



# INTERNATIONAL STANDARD

**ISO**  
**9628**

Third edition  
2019-09

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## **Rolling bearings — Insert bearings and eccentric locking collars — Geometrical product specifications (GPS) and tolerance values**

*Roulements — Roulements insert et bagues de blocage excentriques  
— Spécification géométrique des produits (GPS) et valeurs de  
tolérances*



Reference number  
ISO 9628:2019(E)

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Published in Switzerland

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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 4, *Rolling bearings*, Subcommittee SC 6, *Insert bearings*.

This third edition cancels and replaces the second edition (ISO 9628:2006), which has been technically revised. It also incorporates the Amendment ISO 9628:2006/Amd 1:2011.

The main changes compared to the previous edition are as follows:

- diameter series 3 has been included;
- the fractional expression “1-1/6” for 28,575 mm has been corrected to “1-1/8”;
- introduction of tolerance on D to get interchangeability among bearings from different manufactures;
- the geometrical product specification (GPS) system has been applied.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

## Introduction

This document is a machine element geometry standard as defined in the geometrical product specification (GPS) system presented in the matrix model of ISO 14638<sup>[2]</sup>.

The fundamental rules of ISO/GPS given in ISO 8015 apply to this document and the default decision rules given in ISO 14253-1<sup>[5]</sup> apply to the specifications made in accordance with this document, unless otherwise indicated.

The connection between functional requirements, measuring technique and measuring uncertainty is always intended to be considered. The traditionally used measuring technique is described in ISO 1132-2<sup>[3]</sup>. For measurement uncertainty, it is intended that ISO 14253-2<sup>[6]</sup> be considered.





# Rolling bearings — Insert bearings and eccentric locking collars — Geometrical product specifications (GPS) and tolerance values

## 1 Scope

This document specifies the dimensional and geometrical characteristics, boundary dimensions and tolerances of insert bearings and eccentric locking collars and the radial internal clearances of insert bearings.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 1101, *Geometrical product specifications (GPS) — Geometrical tolerancing — Tolerances of form, orientation, location and run-out*

ISO 1132-1, *Rolling bearings — Tolerances — Part 1: Terms and definitions*

ISO 5593, *Rolling bearings — Vocabulary*

ISO 8015, *Geometrical product specifications (GPS) — Fundamentals — Concepts, principles and rules*

ISO 14405-1, *Geometrical product specifications (GPS) — Dimensional tolerancing — Part 1: Linear sizes*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 1101, ISO 1132-1, ISO 5593 and ISO 14405-1 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

### 3.1

#### **insert bearing**

radial rolling bearing with a spherical outside surface and an extended inner ring with a locking device

Note 1 to entry: The locking device, used for fixing the inner ring to the shaft, may be an eccentric locking collar or set screws either in a concentric locking collar around the inner ring or directly in the inner ring.

## 4 Symbols






ISO 8015 shall be applied and the dimensional and geometrical characteristics shall be included in the technical product documentation (for example, on the drawing). The dimensional specifications associated to these characteristics are described in [Table 1](#).



In this document, the ISO default specification operator for size is in accordance with ISO 14405-1, i.e. the two-point size is valid.

NOTE     [Figures 1](#) to [6](#) are drawn schematically and sealing devices and cages are not shown in [Figures 1](#) to [4](#). A tolerance value and width of tolerance zone associated to a characteristic is symbolised by  $t$  followed by the symbol for the characteristic, for example  $t_{Vdsp}$  or  $t_{A1}$ .

**Table 1 — Symbols for nominal sizes, dimension limits, characteristics and specification modifiers**

| Symbol for nominal dimension. (size and distance) <sup>a</sup> | Symbol for characteristic <sup>a</sup> | GPS symbol and specification modifier <sup>b,c</sup>                                     | Description <sup>d</sup>   | See Figure                            |
|--|--|--|--|---------------------------------------|
| $A$  |  | min.   | lower limit distance between the face and the end face of eccentric surface of inner ring  | <a href="#">Figure 5</a>              |
| $A_1$  | A1                                     |       | position of the end face of eccentric surface at distance “A1” with respect to the small face of eccentric locking collar  |                                       |
| $B$  |  |  | nominal width of inner ring  | <a href="#">Figures 2 and 3</a>       |
|  |  | max.   | upper limit width of inner ring  |                                       |
| $B_1$  |  |  | nominal width of inner ring and eccentric collar in combination  | <a href="#">Figure 1</a>              |
|  |  | max.  | upper limit width of inner ring and eccentric collar in combination  |                                       |
| $B_2$  |  |  | nominal width of eccentric collar  | <a href="#">Figure 6</a>              |
|  | $\Delta B2s$                           |       | <b>upper limit:</b> deviation of a minimum circumscribed size of eccentric collar width, between two opposite lines, in any longitudinal section which includes the eccentric collar bore axis |                                       |
|  |  |       | <b>lower limit:</b> deviation of a two-point size of eccentric collar width  |                                       |
| $C$  |  |  | nominal width of outer ring  | <a href="#">Figures 1, 2, 3 and 4</a> |
| $C_1$  |  |  | nominal distance from the middle plane of outer ring width to the center of lubrication zone   | <a href="#">Figure 1</a>              |
| $C_2$  |  |  | nominal width of lubrication zone  | <a href="#">Figure 1</a>              |
| $D$  |  |  | nominal outside diameter of bearing (diameter of spherical outer surface of outer ring)  | <a href="#">Figures 1, 2, 3 and 4</a> |
|  | $\Delta Dm$                            |       | deviation of a midrange size (out of two-point sizes) of spherical outer surface diameter  | <a href="#">Figures 1, 2, 3 and 4</a> |

<sup>a</sup> Symbols as defined in ISO 15241<sup>[8]</sup> except for the format used.


<sup>b</sup> Symbols as defined in ISO 1101 and ISO 14405-1.

<sup>c</sup> Specification modifier LP shall not be indicated on a drawing, if the two-point size is applied for both specified limits.

<sup>d</sup> Description based on ISO 1101, ISO 5459<sup>[4]</sup> and ISO 14405-1.



Table 1 (continued)

| Symbol for nominal dimension. (size and distance) <sup>a</sup> | Symbol for characteristic <sup>a</sup> | GPS symbol and specification modifier <sup>b,c</sup>                                | Description <sup>d</sup>   | See Figure                                  |
|--|--|---|--|---|
| $d$  |  |   | nominal bore diameter of inner ring or of eccentric locking collar   | <a href="#">Figures 1, 2, 3, 4, 5 and 6</a> |
|  | $\Delta_{\text{dmp}}$                  | $\textcircled{\text{LP}} \textcircled{\text{SD}} \text{ACS}$                        | deviation of a midrange size (out of two-point sizes) of inner ring bore diameter in any cross-section   | <a href="#">Figures 1, 2, 3 and 4</a>       |
|  | $V_{\text{dsp}}$                       | $\textcircled{\text{LP}} \textcircled{\text{SR}} \text{ACS}$                        | range of two-point sizes of inner ring bore diameter in any cross-section  |   |
|  | $\Delta_{\text{ds}}$                   | $\textcircled{\text{LP}}$   | deviation of a two-point size of eccentric collar bore diameter  | <a href="#">Figure 6</a>                    |
| $d_1$  |  |   | nominal outside diameter of eccentric locking collar   | <a href="#">Figure 6</a>                    |
|  |  | max.  | upper limit outside diameter of eccentric locking collar   |   |
| $d_2$  |  |   | nominal small bore diameter of eccentric surface (at theoretical sharp corner) of eccentric locking collar   | <a href="#">Figure 6</a>                    |
|  | $\Delta_{\text{d2s}}$                  | $\textcircled{\text{LP}}$   | deviation of a two-point size of small bore diameter of eccentric surface (at theoretical sharp corner) of eccentric locking collar  |   |
| $d_3$  |  |   | nominal large outside diameter of eccentric surface (at theoretical sharp corner) of inner ring  | <a href="#">Figure 5</a>                    |
|  |  | max.  | upper limit large outside diameter of eccentric surface (at theoretical sharp corner) of inner ring  |   |
| $H$  |  |   | nominal eccentricity of inner ring eccentric extension and of eccentric locking collar   | <a href="#">Figures 5 and 6</a>             |
|  | $H$                                    |  | position of eccentricity of eccentric extension of inner ring or eccentric locking collar at distance $H$ with respect to datum (i.e. axis established from bore surface of inner ring) or datum (i.e. axis established from bore surface of eccentric locking collar) |   |
| $r_1$  |  |   | nominal chamfer dimension of eccentric surface of inner ring   | <a href="#">Figure 5</a>                    |
| $r_2$  |  |   | nominal fillet radius of eccentric surface of inner ring   | <a href="#">Figure 5</a>                    |
| $r_3$  |  |   | nominal fillet radius of eccentric surface of eccentric locking collar   | <a href="#">Figure 6</a>                    |
| $r_4$  |  |   | nominal chamfer dimension of eccentric surface of eccentric locking collar   | <a href="#">Figure 6</a>                    |

<sup>a</sup> Symbols as defined in ISO 15241<sup>[8]</sup> except for the format used.  
<sup>b</sup> Symbols as defined in ISO 1101 and ISO 14405-1.  
<sup>c</sup> Specification modifier LP shall not be indicated on a drawing, if the two-point size is applied for both specified limits.  
<sup>d</sup> Description based on ISO 1101, ISO 5459<sup>[4]</sup> and ISO 14405-1.

