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**Accredited Standards  
Committee B3**

## Rolling Bearings, Linear Motion, Recirculating Ball, Sleeve Type Inch Series ANSI/ABMA 25.2:1990



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ANSI/ABMA 25.2:1990

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# ROLLING BEARINGS, LINEAR MOTION RECIRCULATING BALL, SLEEVE TYPE INCH SERIES

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# RECIRCULATING BALL, SLEEVE TYPE-INCH SERIES

## 1. INTRODUCTION

Linear motion bearings provide for rectilinear motion as opposed to rotational motion. The type of bearing described in this standard uses balls which circulate in a number of closed loops in the cylindrical bearing body which surrounds the shaft. See Figure 1.

Linear bearings are typically applied to meet one or more of the following criteria:

- a. Smooth anti-friction motion, free from stick-slip or chatter.
- b. Low force required to produce relative linear motion between the bearing and shaft.

These requirements, as well as others, can be met by appropriate use of the various linear bearing types (closed type, adjustable type, open type). The appropriate selection of bearing type and specification should be established between the manufacturer and the user.

## 2. SCOPE

This Standard gives the general plan for boundary dimensions, tolerances and terminology for recirculating ball, sleeve type, linear motion bearings.

This standard applies only to the size range covered by Table 1, Boundary Dimensions.

## 3. REFERENCES

ANSI/ABMA Standard 1—Terminology for Anti-Friction Ball and Roller Bearings

ANSI/ABMA Standard 4—Tolerance Definitions and Gauging Practices for Ball and Roller Bearings

## 4. TERMINOLOGY

### 4.1 Definitions

For the purposes of this National Standard, the following definitions apply:

**4.1.1 Linear bearing**—A basically cylindrical sleeve with a number of closed loops of circulating balls which is designed to achieve linear rolling motion along a shaft.

**4.1.2 Shaft**—The hardened cylindrical rod along which a linear bearing traverses.

**4.1.3 Nominal outside diameter**—The diameter of the cylinder containing the theoretical surface of a basically cylindrical outside surface.

**4.1.4 Nominal ball complement bore diameter**—The diameter of the cylinder inscribed inside the inner balls.

**4.1.5 Nominal bearing width**—Distance between two theoretical end faces designated to bound the width of the linear motion rolling bearing.