], **Unibal**[®] and **Spherco**[®] brands. Available in inch and metric sizes.



Thin Section Ball Bearings

Standard cross sections to one inch. Sizes to 40 inches. Stainless steel and other materials are available. Seals are available on all sizes and standard cross sections.



Ball Bearings

Precision ground, semiground, unground. High loads, long life, smooth operation. **Nice**[®] brand is offered in caged and full complement configurations.



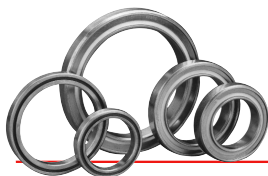
Self-Lubricating Bearings

Radial, thrust, rod ends, spherical bearings, high temperature, high loads. Available in inch and metric sizes. **Fiberglide**[®].



Cam Followers

Standard stud, heavy stud, yoke type, caged roller followers. Patented **RBC Roller**[®] cylindrical roller cam followers, **HexLube**[®] universal cam followers, airframe track rollers.



Airframe Control Bearings

Ball bearing types, self-lubricating types, needle roller track rollers.



Needle Roller Bearings

Pitchlign[®] caged heavy duty needle roller bearings, inner rings, **TJ TandemRoller**[®] bearings for long life.



Pins and shafts

Pins, needle rollers, shafts, and rollers.



Tapered Roller and Thrust Bearings

Tyson[®] brand case-hardened and through-hardened tapered roller and tapered thrust bearings available in many sizes. Used in Class 8 heavy truck and trailer wheel bearings, gearboxes, and final drive transmissions.



Ball Screws

Precision ground, rolled, ball splines. Long life, low wear, high accuracy. **QuickTurn**[®] Ball Screw Repair Service.



Specials

RBC manufactures many specialty bearings for the aerospace, oil and energy, semiconductor equipment, packaging, heavy truck, and other industries.