Table 1 (continued)

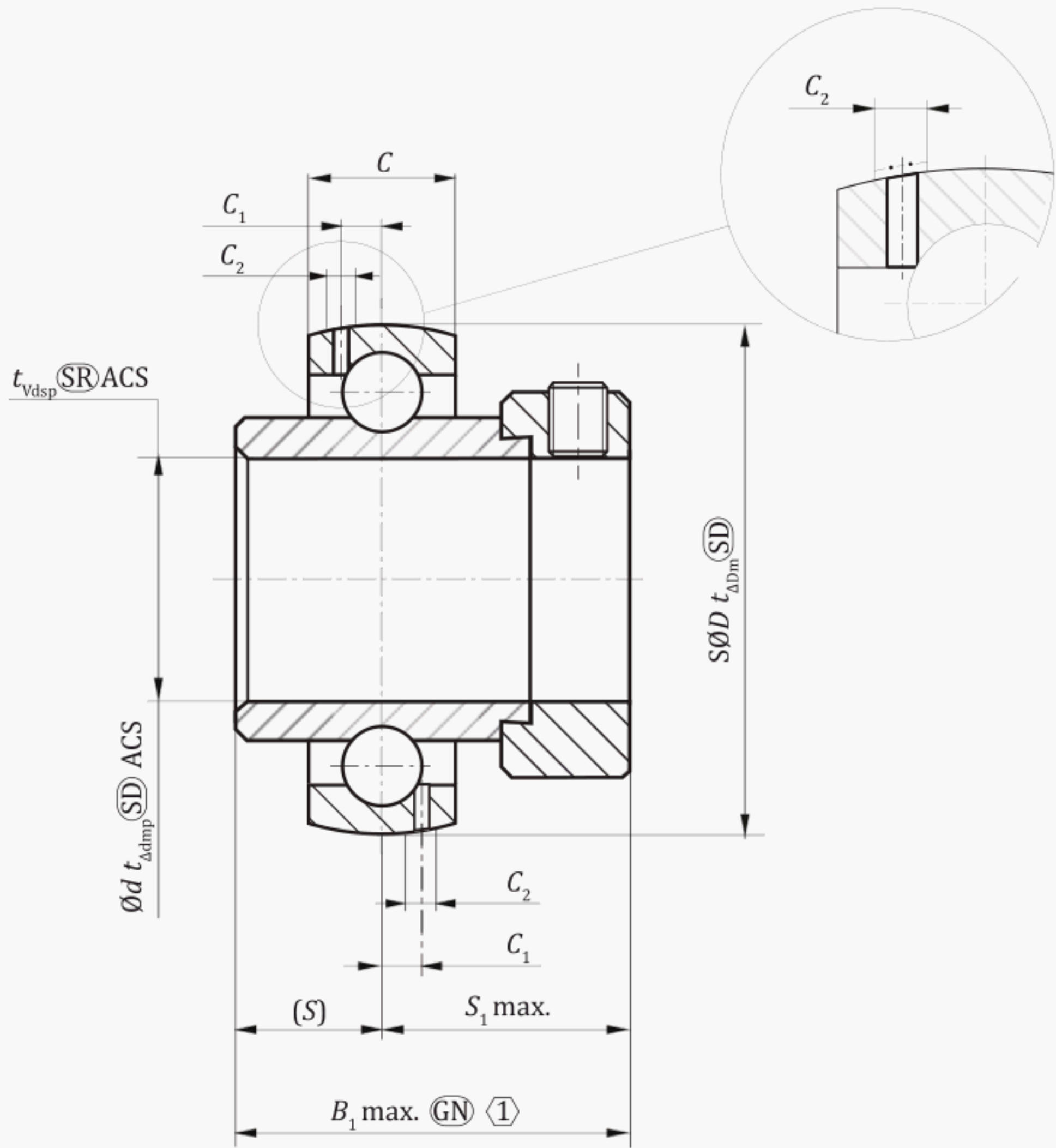
| Symbol for nominal dimension. (size and distance) <sup>a</sup> | Symbol for characteristic <sup>a</sup> | GPS symbol and specification modifier <sup>b,c</sup> | Description <sup>d</sup>   | See Figure                            |
|--|--|--|--|---------------------------------------|
| $S$  |  |  | nominal distance from the middle plane of outer ring width to the face of inner ring on side opposite locking device (auxiliary dimension)                         | <a href="#">Figures 1, 2, 3 and 4</a> |
| $S_1$  |  |  | nominal distance from the middle plane of outer ring width to face of inner ring or eccentric locking collar limiting overall bearing width on locking device side | <a href="#">Figures 1, 2, 3 and 4</a> |

<sup>a</sup> Symbols as defined in ISO 15241<sup>[8]</sup> except for the format used.

<sup>b</sup> Symbols as defined in ISO 1101 and ISO 14405-1.

<sup>c</sup> Specification modifier LP shall not be indicated on a drawing, if the two-point size is applied for both specified limits.

<sup>d</sup> Description based on ISO 1101, ISO 5459<sup>[4]</sup> and ISO 14405-1.



(1) the inner ring shall be in contact with the eccentric locking collar

Figure 1 — Bearing with eccentric locking collar — Wide overall width



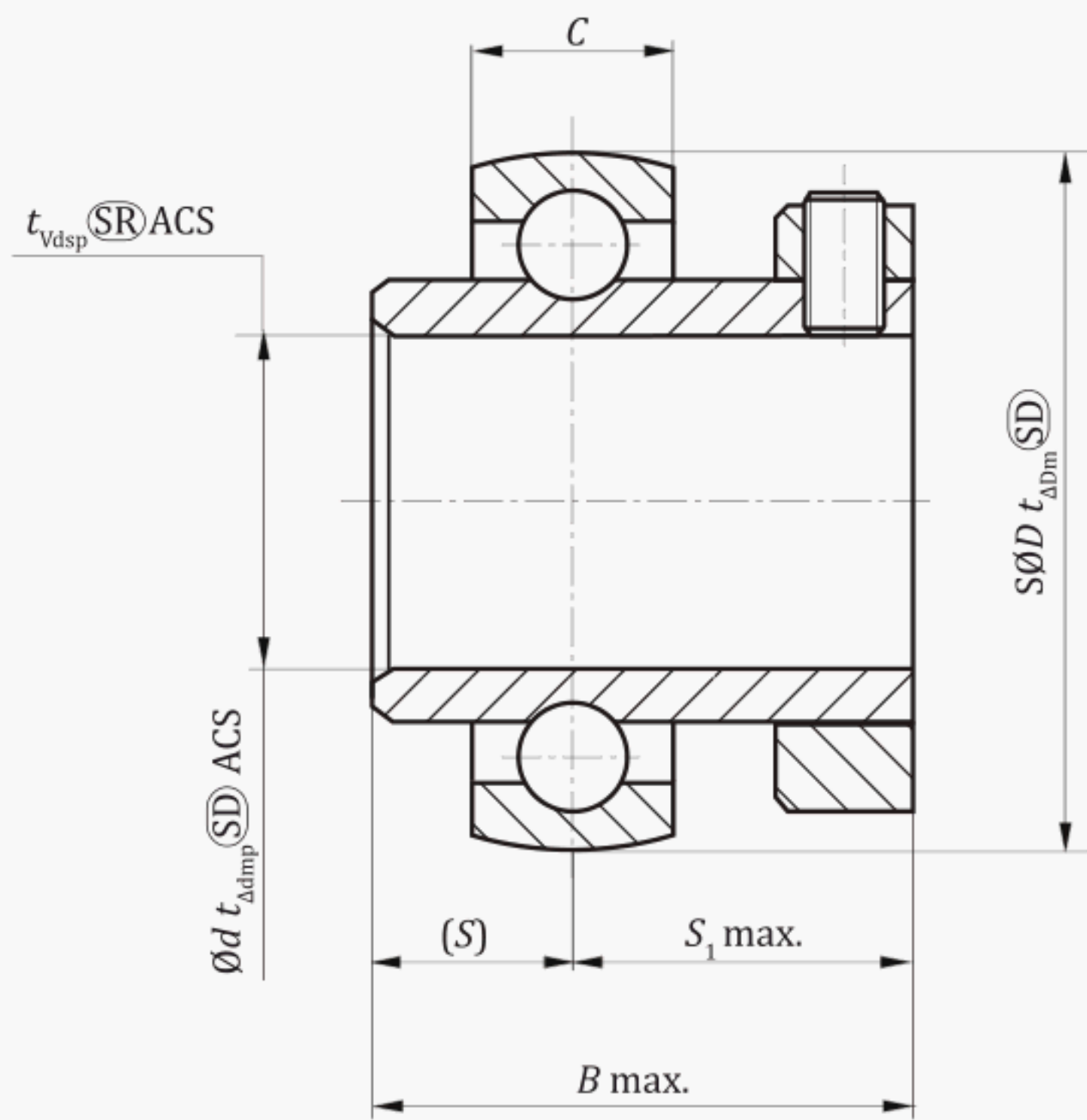


Figure 2 — Bearing with concentric locking collar around the inner ring — Intermediate overall width

