

The stroke bearing is a linear and rotational motion mechanism utilizing the rotational motion of ball elements between an outer cylinder and a shaft. It is compact and can with stand high loading. The retainer is made of a light metal alloy with high wear resistance. Smooth motion is achieved under high-speed and high-acceleration conditions. Although the linear motion is limited to a predetermined stroke distance, the smooth combination of linear and rotational motions is achieved with very little frictional resistance. The stroke bearing may be conveniently used in a variety of applications.

STRUCTURE AND ADVANTAGES

The retainer in the stroke bearing positions the ball elements in a zigzag arrangement. The inner surface of the outer cylinder is finished by grinding, resulting in the smooth motion of the ball elements. Each of the ball elements is held in a separate hole and smooth motion is achieved for both rotational motion and linear motion. The retainer moves half the distance of the linear motion, therefore, the stroke distance is limited to approximately twice the distance the retainer can travel within the outer cylinder. The actual travel distance should be limited to 80% of the travel distances as listed in the dimensional tables.

High Precision

High-carbon, chromium-bearing steel is used for the outer cylinder. It is heat treated and ground to achieve high rigidity and accuracy.

Ease of Mounting/Replacement

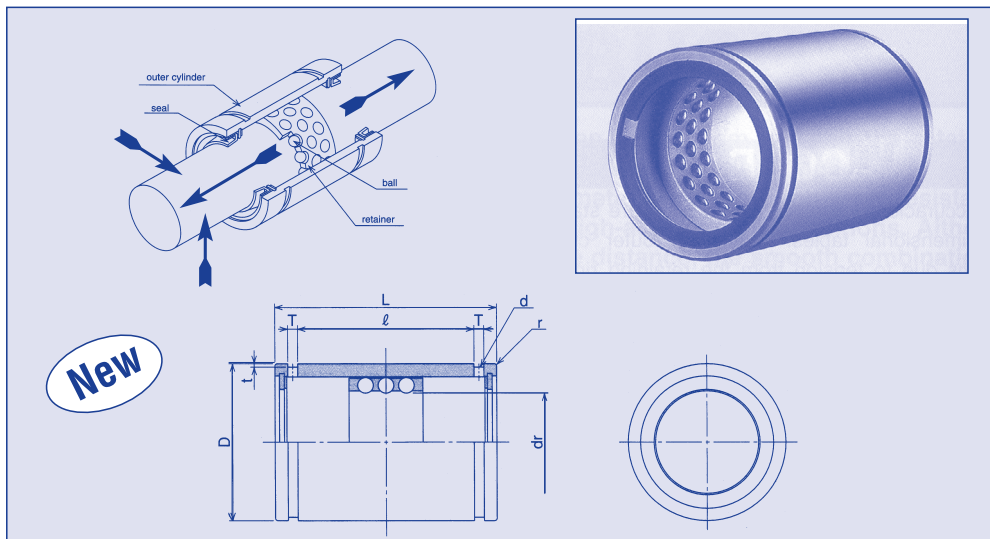
The highly accurate fabrication of the stroke bearing results in uniform dimensions, facilitating parts replacement and housing fabrication.

Light Weight/ Saving of Space

The use of an aluminum alloy for the retainer and the thin-wall outer cylinder make the stroke bearing light weight and compact.

Lubrication

Lubrication holes are provided on the oil grooves of the outer cylinder, making it easy to lubricate the stroke bearing



Material: Outer Cylinder- High Carbon, Chromium Bearing Steel
Retainer- aluminium alloy

Cat No.	Max Stroke	Num of Rows	dr mm	dr Tol. μm	Dimensions										Basic Load Rating		Mass g
					D mm	D Tol. μm	L mm	L Tol. μm	T mm	t mm	d mm	r mm	Dyna- mic C mm	Static CO mm			
ABX-G1-1	20	3	6	+22	12	0	20	0	11.3	1.1	0.5	1	0.5	216	147	8.9	
ABX-G1-2	24	3	8	+13	15	-11	24		17.1	1.5	0.5	1.2	0.5	343	245	15.6	
ABX-G1-3	30	3	10		19		30		22.7	1.5	0.5	1.2	0.5	637	416	28.8	
ABX-G1-4	32	3	12	+27	23	0	32		24.5	1.5	0.5	1.2	0.5	1,070	813	42	
ABX-G1-5	40	3	16	+16	28	-13	37		29.1	1.5	0.7	1.3	0.5	1,180	990	71	

