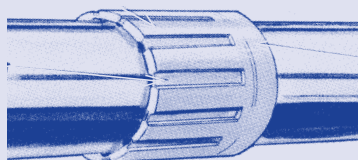


Precision Plastic Linear Bearings

Thin-film elements compensate for expansion thus allowing the use of inexpensive bushing materials.

Glide pads bear on shaft



Press-fit area (not a bearing surface) has raised ID and OD to retain bushing in housing assembly.

Fig. 1

SEE PAGE 19A FOR SHAFTING

Patent Pending

A significant breakthrough in design and material technology now allows the use of inexpensive injection-molded bushings in precision linear and rotary bearing applications. Until now, thermoplastics were not considered because of dimensional changes due to thermal expansion and water absorption. Conventional plain bushings are being utilized but require a large clearance in order to compensate for these temperature and humidity variations.

The unique configuration of these bearings (Fig. 1), makes tighter clearances possible. *The Bearing area consists of raised glide pads which ride on the shaft. Thin film elements that separate the glide pads compensate for any expansion of the bushings.* The solid area retains the bearing in the aluminum adaptor with a regular press fit, making it interchangeable with conventional ball bushings (Fig. 2).

The press-fit area has a larger play to the shaft thus eliminating the possibility of material expansions getting in the way. The bearing, or gliding area has practically zero clearance and is held in place by the housing bore. Expansions on the inside due to temperature or humidity are absorbed by the .008" thick films that connect the bearing segments. The films also hold the segments under high radial pressure. Distance between segments is such that radial force can be applied at any given point of the diameter.

Engineered plastic bushings may be pressed into standard aluminum adaptors, making it interchangeable with conventional linear ball bushings



Fig. 2

The new bearing is excellent for high-frequency, short-stroke applications where the rolling elements of a ball bushing have difficulty reversing direction. With no rolling elements or any need for external lubrication, this Low-Clearance unit provides a maintenance-free bearing capable of long life for most applications. Tested in linear applications, a test with very high loads showed more than 1.2 million cycles with negligible wear (approximately 5 times the life of a standard plain bearing). Low friction values and smooth operation were also obtained when tested for rotational use under high loads and higher than normal rotational speeds.

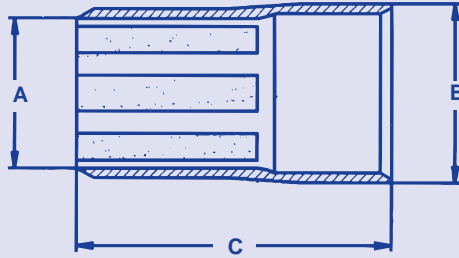
DESIGN TIP: WHEN DESIGNING A MECHANISM, CREATE THE HOUSING BORE TO ACCEPT THE MOLDED LINEAR BEARING O.D. AND THUS AVOID HAVING TO USE THE ADAPTOR OR BALL BUSHING.

LOW-CLEARANCE LINEAR BEARINGS

1/4" - 1 1/4"
BORES

A

PRECISION - CLOSED



Patent Pending

Material: Injection Molding Engineered Thermoplastic.

SEE PAGE 55A FOR SHAFTING

Specifications:

Temperature: -40° to +266° F

Humidity: < 0.6

Density: .0498 lb./in.³

Short Term Temp. Max.: +390° F

Speeds to 26 ft./sec

Modulus of Elasticity: 10,150 psi

Water Absorption at 50%

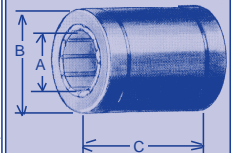
ORDER BY CATALOG NUMBER

Inch					
Catalog No.	A Bearing I.D.	Shaft Tolerance	B Outer O.D.	Housing Tolerance	C Length
ABH-A1-2	1/4"	.2495 - .2490	5/16"	.3128 - .3122	3/8"
ABH-A1-4	3/8"	.3745 - .3740	15/32"	.4691 - .4684	7/16"
ABH-A1-6	1/2"	.4995 - .4990	19/32"	.5941 - .5934	5/8"
ABH-A1-8	5/8"	.6245 - .6240	23/32"	.7192 - .7184	3/4"
ABH-A1-10	3/4"	.7495 - .7490	7/8"	.8755 - .8747	13/16"
ABH-A1-12	1"	.9995 - .9990	1 1/16"	1.1255 - 1.1247	1 1/8"
ABH-A1-14	1 1/4"	1.2495 - 1.2490	1 13/32"	1.4068 - 1.4058	1 5/16"

Metric					
Catalog No.	A Bearing I.D.	Shaft Tolerance	B Outer O.D.	Housing Tolerance	C Length
ABH-M1-6	6 MM	6,000 - 5,988	8 MM	8,015 - 8,000	10 MM
ABH-M1-8	8 MM	8,000 - 7,988	10 MM	10,015 - 10,000	12 MM
ABH-M1-10	10 MM	10,000 - 9,988	12 MM	12,018 - 12,000	16 MM
ABH-M1-12	12 MM	12,000 - 11,988	14 MM	14,018 - 14,000	25 MM
ABH-M1-16	16 MM	16,000 - 15,988	18 MM	18,018 - 18,000	26 MM
ABH-M1-20	20 MM	20,000 - 19,988	23 MM	23,021 - 23,000	30 MM
ABH-M1-25	25 MM	25,000 - 24,988	28 MM	28,021 - 28,000	35 MM

LOW-CLEARANCE LINEAR BEARINGS WITH ADAPTOR

Catalog No.	A Bearing I.D.	B Adaptor O.D.	C Adaptor Length
ABH-A2-2	1/4"	1/2"	3/4"
ABH-A2-4	3/8"	5/8"	7/8"
ABH-A2-6	1/2"	7/8"	1 1/4"
ABH-A2-8	5/8"	1 1/8"	1 1/2"
ABH-A2-10	3/4"	1 1/4"	1 5/8"
ABH-A2-12	1"	1 9/16"	2 1/4"
ABH-A2-14	1 1/4"	2"	2 5/8"
ABH-M2-10	10MM	19 MM	29 MM
ABH-M2-12	12MM	22 MM	32 MM
ABH-M2-16	16MM	26 MM	36 MM
ABH-M2-20	20MM	32 MM	45 MM
ABH-M2-25	25MM	40 MM	58 MM



Thermoplastic Linear Bearing including Aluminum Adaptor.

NORDEX

(800) 243-0986
In CT (203) 775-4877

66A