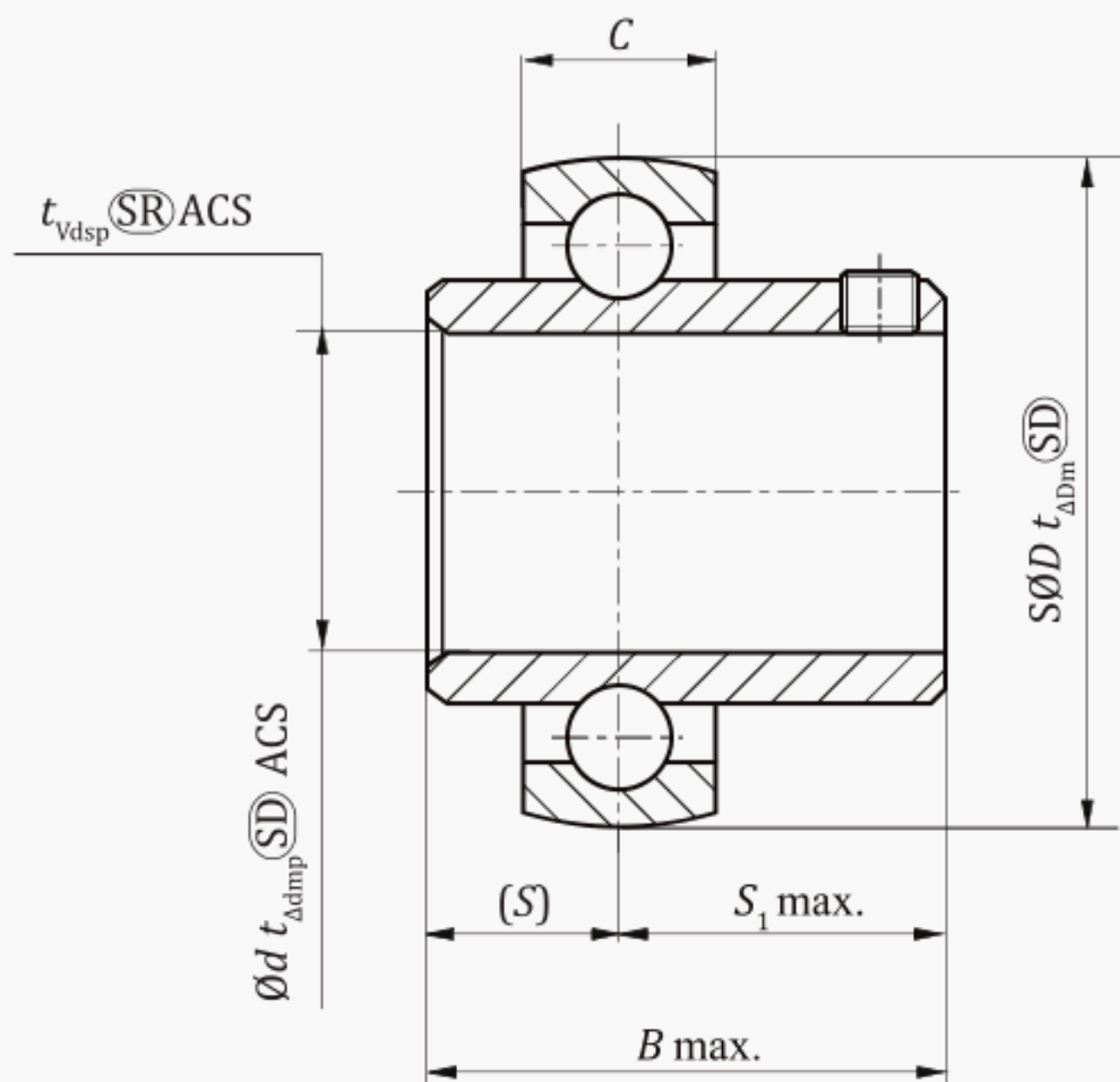
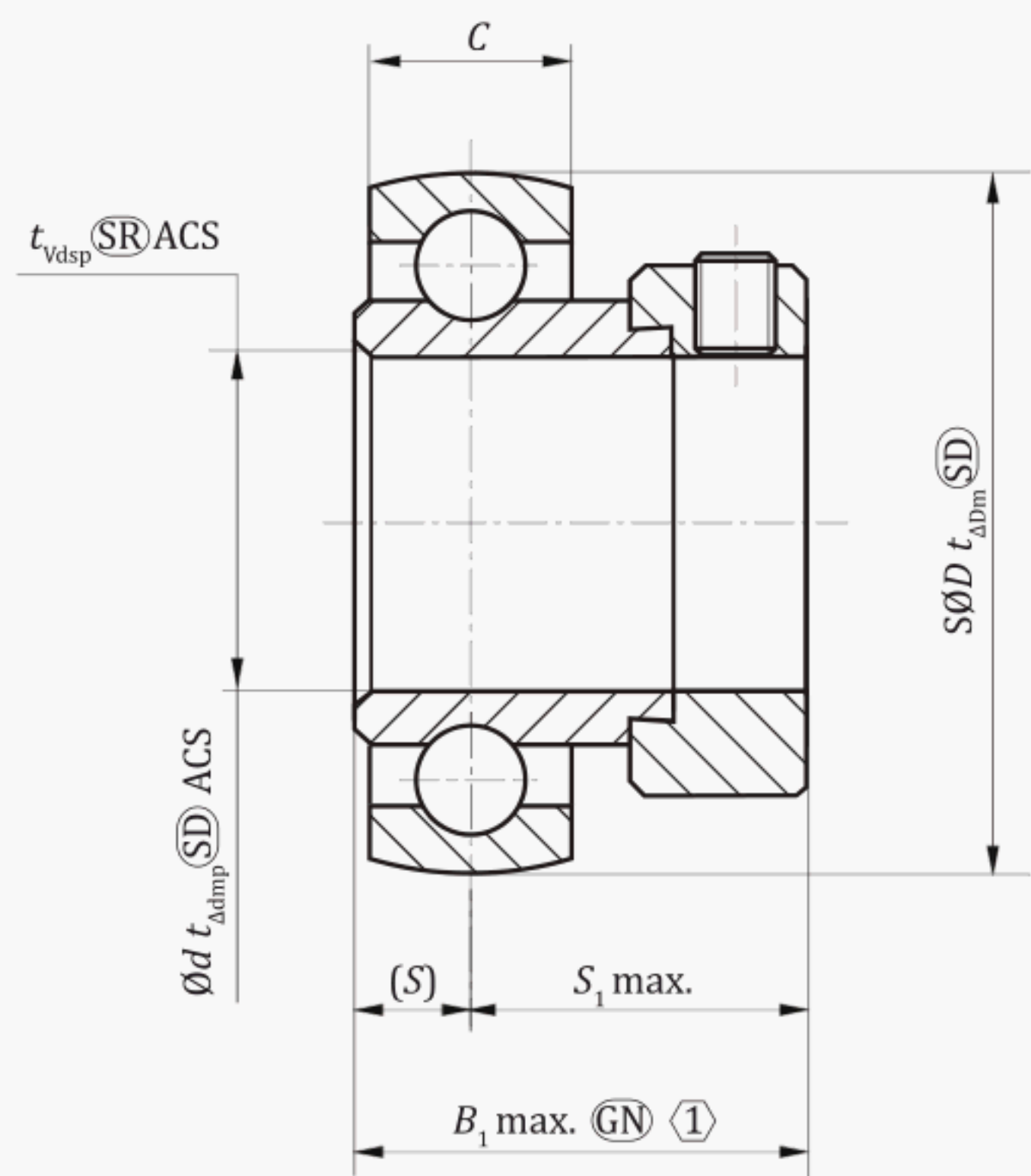


Figure 3 — Bearing with set screws in the inner ring — Intermediate overall width



(1) the inner ring shall be in contact with the eccentric locking collar

Figure 4 — Bearing with eccentric locking collar — Narrow overall width

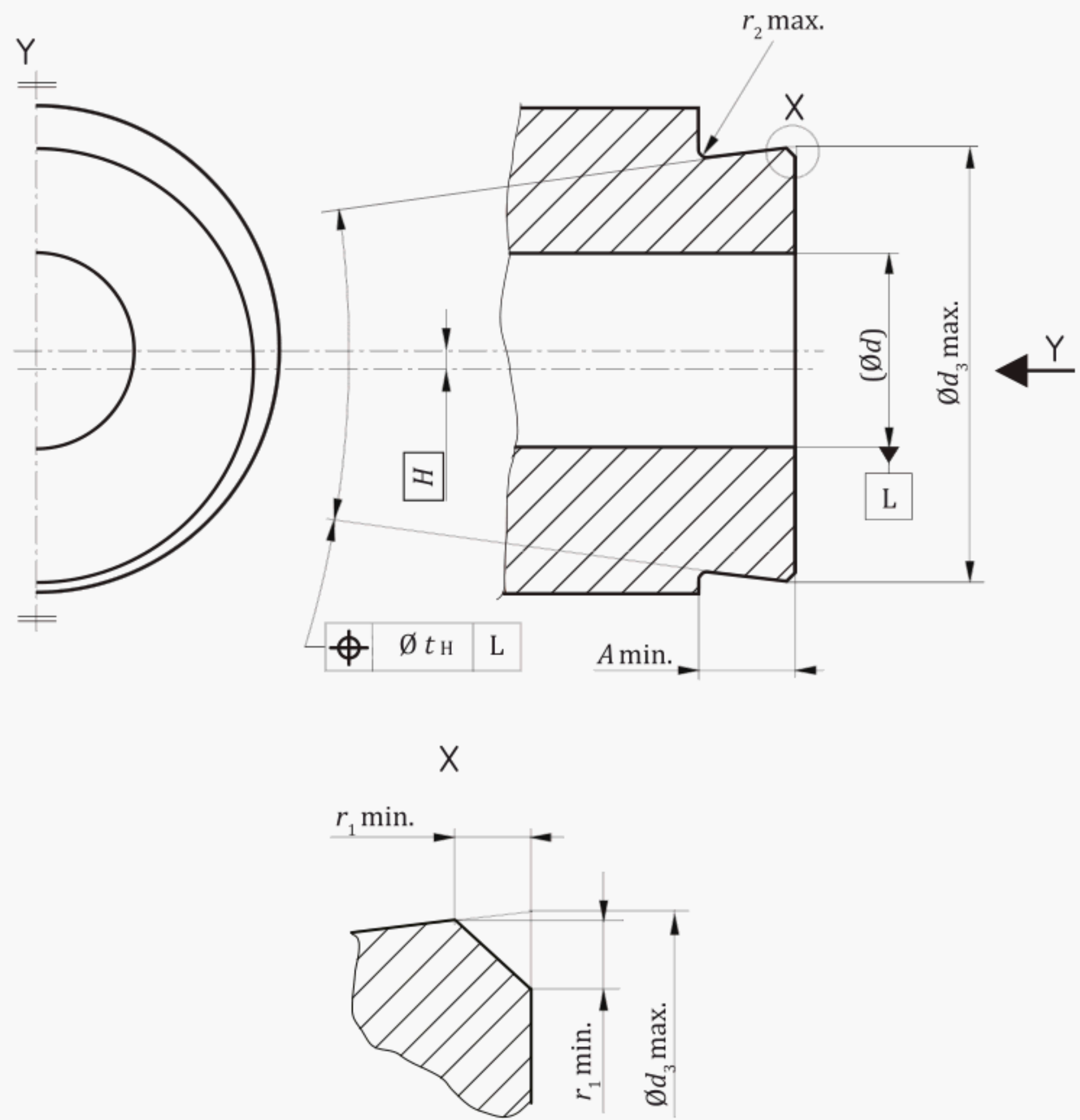
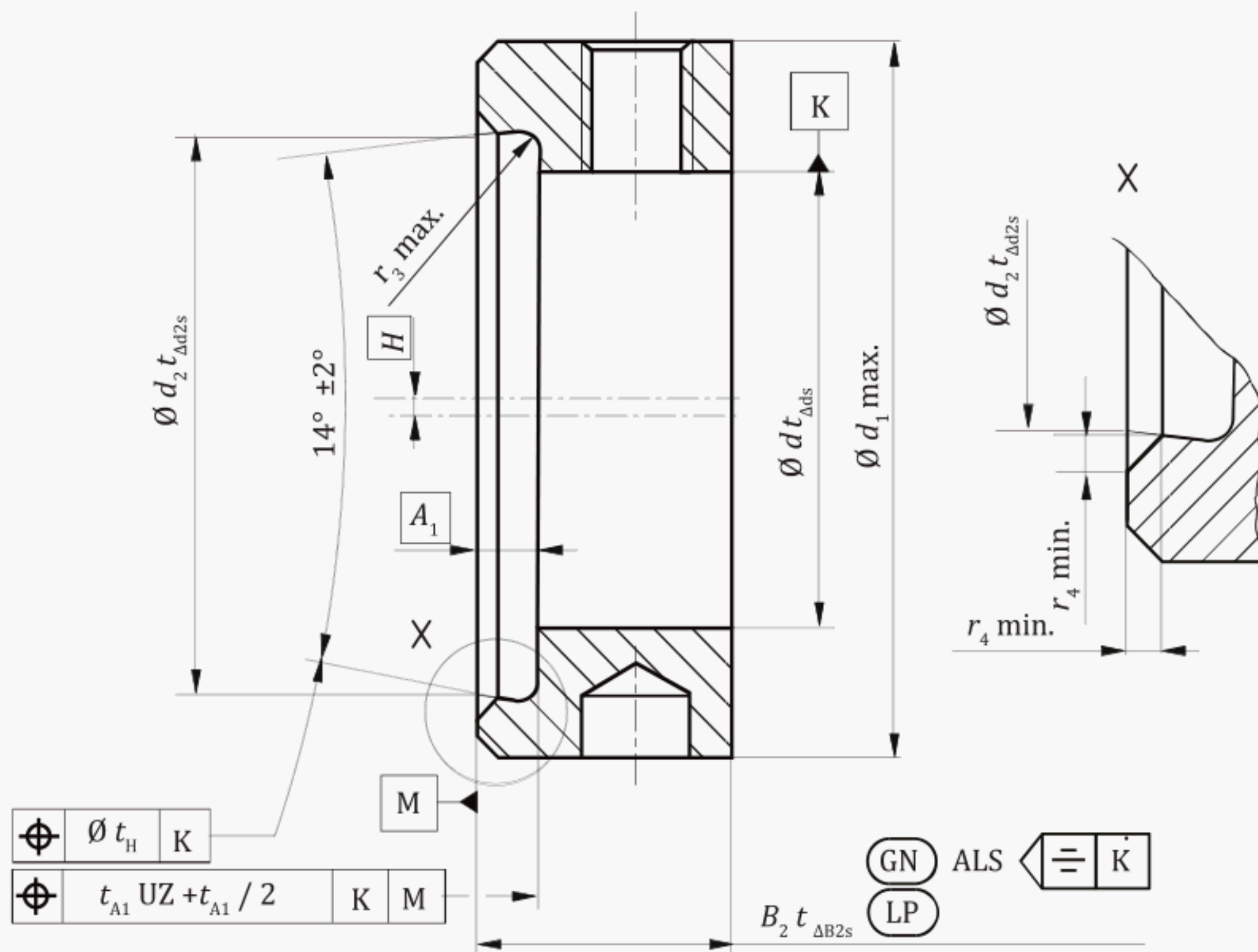


Figure 5 — Eccentric extension of inner ring





### Figure 6 — Eccentric locking collar

NOTE The "+" sign after "UZ" indicates "out of the material".