Add uu to P/N for seals (-2 to -5 only)

Add R to P/N for double retainer (-2 to -5 only)

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SOLID LINEAR ROTARY BEARINGS

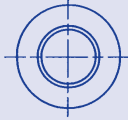
1/4" TO 1"
BORES

A

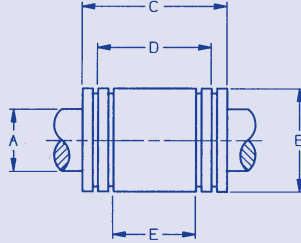
CLOSED - OPEN

Made to thrive and survive in the presence of contaminants

PLEASE REFER TO INDEX FOR MOUNTING ACCESSORIES.



CLOSED SERIES



CONCENTRICITY: .0010 MAX. TIR

DESIGN FEATURES

- Heavy-walled aluminum body for size stability under shock loads and severe loading conditions.
- Vibration absorbing Frelon® Liner.
- Frelon® liner concentric with ground O.D. within .001 T.I.R.
- Liner rejects grit, foreign materials - no need for friction generating shaft wipers.
- Maintenance free and self-lubricating.
- Made to carry greater loads (often 8 to 10 times greater) than anti-friction bearings to assure longer service life, less wear.
- Are precision-made to aircraft quality standards and tolerances and yet are competitively priced for industrial applications.
- Will not rust. Suitable in oils or water-soluble cutting fluids.
- Temperature range -400° F to + 500° F.

ADVANTAGES LOW FRICTION

The coefficient of friction remains constant over the life of the bearing. These frictional forces compensate for the inertia forces present in high speed designs such as carriage printer heads.

MISALIGNMENT

Each bearing has an external o-ring groove which can be fitted with an o-ring to compensate for housing misalignment up to .007".

CONTAMINATION

Particles which enter the bearing will simply become absorbed by the liner, reducing shaft damage.

PREVENTS BEARING SEIZURE

As the operating temperature increases, the I.D. of the bearing will grow at a slightly faster rate than the O.D. of the shafting. This special engineered feature prevents bearing seizure over a wide range of operating conditions.

HEAT DISSIPATION

The thin Frelon® liner allows heat to be dissipated through the aluminum shell to the mounting blocks.

WITHSTANDS SHOCK LOADS

Shock loads have no effect on this bearing. With ball bearings, the loads are concentrated in such a small area that shock loading damages both the bearings and the shaft.

SEE PAGE 56A FOR SHAFTING

SHAFTING: OPERATES BEST WHEN USED WITH HARDENED AND GROUND MATERIAL SHOWN ON PAGE 19A. MAY BE USED WITH SOFT SHAFT MATERIALS. PLEASE CONSULT NORDEX FOR DETAILS.

Material: Outer Body - Aluminum Anodized
Inner Wall - Frelon (a compound of TEFLON®)

Catalog No.	Catalog No.	A	B	C	Housing Bore
Closed	Open	+ .0010 - .0000	+ .0000 - .0010	+ .000 - .015	+ .0005 - .0000
ABX-Q1-4	-	.250	.500	.750	.500
ABX-Q1-6	-	.375	.625	.875	.625
ABX-Q1-8	ABX-R1-8	.500	.875	1.250	.875
ABX-Q1-10	ABX-R1-10	.625	1.125	1.500	1.125
ABX-Q1-12	ABX-R1-12	.750	1.250	1.625	1.250
ABX-Q1-16	ABX-R1-16	1.000	1.5625	2.250	1.5625

Catalog No.	D	D Tolerance	E	E Tolerance	F	*Max Speed Ft/Min (Lubricated)	*Max. Load Lbs.
-4	.437		*	*	-		300
-6	.562	±.010	*	*	-	400	510
-8	.875		*	*	5/16		975
-10	1.000		*	*	3/8		1470
-12	1.062	±.015	.312	±.010	7/16	400	1905
-16	1.625		.500	±.015	9/16		3525

Seals on one or both ends and larger sizes available on request. Retention hole provided to keep bearing from rotating. * - 4 thru - 10 have centrally located groove.

*RATINGS ACHIEVED WHEN BEARINGS ARE USED IN CONJUNCTION WITH HARDENED AND GROUND SHAFTING, SEE PAGE 56A

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