## 5 Characteristics and other specifications

## 5.1 General

The bearings on one shaft are, as a rule, mounted in two or more separate housings, which are not always perfectly aligned. The outer ring has a spherical outside surface so that the bearing can be mounted in a housing with a matching spherical seating to accommodate permanent angular misalignment.

The bore surface of the bearing inner ring and the eccentric locking collar may be plated or treated with a surface treatment to reduce corrosion during operation.

## 5.2 Bore diameter

For bearings with eccentric locking collar, the size of the eccentric feature on the inner ring and the locking collar is generally common for one metric and several inch inner ring bore sizes. The non-preferred inch bore sizes, which are given in parentheses in [Tables 2 to 8](#), should be avoided whenever possible.

Contrary to general rolling bearing practice, the inner ring bore diameter tolerance is on the plus side of the nominal bore diameter, in order that the bearing and collar can be slipped over standard size shafting.

### 5.3 Outside diameter of bearing

The outside diameter of the bearing corresponds (with respect to the metric bore diameter) to either diameter series 2 or diameter series 3 of ISO 15[1].



## 5.4 Width of inner ring and locking device

The inner ring width (with respect to the metric bore diameter) does not conform to the requirements of dimension series 2 or dimension series 3 of ISO 15. It is determined by the requirements of space for sealing and locking devices and by the axial extension of the shaft support considered suitable for various applications.

Where the locking device extends axially beyond the inner ring, the width over the locking device, called the overall width, and the location with respect to the middle plane of outer ring width of the side face limiting the overall width are important dimensions and are therefore specified in this document.

Three series of overall widths are given: wide overall width, intermediate and narrow. Each of [Figures 1](#) to [4](#) shows one example only of locking device design.

## 5.5 Width of outer ring

For bearings with a spherical outside surface, the width of the outer ring is not important, provided the range of width is known so that assembly slots in the housing can be properly dimensioned. This document therefore gives outer ring widths which range from a minimum that conforms to either dimension series 2 or dimension series 3 of ISO 15, to a maximum that provides sufficient space for various seals and relubrication holes.

## 5.6 Relubrication

Depending on the application, these bearings are supplied with or without means for relubrication, for example, one or more small radial holes drilled through the outer ring. The exact design and location of such means are not specified in this document. However, the width and location of a zone are given, in which any relubrication means, provided on one or both sides of the outer ring, should intersect such that the lubricant satisfactorily feeds into the bearing from the housing bore groove covering the zone.

## 6 Boundary dimensions

Boundary dimensions for insert bearings and eccentric locking collars are given in [Tables 2](#) to [8](#).

NOTE Boundary dimensions for eccentric extension of inner ring and eccentric locking collars of diameter series 3 are not defined.

Table 2 — Insert bearings — Wide overall width — Axially extending eccentric locking collar — Diameter series 2

| <i>d</i> |          | <i>D</i> | <i>C</i> <sup>a</sup> |    | <i>C</i> <sub>1</sub> <sup>b</sup> | <i>C</i> <sub>2</sub> <sup>b</sup> | <i>B</i> <sub>1</sub> <sup>c</sup> | <i>S</i> | <i>S</i> <sub>1</sub> <sup>d</sup> |
|----------|----------|----------|-----------------------|----|------------------------------------|------------------------------------|------------------------------------|----------|------------------------------------|
| mm       | in       | mm       | ≥                     | ≤  | mm                                 | mm                                 | mm                                 | mm       | mm                                 |
| 12       | —        | 40       | 12                    | 15 | 3,4                                | 2                                  | 37,3                               | 13,9     | 23,4                               |
| 12,7     | 1/2      |          |                       |    |                                    |                                    |                                    |          |                                    |
| (14,288) | (9/16)   |          |                       |    |                                    |                                    |                                    |          |                                    |
| 15       | —        |          |                       |    |                                    |                                    |                                    |          |                                    |
| 15,875   | 5/8      |          |                       |    |                                    |                                    |                                    |          |                                    |
| 17       | —        | 47       | 14                    | 17 | 3,7                                | 2                                  | 43,7                               | 17,1     | 26,6                               |
| (17,462) | (11/16)  |          |                       |    |                                    |                                    |                                    |          |                                    |
| 19,05    | 3/4      |          |                       |    |                                    |                                    |                                    |          |                                    |
| 20       | —        |          |                       |    |                                    |                                    |                                    |          |                                    |
| (20,638) | (13/16)  |          |                       |    |                                    |                                    |                                    |          |                                    |
| 22,225   | 7/8      | 52       | 15                    | 17 | 3,9                                | 2,5                                | 44,4                               | 17,5     | 26,9                               |
| (23,812) | (15/16)  |          |                       |    |                                    |                                    |                                    |          |                                    |
| 25       | —        |          |                       |    |                                    |                                    |                                    |          |                                    |
| 25,4     | 1        |          |                       |    |                                    |                                    |                                    |          |                                    |
| (26,988) | (1-1/16) |          |                       |    |                                    |                                    |                                    |          |                                    |
| 28,575   | 1-1/8    | 62       | 16                    | 19 | 5                                  | 2,5                                | 48,4                               | 18,3     | 30,1                               |
| 30       | —        |          |                       |    |                                    |                                    |                                    |          |                                    |
| 30,162   | 1-3/16   |          |                       |    |                                    |                                    |                                    |          |                                    |
| (31,75)  | (1-1/4)  |          |                       |    |                                    |                                    |                                    |          |                                    |
| 31,75    | 1-1/4    |          |                       |    |                                    |                                    |                                    |          |                                    |
| (33,338) | (1-5/16) | 72       | 17                    | 20 | 5,7                                | 3                                  | 51,1                               | 18,8     | 32,3                               |
| 34,925   | 1-3/8    |          |                       |    |                                    |                                    |                                    |          |                                    |
| 35       | —        |          |                       |    |                                    |                                    |                                    |          |                                    |
| 36,512   | 1-7/16   |          |                       |    |                                    |                                    |                                    |          |                                    |
| 38,1     | 1-1/2    |          |                       |    |                                    |                                    |                                    |          |                                    |
| (39,688) | (1-9/16) | 80       | 18                    | 21 | 6,2                                | 3                                  | 56,3                               | 21,4     | 34,9                               |
| 40       | —        |          |                       |    |                                    |                                    |                                    |          |                                    |
| (41,275) | (1-5/8)  |          |                       |    |                                    |                                    |                                    |          |                                    |
| 42,862   | 1-11/16  |          |                       |    |                                    |                                    |                                    |          |                                    |
| 44,45    | 1-3/4    |          |                       |    |                                    |                                    |                                    |          |                                    |
| 45       | —        | 85       | 19                    | 22 | 6,4                                | 3                                  | 56,3                               | 21,4     | 34,9                               |
|          |          |          |                       |    |                                    |                                    |                                    |          |                                    |
|          |          |          |                       |    |                                    |                                    |                                    |          |                                    |
|          |          |          |                       |    |                                    |                                    |                                    |          |                                    |
|          |          |          |                       |    |                                    |                                    |                                    |          |                                    |

NOTE 1 See [Figure 1](#).

NOTE 2 Non-preferred inch bore sizes are shown in parentheses.

<sup>a</sup> These are not tolerances; they indicate a range within which the nominal value shall fall.

<sup>b</sup> The relubrication means in the outer ring, if used, shall be located on one or both sides of the outer ring in the zones defined by dimensions *C*<sub>1</sub> and *C*<sub>2</sub> in such a way that the lubricant satisfactorily feeds into the bearing from a housing bore groove covering the zone.

<sup>c</sup> *B*<sub>1</sub> is to be interpreted as *B*<sub>1</sub> max.

<sup>d</sup> *S*<sub>1</sub> is to be interpreted as *S*<sub>1</sub> max.



Table 2 (continued)

| <i>d</i> |           | <i>D</i> | <i>C</i> <sup>a</sup> |    | <i>C</i> <sub>1</sub> <sup>b</sup> | <i>C</i> <sub>2</sub> <sup>b</sup> | <i>B</i> <sub>1</sub> <sup>c</sup> | <i>S</i> | <i>S</i> <sub>1</sub> <sup>d</sup> |
|----------|-----------|----------|-----------------------|----|------------------------------------|------------------------------------|------------------------------------|----------|------------------------------------|
| mm       | in        | mm       | ≥                     | ≤  | mm                                 | mm                                 | mm                                 | mm       | mm                                 |
| (46,038) | (1-13/16) | 90       | 20                    | 24 | 6,5                                | 3,5                                | 62,7                               | 24,6     | 38,1                               |
| (47,625) | (1-7/8)   |          |                       |    |                                    |                                    |                                    |          |                                    |
| 49,212   | 1-15/16   |          |                       |    |                                    |                                    |                                    |          |                                    |
| 50       | —         |          |                       |    |                                    |                                    |                                    |          |                                    |
| (50,8)   | (2)       |          |                       |    |                                    |                                    |                                    |          |                                    |
| 50,8     | 2         | 100      | 21                    | 25 | 7                                  | 3,5                                | 71,4                               | 27,8     | 43,6                               |
| (52,388) | (2-1/16)  |          |                       |    |                                    |                                    |                                    |          |                                    |
| (53,975) | (2-1/8)   |          |                       |    |                                    |                                    |                                    |          |                                    |
| 55       | —         |          |                       |    |                                    |                                    |                                    |          |                                    |
| 55,562   | 2-3/16    |          |                       |    |                                    |                                    |                                    |          |                                    |
| 57,15    | 2-1/4     | 110      | 22                    | 27 | 7,6                                | 4                                  | 77,8                               | 31       | 46,8                               |
| (58,738) | (2-5/16)  |          |                       |    |                                    |                                    |                                    |          |                                    |
| 60       | —         |          |                       |    |                                    |                                    |                                    |          |                                    |
| (60,325) | (2-3/8)   |          |                       |    |                                    |                                    |                                    |          |                                    |
| 61,912   | 2-7/16    |          |                       |    |                                    |                                    |                                    |          |                                    |
| (63,5)   | (2-1/2)   | 120      | 23                    | 32 | 8,9                                | 5                                  | 85,7                               | 34,1     | 51,6                               |
| 65       | —         | 125      | 24                    | 35 | 8,9                                | 5                                  | 85,7                               | 34,1     | 51,6                               |
| 68,262   | 2-11/16   |          |                       |    |                                    |                                    |                                    |          |                                    |
| 70       | —         | 130      | 25                    | 39 | 8,9                                | 5                                  | 92,1                               | 37,3     | 54,8                               |
| (71,438) | (2-13/16) |          |                       |    |                                    |                                    |                                    |          |                                    |
| 74,612   | 2-15/16   |          |                       |    |                                    |                                    |                                    |          |                                    |
| 75       | —         | 140      | 26                    | 43 | 8,8                                | 6                                  | 100                                | 40,5     | 59,5                               |
| (79,375) | (3-1/8)   |          |                       |    |                                    |                                    |                                    |          |                                    |
| 80       | —         |          |                       |    |                                    |                                    |                                    |          |                                    |
| 80,962   | 3-3/16    | 150      | 28                    | 50 | 10                                 | 6                                  | 106,4                              | 43,7     | 62,7                               |
| 85       | —         |          |                       |    |                                    |                                    |                                    |          |                                    |
| 87,312   | 3-7/16    | 160      | 30                    | 50 | 10                                 | 6                                  | 109,6                              | 44,5     | 65,1                               |
| 90       | —         | 170      | 32                    | 50 | 10                                 | 6                                  | 114,3                              | 46,8     | 67,5                               |
| 93,662   | 3-11/16   |          |                       |    |                                    |                                    |                                    |          |                                    |
| 95       | —         | 180      | 34                    | 51 | 11,2                               | 6                                  | 125,4                              | 50       | 75,4                               |
| 100      | —         |          |                       |    |                                    |                                    |                                    |          |                                    |
| 100,012  | 3-15/16   |          |                       |    |                                    |                                    |                                    |          |                                    |

NOTE 1 See [Figure 1](#).

NOTE 2 Non-preferred inch bore sizes are shown in parentheses.

<sup>a</sup> These are not tolerances; they indicate a range within which the nominal value shall fall.

<sup>b</sup> The relubrication means in the outer ring, if used, shall be located on one or both sides of the outer ring in the zones defined by dimensions *C*<sub>1</sub> and *C*<sub>2</sub> in such a way that the lubricant satisfactorily feeds into the bearing from a housing bore groove covering the zone.

<sup>c</sup> *B*<sub>1</sub> is to be interpreted as *B*<sub>1</sub> max.

<sup>d</sup> *S*<sub>1</sub> is to be interpreted as *S*<sub>1</sub> max.

Table 3 — Insert bearings — Wide overall width — Axially extending eccentric locking collar — Diameter series 3

| <i>d</i>  |         | <i>D</i> | <i>C</i> <sup>a</sup> |    | <i>C</i> <sub>1</sub> <sup>b</sup> | <i>C</i> <sub>2</sub> <sup>b</sup> | <i>B</i> <sub>1</sub> <sup>c</sup> | <i>S</i> | <i>S</i> <sub>1</sub> <sup>d</sup> |
|---|---------|----------|-----------------------|----|------------------------------------|------------------------------------|------------------------------------|----------|------------------------------------|
| mm  | in      | mm       | ≥                     | ≤  | mm                                 | mm                                 | mm                                 | mm       | mm                                 |
| 25  | —       | 62       | 17                    | 24 | 5,6                                | 3                                  | 46,8                               | 16,7     | 30,1                               |
| 30  | —       | 72       | 19                    | 26 | 6                                  | 3                                  | 50,2                               | 17,5     | 32,7                               |
| 30,162  | 1-3/16  |          |                       |    |                                    |                                    |                                    |          |                                    |
| 31,75   | 1-1/4   |          |                       |    |                                    |                                    |                                    |          |                                    |
| 33,338  | 1-5/16  |          |                       |    |                                    |                                    |                                    |          |                                    |
| 34,925  | 1-3/8   | 80       | 21                    | 28 | 6,7                                | 3,5                                | 51,6                               | 18,3     | 33,3                               |
| 35  | —       |          |                       |    |                                    |                                    |                                    |          |                                    |
| 36,512  | 1-7/16  |          |                       |    |                                    |                                    |                                    |          |                                    |
| 38,1  | 1-1/2   | 90       | 23                    | 30 | 7,5                                | 4                                  | 57,2                               | 19,8     | 37,4                               |
| 40  | —       |          |                       |    |                                    |                                    |                                    |          |                                    |
| 41,275  | 1-5/8   |          |                       |    |                                    |                                    |                                    |          |                                    |
| 42,862  | 1-11/16 | 100      | 25                    | 33 | 8,3                                | 4                                  | 58,7                               | 19,8     | 38,9                               |
| 44,45   | 1-3/4   |          |                       |    |                                    |                                    |                                    |          |                                    |
| 45  | —       |          |                       |    |                                    |                                    |                                    |          |                                    |
| 47,625  | 1-7/8   |          |                       |    |                                    |                                    |                                    |          |                                    |
| 49,212  | 1-15/16 | 110      | 27                    | 35 | 9,5                                | 4,5                                | 66,7                               | 24,6     | 42,1                               |
| 50  | —       |          |                       |    |                                    |                                    |                                    |          |                                    |
| 50,8  | 2       |          |                       |    |                                    |                                    |                                    |          |                                    |
| 52,388  | 2-1/16  | 120      | 29                    | 37 | 10,3                               | 5                                  | 73                                 | 27,8     | 45,2                               |
| 55  | —       |          |                       |    |                                    |                                    |                                    |          |                                    |
| 60  | —       | 130      | 31                    | 39 | 11,1                               | 5                                  | 79,4                               | 31       | 48,4                               |
| 61,912  | 2-7/16  |          |                       |    |                                    |                                    |                                    |          |                                    |
| 63,5  | 2-1/2   | 140      | 33                    | 41 | 11,9                               | 5,5                                | 85,7                               | 32,5     | 53,2                               |
| 65  | —       |          |                       |    |                                    |                                    |                                    |          |                                    |
| 68,262  | 2-11/16 | 150      | 35                    | 43 | 12,7                               | 6                                  | 92,1                               | 34,1     | 58                                 |
| 70  | —       |          |                       |    |                                    |                                    |                                    |          |                                    |
| 74,612  | 2-15/16 |          |                       |    |                                    |                                    |                                    |          |                                    |
| 75  | —       | 160      | 37                    | 46 | 13,5                               | 6                                  | 100                                | 37,3     | 62,7                               |
| 76,2  | 3       |          |                       |    |                                    |                                    |                                    |          |                                    |
| 80  | —       | 170      | 39                    | 48 | 14,3                               | 6,5                                | 106,4                              | 40,5     | 65,9                               |
| 80,962  | 3-3/16  |          |                       |    |                                    |                                    |                                    |          |                                    |
| 85  | —       | 180      | 41                    | 50 | 15,1                               | 7                                  | 109,5                              | 42       | 67,5                               |
| NOTE See <a href="#">Figure 1</a> .   |         |          |                       |    |                                    |                                    |                                    |          |                                    |
| <sup>a</sup> These are not tolerances; they indicate a range within which the nominal value shall fall.   |         |          |                       |    |                                    |                                    |                                    |          |                                    |
| <sup>b</sup> The relubrication means in the outer ring, if used, shall be located on one or both sides of the outer ring zones defined by dimensions <i>C</i> <sub>1</sub> and <i>C</i> <sub>2</sub> in such a way that the lubricant satisfactorily feeds into the bearing from a housing bore groove covering the zone. |         |          |                       |    |                                    |                                    |                                    |          |                                    |
| <sup>c</sup> <i>B</i> <sub>1</sub> is to be interpreted as <i>B</i> <sub>1</sub> max.   |         |          |                       |    |                                    |                                    |                                    |          |                                    |
| <sup>d</sup> <i>S</i> <sub>1</sub> is to be interpreted as <i>S</i> <sub>1</sub> max.   |         |          |                       |    |                                    |                                    |                                    |          |                                    |



Table 3 (continued)

| <i>d</i>  |         | <i>D</i> | <i>C</i> <sup>a</sup> |    | <i>C</i> <sub>1</sub> <sup>b</sup> | <i>C</i> <sub>2</sub> <sup>b</sup> | <i>B</i> <sub>1</sub> <sup>c</sup> | <i>S</i> | <i>S</i> <sub>1</sub> <sup>d</sup> |
|---|---------|----------|-----------------------|----|------------------------------------|------------------------------------|------------------------------------|----------|------------------------------------|
| mm  | in      | mm       | ≥                     | ≤  | mm                                 | mm                                 | mm                                 | mm       | mm                                 |
| 87,312  | 3-7/16  | 190      | 43                    | 52 | 15,9                               | 7                                  | 115,9                              | 42,1     | 73,8                               |
| 90  | —       |          |                       |    |                                    |                                    |                                    |          |                                    |
| 95  | —       | 200      | 45                    | 54 | 16,7                               | 7,5                                | 122,3                              | 38,9     | 83,4                               |
| 100   | —       |          |                       |    |                                    |                                    |                                    |          |                                    |
| 100,012   | 3-15/16 | 215      | 47                    | 58 | 18,3                               | 8                                  | 129,6                              | 50       | 79,6                               |
| 101,6   | 4       |          |                       |    |                                    |                                    |                                    |          |                                    |
| 105   | —       | 225      | 49                    | 60 | 19,1                               | 8                                  | 139,7                              | 48,4     | 91,3                               |
| 110   | —       | 240      | 50                    | 62 | 20,6                               | 8,5                                | 141,3                              | 49,2     | 92,1                               |
| NOTE See <a href="#">Figure 1</a> .   |         |          |                       |    |                                    |                                    |                                    |          |                                    |
| <sup>a</sup> These are not tolerances; they indicate a range within which the nominal value shall fall.   |         |          |                       |    |                                    |                                    |                                    |          |                                    |
| <sup>b</sup> The relubrication means in the outer ring, if used, shall be located on one or both sides of the outer ring zones defined by dimensions <i>C</i> <sub>1</sub> and <i>C</i> <sub>2</sub> in such a way that the lubricant satisfactorily feeds into the bearing from a housing bore groove covering the zone. |         |          |                       |    |                                    |                                    |                                    |          |                                    |
| <sup>c</sup> <i>B</i> <sub>1</sub> is to be interpreted as <i>B</i> <sub>1</sub> max.   |         |          |                       |    |                                    |                                    |                                    |          |                                    |
| <sup>d</sup> <i>S</i> <sub>1</sub> is to be interpreted as <i>S</i> <sub>1</sub> max.   |         |          |                       |    |                                    |                                    |                                    |          |                                    |

Table 4 — Insert bearings — Intermediate overall width — Locking device not axially extending — Diameter series 2

| <i>d</i>   |         | <i>D</i> | <i>C</i> <sup>a</sup> |    | <i>C</i> <sub>1</sub> <sup>b</sup> | <i>C</i> <sub>2</sub> <sup>b</sup> | <i>B</i> <sup>c</sup> | <i>S</i> | <i>S</i> <sub>1</sub> <sup>d</sup> |
|--|---------|----------|-----------------------|----|------------------------------------|------------------------------------|-----------------------|----------|------------------------------------|
| mm   | in      | mm       | ≥                     | ≤  | mm                                 | mm                                 | mm                    | mm       | mm                                 |
| 12   | —       |          |                       |    |                                    |                                    |                       |          |                                    |
| 12,7   | 1/2     |          |                       |    |                                    |                                    |                       |          |                                    |
| (14,288)   | (9/16)  |          |                       |    |                                    |                                    |                       |          |                                    |
| 15   | —       | 40       | 12                    | 15 | 3,4                                | 2                                  | 27,4                  | 11,5     | 15,9                               |
| 15,875   | 5/8     |          |                       |    |                                    |                                    |                       |          |                                    |
| 17   | —       |          |                       |    |                                    |                                    |                       |          |                                    |
| (17,462)   | (11/16) |          |                       |    |                                    |                                    |                       |          |                                    |
| 19,05  | 3/4     | 47       | 14                    | 17 | 3,7                                | 2                                  | 31                    | 12,7     | 18,3                               |
| 20   | —       |          |                       |    |                                    |                                    |                       |          |                                    |
| NOTE 1 See <a href="#">Figures 2</a> and <a href="#">3</a> .   |         |          |                       |    |                                    |                                    |                       |          |                                    |
| NOTE 2 Non-preferred inch bore sizes are shown in parentheses.   |         |          |                       |    |                                    |                                    |                       |          |                                    |
| <sup>a</sup> These are not tolerances; they indicate a range within which the nominal value shall fall.  |         |          |                       |    |                                    |                                    |                       |          |                                    |
| <sup>b</sup> The relubrication means in the outer ring, if used, shall be located on one or both sides of the outer ring in the zones defined by dimensions <i>C</i> <sub>1</sub> and <i>C</i> <sub>2</sub> in such a way that the lubricant satisfactorily feeds into the bearing from a housing bore groove covering the zone. |         |          |                       |    |                                    |                                    |                       |          |                                    |
| <sup>c</sup> <i>B</i> is to be interpreted as <i>B</i> max.  |         |          |                       |    |                                    |                                    |                       |          |                                    |
| <sup>d</sup> <i>S</i> <sub>1</sub> is to be interpreted as <i>S</i> <sub>1</sub> max.  |         |          |                       |    |                                    |                                    |                       |          |                                    |



Table 4 (continued)

| <i>d</i>                                       |   | <i>D</i> | <i>C</i> <sup>a</sup> |    | <i>C</i> <sub>1</sub> <sup>b</sup> | <i>C</i> <sub>2</sub> <sup>b</sup> | <i>B</i> <sup>c</sup> | <i>S</i> | <i>S</i> <sub>1</sub> <sup>d</sup> |
|--|---|----------|-----------------------|----|------------------------------------|------------------------------------|-----------------------|----------|------------------------------------|
| mm   | in  | mm       | mm                    |    | mm                                 | mm                                 | mm                    | mm       | mm                                 |
| (20,638)<br>22,225<br>(23,812)<br>25<br>25,4   | (13/16)<br>7/8<br>15/16<br>—<br>1           | 52       | 15                    | 17 | 3,9                                | 2,5                                | 34,1                  | 14,3     | 19,8                               |
| (26,988)<br>28,575<br>30<br>30,162<br>(31,75)  | (1-1/16)<br>1-1/8<br>—<br>1-3/16<br>(1-1/4) | 62       | 16                    | 19 | 5                                  | 2,5                                | 38,1                  | 15,9     | 22,2                               |
| 31,75<br>(33,338)<br>34,925<br>35<br>36,512    | 1-1/4<br>(1-5/16)<br>(1-3/8)<br>—<br>1-7/16 | 72       | 17                    | 20 | 5,7                                | 3                                  | 42,9                  | 17,5     | 25,4                               |
| 38,1<br>(39,688)<br>40                         | 1-1/2<br>(1-9/16)<br>—                      | 80       | 18                    | 21 | 6,2                                | 3                                  | 49,2                  | 19       | 30,2                               |
| (41,275)<br>42,862<br>44,45<br>45              | (1-5/8)<br>1-11/16<br>1-3/4<br>—            | 85       | 19                    | 22 | 6,4                                | 3                                  | 49,2                  | 19       | 30,2                               |
| (46,038)<br>(47,625)<br>49,212<br>50<br>(50,8) | (1-13/16)<br>(1-7/8)<br>1-15/16<br>—<br>(2) | 90       | 20                    | 24 | 6,5                                | 3,5                                | 51,6                  | 19       | 32,6                               |
| 50,8<br>(52,388)<br>(53,975)<br>55<br>55,562   | 2<br>(2-1/16)<br>(2-1/8)<br>—<br>2-3/16     | 100      | 21                    | 25 | 7                                  | 3,5                                | 55,6                  | 22,2     | 33,4                               |

NOTE 1 See [Figures 2](#) and [3](#).

NOTE 2 Non-preferred inch bore sizes are shown in parentheses.

<sup>a</sup> These are not tolerances; they indicate a range within which the nominal value shall fall.

<sup>b</sup> The relubrication means in the outer ring, if used, shall be located on one or both sides of the outer ring in the zones defined by dimensions *C*<sub>1</sub> and *C*<sub>2</sub> in such a way that the lubricant satisfactorily feeds into the bearing from a housing bore groove covering the zone.

<sup>c</sup> *B* is to be interpreted as *B* max.

<sup>d</sup> *S*<sub>1</sub> is to be interpreted as *S*<sub>1</sub> max.

Table 4 (continued)

| <i>d</i>           |                        | <i>D</i> | <i>C</i> <sup>a</sup> |    | <i>C</i> <sub>1</sub> <sup>b</sup> | <i>C</i> <sub>2</sub> <sup>b</sup> | <i>B</i> <sup>c</sup> | <i>S</i> | <i>S</i> <sub>1</sub> <sup>d</sup> |
|--------------------|------------------------|----------|-----------------------|----|------------------------------------|------------------------------------|-----------------------|----------|------------------------------------|
| mm                 | in                     | mm       | ≥                     | ≤  | mm                                 | mm                                 | mm                    | mm       | mm                                 |
| 57,15<br>(58,738)  | 2-1/4<br>(2-5/16)      | 110      | 22                    | 27 | 7,6                                | 4                                  | 65,1                  | 25,4     | 39,7                               |
| 60<br>(60,325)     | —<br>(2-3/8)           |          |                       |    |                                    |                                    |                       |          |                                    |
| 61,912<br>(63,5)   | 2-7/16<br>(2-1/2)      |          |                       |    |                                    |                                    |                       |          |                                    |
| 65<br>(66,675)     | —<br>(2-5/8)           | 120      | 23                    | 32 | 8,9                                | 5                                  | 68,3                  | 25,4     | 42,9                               |
| 68,262<br>(69,85)  | 2-11/16<br>(2-3/4)     | 125      | 24                    | 35 | 8,9                                | 5                                  | 74,6                  | 30,2     | 44,4                               |
| 70<br>(71,438)     | —<br>(2-13/16)         | 130      | 25                    | 39 | 8,9                                | 5                                  | 77,8                  | 33,3     | 44,5                               |
| 73,025<br>(74,612) | (2-7/8)<br>2-15/16     |          |                       |    |                                    |                                    |                       |          |                                    |
| 75<br>(76,2)       | —<br>3                 |          |                       |    |                                    |                                    |                       |          |                                    |
| 79,375<br>(80,962) | (3-1/8)<br>—<br>3-3/16 |          |                       |    |                                    |                                    |                       |          |                                    |
| 80<br>(82,55)      | —<br>(3-1/4)           | 150      | 28                    | 50 | 10                                 | 6                                  | 85,7                  | 34,1     | 51,6                               |
| 85<br>(85,725)     | (3-3/8)                |          |                       |    |                                    |                                    |                       |          |                                    |
| 87,312<br>(88,9)   | 3-7/16<br>(3-1/2)      |          |                       |    |                                    |                                    |                       |          |                                    |
| 88,9<br>(90)       | 3-1/2<br>—             |          |                       |    |                                    |                                    |                       |          |                                    |
| 100<br>(100,012)   | —<br>3-15/16           | 180      | 34                    | 51 | 11,2                               | 6                                  | 108                   | 42       | 66                                 |
| (101,6)            | (4)                    |          |                       |    |                                    |                                    |                       |          |                                    |

NOTE 1 See [Figures 2](#) and [3](#).

NOTE 2 Non-preferred inch bore sizes are shown in parentheses.

<sup>a</sup> These are not tolerances; they indicate a range within which the nominal value shall fall.

<sup>b</sup> The relubrication means in the outer ring, if used, shall be located on one or both sides of the outer ring in the zones defined by dimensions *C*<sub>1</sub> and *C*<sub>2</sub> in such a way that the lubricant satisfactorily feeds into the bearing from a housing bore groove covering the zone.

<sup>c</sup> *B* is to be interpreted as *B* max.

<sup>d</sup> *S*<sub>1</sub> is to be interpreted as *S*<sub>1</sub> max.

Table 5 — Insert bearings — Intermediate overall width — Locking device not axially extending — Diameter series 3

| <i>d</i> |         | <i>D</i> | <i>C</i> <sup>a</sup> |    | <i>C</i> <sub>1</sub> <sup>b</sup> | <i>C</i> <sub>2</sub> <sup>b</sup> | <i>B</i> <sup>c</sup> | <i>S</i> | <i>S</i> <sub>1</sub> <sup>d</sup> |
|----------|---------|----------|-----------------------|----|------------------------------------|------------------------------------|-----------------------|----------|------------------------------------|
| mm       | in      | mm       | ≥                     | ≤  | mm                                 | mm                                 | mm                    | mm       | mm                                 |
| 25       | —       | 62       | 17                    | 24 | 5,6                                | 3                                  | 38                    | 15       | 23                                 |
| 30       | —       | 72       | 19                    | 26 | 6                                  | 3                                  | 43                    | 17       | 26                                 |
| 30,162   | 1-3/16  |          |                       |    |                                    |                                    |                       |          |                                    |
| 31,75    | 1-1/4   |          |                       |    |                                    |                                    |                       |          |                                    |
| 33,338   | 1-5/16  |          |                       |    |                                    |                                    |                       |          |                                    |
| 34,925   | 1-3/8   | 80       | 21                    | 28 | 6,7                                | 3,5                                | 48                    | 19       | 29                                 |
| 35       | —       |          |                       |    |                                    |                                    |                       |          |                                    |
| 36,512   | 1-7/16  |          |                       |    |                                    |                                    |                       |          |                                    |
| 38,1     | 1-1/2   | 90       | 23                    | 30 | 7,5                                | 4                                  | 52                    | 19       | 33                                 |
| 40       | —       |          |                       |    |                                    |                                    |                       |          |                                    |
| 41,275   | 1-5/8   |          |                       |    |                                    |                                    |                       |          |                                    |
| 42,862   | 1-11/16 | 100      | 25                    | 33 | 8,3                                | 4                                  | 57                    | 22       | 35                                 |
| 44,45    | 1-3/4   |          |                       |    |                                    |                                    |                       |          |                                    |
| 45       | —       |          |                       |    |                                    |                                    |                       |          |                                    |
| 47,625   | 1-7/8   |          |                       |    |                                    |                                    |                       |          |                                    |
| 49,212   | 1-15/16 | 110      | 27                    | 35 | 9,5                                | 4,5                                | 61                    | 22       | 39                                 |
| 50       | —       |          |                       |    |                                    |                                    |                       |          |                                    |
| 50,8     | 2       |          |                       |    |                                    |                                    |                       |          |                                    |
| 52,388   | 2-1/16  | 120      | 29                    | 37 | 10,3                               | 5                                  | 66                    | 25       | 41                                 |
| 55       | —       |          |                       |    |                                    |                                    |                       |          |                                    |
| 60       | —       | 130      | 31                    | 39 | 11,1                               | 5                                  | 71                    | 26       | 45                                 |
| 61,912   | 2-7/16  |          |                       |    |                                    |                                    |                       |          |                                    |
| 63,5     | 2-1/2   | 140      | 33                    | 41 | 11,9                               | 5,5                                | 75                    | 30       | 45                                 |
| 65       | —       |          |                       |    |                                    |                                    |                       |          |                                    |
| 68,262   | 2-11/16 | 150      | 35                    | 43 | 12,7                               | 6                                  | 78                    | 33       | 45                                 |
| 70       | —       |          |                       |    |                                    |                                    |                       |          |                                    |
| 74,612   | 2-15/16 |          |                       |    |                                    |                                    |                       |          |                                    |
| 75       | —       | 160      | 37                    | 46 | 13,5                               | 6                                  | 82                    | 32       | 50                                 |
| 76,2     | 3       |          |                       |    |                                    |                                    |                       |          |                                    |
| 80       | —       | 170      | 39                    | 48 | 14,3                               | 6,5                                | 86                    | 34       | 52                                 |
| 80,962   | 3-3/16  |          |                       |    |                                    |                                    |                       |          |                                    |
| 85       | —       | 180      | 41                    | 50 | 15,1                               | 7                                  | 96                    | 40       | 56                                 |

NOTE See [Figures 2](#) and [3](#).

<sup>a</sup> These are not tolerances; they indicate a range within which the nominal value shall fall.

<sup>b</sup> The relubrication means in the outer ring, if used, shall be located on one or both sides of the outer ring in the zones defined by dimensions *C*<sub>1</sub> and *C*<sub>2</sub> in such a way that the lubricant satisfactorily feeds into the bearing from a housing bore groove covering the zone.

<sup>c</sup> *B* is to be interpreted as *B* max.

<sup>d</sup> *S*<sub>1</sub> is to be interpreted as *S*<sub>1</sub> max.



Table 5 (continued)

| <i>d</i>   |         | <i>D</i> | <i>C</i> <sup>a</sup> |    | <i>C</i> <sub>1</sub> <sup>b</sup> | <i>C</i> <sub>2</sub> <sup>b</sup> | <i>B</i> <sup>c</sup> | <i>S</i> | <i>S</i> <sub>1</sub> <sup>d</sup> |
|--|---------|----------|-----------------------|----|------------------------------------|------------------------------------|-----------------------|----------|------------------------------------|
|  |         |          | ≥                     | ≤  |                                    |                                    |                       |          |                                    |
| mm   | in      | mm       | mm                    |    | mm                                 | mm                                 | mm                    | mm       | mm                                 |
| 87,312   | 3-7/16  | 190      | 43                    | 52 | 15,9                               | 7                                  | 96                    | 40       | 56                                 |
| 90   | —       |          |                       |    |                                    |                                    |                       |          |                                    |
| 95   | —       | 200      | 45                    | 54 | 16,7                               | 7,5                                | 103                   | 41       | 62                                 |
| 100  | —       |          |                       |    |                                    |                                    |                       |          |                                    |
| 100,012  | 3-15/16 | 215      | 47                    | 58 | 18,3                               | 8                                  | 108                   | 42       | 66                                 |
| 101,6  | 4       |          |                       |    |                                    |                                    |                       |          |                                    |
| 105  | —       | 225      | 49                    | 60 | 19,1                               | 8                                  | 112                   | 44       | 68                                 |
| 110  | —       | 240      | 50                    | 62 | 20,6                               | 8,5                                | 117                   | 46       | 71                                 |
| 120  | —       | 260      | 55                    | 66 | 20,6                               | 9                                  | 126                   | 51       | 75                                 |
| 130  | —       | 280      | 58                    | 72 | 22,2                               | 9,5                                | 135                   | 54       | 81                                 |
| 140  | —       | 300      | 62                    | 76 | 23,8                               | 10,5                               | 145                   | 59       | 86                                 |
| NOTE See <a href="#">Figures 2</a> and <a href="#">3</a> .   |         |          |                       |    |                                    |                                    |                       |          |                                    |
| <sup>a</sup> These are not tolerances; they indicate a range within which the nominal value shall fall.  |         |          |                       |    |                                    |                                    |                       |          |                                    |
| <sup>b</sup> The relubrication means in the outer ring, if used, shall be located on one or both sides of the outer ring in the zones defined by dimensions <i>C</i> <sub>1</sub> and <i>C</i> <sub>2</sub> in such a way that the lubricant satisfactorily feeds into the bearing from a housing bore groove covering the zone. |         |          |                       |    |                                    |                                    |                       |          |                                    |
| <sup>c</sup> <i>B</i> is to be interpreted as <i>B</i> max.  |         |          |                       |    |                                    |                                    |                       |          |                                    |
| <sup>d</sup> <i>S</i> <sub>1</sub> is to be interpreted as <i>S</i> <sub>1</sub> max.  |         |          |                       |    |                                    |                                    |                       |          |                                    |

Table 6 — Insert bearings — Narrow overall width — Axially extending eccentric locking collar — Diameter series 2

| <i>d</i>   |         | <i>D</i> | <i>C</i> <sup>a</sup> |    | <i>C</i> <sub>1</sub> <sup>b</sup> | <i>C</i> <sub>2</sub> <sup>b</sup> | <i>B</i> <sub>1</sub> <sup>c</sup> | <i>S</i> | <i>S</i> <sub>1</sub> <sup>d</sup> |
|--|---------|----------|-----------------------|----|------------------------------------|------------------------------------|------------------------------------|----------|------------------------------------|
|  |         |          | ≥                     | ≤  |                                    |                                    |                                    |          |                                    |
| mm   | in      | mm       | mm                    |    | mm                                 | mm                                 | mm                                 | mm       | mm                                 |
| 12   | —       |          |                       |    |                                    |                                    |                                    |          |                                    |
| 12,7   | 1/2     |          |                       |    |                                    |                                    |                                    |          |                                    |
| (14,288)   | (9/16)  |          |                       |    |                                    |                                    |                                    |          |                                    |
| 15   | —       | 40       | 12                    | 13 | 3,4                                | 2                                  | 28,6                               | 6,5      | 22,1                               |
| 15,875   | 5/8     |          |                       |    |                                    |                                    |                                    |          |                                    |
| 17   | —       |          |                       |    |                                    |                                    |                                    |          |                                    |
| (17,462)   | (11/16) |          |                       |    |                                    |                                    |                                    |          |                                    |
| 19,05  | 3/4     | 47       | 14                    | 15 | 3,7                                | 2                                  | 31                                 | 7,5      | 23,5                               |
| 20   | —       |          |                       |    |                                    |                                    |                                    |          |                                    |
| NOTE 1 See <a href="#">Figure 4</a> .  |         |          |                       |    |                                    |                                    |                                    |          |                                    |
| NOTE 2 Non-preferred inch bore sizes are shown in parentheses.   |         |          |                       |    |                                    |                                    |                                    |          |                                    |
| <sup>a</sup> These are not tolerances; they indicate a range within which the nominal value shall fall.  |         |          |                       |    |                                    |                                    |                                    |          |                                    |
| <sup>b</sup> The relubrication means in the outer ring, if used, shall be located on one or both sides of the outer ring in the zones defined by dimensions <i>C</i> <sub>1</sub> and <i>C</i> <sub>2</sub> in such a way that lubricant satisfactorily feeds into the bearing from a housing bore groove covering the zone. |         |          |                       |    |                                    |                                    |                                    |          |                                    |
| <sup>c</sup> <i>B</i> <sub>1</sub> is to be interpreted as <i>B</i> <sub>1</sub> max.  |         |          |                       |    |                                    |                                    |                                    |          |                                    |
| <sup>d</sup> <i>S</i> <sub>1</sub> is to be interpreted as <i>S</i> <sub>1</sub> max.  |         |          |                       |    |                                    |                                    |                                    |          |                                    |

Table 5 (continued)

| <i>d</i>   |         | <i>D</i> | <i>C</i> <sup>a</sup> |    | <i>C</i> <sub>1</sub> <sup>b</sup> | <i>C</i> <sub>2</sub> <sup>b</sup> | <i>B</i> <sup>c</sup> | <i>S</i> | <i>S</i> <sub>1</sub> <sup>d</sup> |
|--|---------|----------|-----------------------|----|------------------------------------|------------------------------------|-----------------------|----------|------------------------------------|
|  |         |          | ≥                     | ≤  |                                    |                                    |                       |          |                                    |
| mm   | in      | mm       | mm                    |    | mm                                 | mm                                 | mm                    | mm       | mm                                 |
| 87,312   | 3-7/16  | 190      | 43                    | 52 | 15,9                               | 7                                  | 96                    | 40       | 56                                 |
| 90   | —       |          |                       |    |                                    |                                    |                       |          |                                    |
| 95   | —       | 200      | 45                    | 54 | 16,7                               | 7,5                                | 103                   | 41       | 62                                 |
| 100  | —       |          |                       |    |                                    |                                    |                       |          |                                    |
| 100,012  | 3-15/16 | 215      | 47                    | 58 | 18,3                               | 8                                  | 108                   | 42       | 66                                 |
| 101,6  | 4       |          |                       |    |                                    |                                    |                       |          |                                    |
| 105  | —       | 225      | 49                    | 60 | 19,1                               | 8                                  | 112                   | 44       | 68                                 |
| 110  | —       | 240      | 50                    | 62 | 20,6                               | 8,5                                | 117                   | 46       | 71                                 |
| 120  | —       | 260      | 55                    | 66 | 20,6                               | 9                                  | 126                   | 51       | 75                                 |
| 130  | —       | 280      | 58                    | 72 | 22,2                               | 9,5                                | 135                   | 54       | 81                                 |
| 140  | —       | 300      | 62                    | 76 | 23,8                               | 10,5                               | 145                   | 59       | 86                                 |
| NOTE See <a href="#">Figures 2</a> and <a href="#">3</a> .   |         |          |                       |    |                                    |                                    |                       |          |                                    |
| <sup>a</sup> These are not tolerances; they indicate a range within which the nominal value shall fall.  |         |          |                       |    |                                    |                                    |                       |          |                                    |
| <sup>b</sup> The relubrication means in the outer ring, if used, shall be located on one or both sides of the outer ring in the zones defined by dimensions <i>C</i> <sub>1</sub> and <i>C</i> <sub>2</sub> in such a way that the lubricant satisfactorily feeds into the bearing from a housing bore groove covering the zone. |         |          |                       |    |                                    |                                    |                       |          |                                    |
| <sup>c</sup> <i>B</i> is to be interpreted as <i>B</i> max.  |         |          |                       |    |                                    |                                    |                       |          |                                    |
| <sup>d</sup> <i>S</i> <sub>1</sub> is to be interpreted as <i>S</i> <sub>1</sub> max.  |         |          |                       |    |                                    |                                    |                       |          |                                    |

Table 6 — Insert bearings — Narrow overall width — Axially extending eccentric locking collar — Diameter series 2

| <i>d</i>   |         | <i>D</i> | <i>C</i> <sup>a</sup> |    | <i>C</i> <sub>1</sub> <sup>b</sup> | <i>C</i> <sub>2</sub> <sup>b</sup> | <i>B</i> <sub>1</sub> <sup>c</sup> | <i>S</i> | <i>S</i> <sub>1</sub> <sup>d</sup> |
|--|---------|----------|-----------------------|----|------------------------------------|------------------------------------|------------------------------------|----------|------------------------------------|
|  |         |          | ≥                     | ≤  |                                    |                                    |                                    |          |                                    |
| mm   | in      | mm       | mm                    |    | mm                                 | mm                                 | mm                                 | mm       | mm                                 |
| 12   | —       |          |                       |    |                                    |                                    |                                    |          |                                    |
| 12,7   | 1/2     |          |                       |    |                                    |                                    |                                    |          |                                    |
| (14,288)   | (9/16)  |          |                       |    |                                    |                                    |                                    |          |                                    |
| 15   | —       | 40       | 12                    | 13 | 3,4                                | 2                                  | 28,6                               | 6,5      | 22,1                               |
| 15,875   | 5/8     |          |                       |    |                                    |                                    |                                    |          |                                    |
| 17   | —       |          |                       |    |                                    |                                    |                                    |          |                                    |
| (17,462)   | (11/16) |          |                       |    |                                    |                                    |                                    |          |                                    |
| 19,05  | 3/4     | 47       | 14                    | 15 | 3,7                                | 2                                  | 31                                 | 7,5      | 23,5                               |
| 20   | —       |          |                       |    |                                    |                                    |                                    |          |                                    |
| NOTE 1 See <a href="#">Figure 4</a> .  |         |          |                       |    |                                    |                                    |                                    |          |                                    |
| NOTE 2 Non-preferred inch bore sizes are shown in parentheses.   |         |          |                       |    |                                    |                                    |                                    |          |                                    |
| <sup>a</sup> These are not tolerances; they indicate a range within which the nominal value shall fall.  |         |          |                       |    |                                    |                                    |                                    |          |                                    |
| <sup>b</sup> The relubrication means in the outer ring, if used, shall be located on one or both sides of the outer ring in the zones defined by dimensions <i>C</i> <sub>1</sub> and <i>C</i> <sub>2</sub> in such a way that lubricant satisfactorily feeds into the bearing from a housing bore groove covering the zone. |         |          |                       |    |                                    |                                    |                                    |          |                                    |
| <sup>c</sup> <i>B</i> <sub>1</sub> is to be interpreted as <i>B</i> <sub>1</sub> max.  |         |          |                       |    |                                    |                                    |                                    |          |                                    |
| <sup>d</sup> <i>S</i> <sub>1</sub> is to be interpreted as <i>S</i> <sub>1</sub> max.  |         |          |                       |    |                                    |                                    |                                    |          |                                    |



Table 5 (continued)

| <i>d</i>   |         | <i>D</i> | <i>C</i> <sup>a</sup> |    | <i>C</i> <sub>1</sub> <sup>b</sup> | <i>C</i> <sub>2</sub> <sup>b</sup> | <i>B</i> <sup>c</sup> | <i>S</i> | <i>S</i> <sub>1</sub> <sup>d</sup> |
|--|---------|----------|-----------------------|----|------------------------------------|------------------------------------|-----------------------|----------|------------------------------------|
|  |         |          | ≥                     | ≤  |                                    |                                    |                       |          |                                    |
| mm   | in      | mm       | mm                    |    | mm                                 | mm                                 | mm                    | mm       | mm                                 |
| 87,312   | 3-7/16  | 190      | 43                    | 52 | 15,9                               | 7                                  | 96                    | 40       | 56                                 |
| 90   | —       |          |                       |    |                                    |                                    |                       |          |                                    |
| 95   | —       | 200      | 45                    | 54 | 16,7                               | 7,5                                | 103                   | 41       | 62                                 |
| 100  | —       | 215      | 47                    | 58 | 18,3                               | 8                                  | 108                   | 42       | 66                                 |
| 100,012  | 3-15/16 |          |                       |    |                                    |                                    |                       |          |                                    |
| 101,6  | 4       |          |                       |    |                                    |                                    |                       |          |                                    |
| 105  | —       | 225      | 49                    | 60 | 19,1                               | 8                                  | 112                   | 44       | 68                                 |
| 110  | —       | 240      | 50                    | 62 | 20,6                               | 8,5                                | 117                   | 46       | 71                                 |
| 120  | —       | 260      | 55                    | 66 | 20,6                               | 9                                  | 126                   | 51       | 75                                 |
| 130  | —       | 280      | 58                    | 72 | 22,2                               | 9,5                                | 135                   | 54       | 81                                 |
| 140  | —       | 300      | 62                    | 76 | 23,8                               | 10,5                               | 145                   | 59       | 86                                 |
| NOTE See <a href="#">Figures 2</a> and <a href="#">3</a> .   |         |          |                       |    |                                    |                                    |                       |          |                                    |
| <sup>a</sup> These are not tolerances; they indicate a range within which the nominal value shall fall.  |         |          |                       |    |                                    |                                    |                       |          |                                    |
| <sup>b</sup> The relubrication means in the outer ring, if used, shall be located on one or both sides of the outer ring in the zones defined by dimensions <i>C</i> <sub>1</sub> and <i>C</i> <sub>2</sub> in such a way that the lubricant satisfactorily feeds into the bearing from a housing bore groove covering the zone. |         |          |                       |    |                                    |                                    |                       |          |                                    |
| <sup>c</sup> <i>B</i> is to be interpreted as <i>B</i> max.  |         |          |                       |    |                                    |                                    |                       |          |                                    |
| <sup>d</sup> <i>S</i> <sub>1</sub> is to be interpreted as <i>S</i> <sub>1</sub> max.  |         |          |                       |    |                                    |                                    |                       |          |                                    |

Table 6 — Insert bearings — Narrow overall width — Axially extending eccentric locking collar — Diameter series 2

| <i>d</i>   |         | <i>D</i> | <i>C</i> <sup>a</sup> |    | <i>C</i> <sub>1</sub> <sup>b</sup> | <i>C</i> <sub>2</sub> <sup>b</sup> | <i>B</i> <sub>1</sub> <sup>c</sup> | <i>S</i> | <i>S</i> <sub>1</sub> <sup>d</sup> |
|--|---------|----------|-----------------------|----|------------------------------------|------------------------------------|------------------------------------|----------|------------------------------------|
|  |         |          | ≥                     | ≤  |                                    |                                    |                                    |          |                                    |
| mm   | in      | mm       | mm                    |    | mm                                 | mm                                 | mm                                 | mm       | mm                                 |
| 12   | —       | 40       | 12                    | 13 | 3,4                                | 2                                  | 28,6                               | 6,5      | 22,1                               |
| 12,7   | 1/2     |          |                       |    |                                    |                                    |                                    |          |                                    |
| (14,288)   | (9/16)  |          |                       |    |                                    |                                    |                                    |          |                                    |
| 15   | —       |          |                       |    |                                    |                                    |                                    |          |                                    |
| 15,875   | 5/8     |          |                       |    |                                    |                                    |                                    |          |                                    |
| 17   | —       | 47       | 14                    | 15 | 3,7                                | 2                                  | 31                                 | 7,5      | 23,5                               |
| (17,462)   | (11/16) |          |                       |    |                                    |                                    |                                    |          |                                    |
| 19,05  | 3/4     |          |                       |    |                                    |                                    |                                    |          |                                    |
| 20   | —       |          |                       |    |                                    |                                    |                                    |          |                                    |
| NOTE 1 See <a href="#">Figure 4</a> .  |         |          |                       |    |                                    |                                    |                                    |          |                                    |
| NOTE 2 Non-preferred inch bore sizes are shown in parentheses.   |         |          |                       |    |                                    |                                    |                                    |          |                                    |
| <sup>a</sup> These are not tolerances; they indicate a range within which the nominal value shall fall.  |         |          |                       |    |                                    |                                    |                                    |          |                                    |
| <sup>b</sup> The relubrication means in the outer ring, if used, shall be located on one or both sides of the outer ring in the zones defined by dimensions <i>C</i> <sub>1</sub> and <i>C</i> <sub>2</sub> in such a way that lubricant satisfactorily feeds into the bearing from a housing bore groove covering the zone. |         |          |                       |    |                                    |                                    |                                    |          |                                    |
| <sup>c</sup> <i>B</i> <sub>1</sub> is to be interpreted as <i>B</i> <sub>1</sub> max.  |         |          |                       |    |                                    |                                    |                                    |          |                                    |
| <sup>d</sup> <i>S</i> <sub>1</sub> is to be interpreted as <i>S</i> <sub>1</sub> max.  |         |          |                       |    |                                    |                                    |                                    |          |                                    |



Table 7 (continued)

| <i>d</i> |         | <i>d</i> <sub>3</sub> <sup>a</sup> | <i>H</i> | <i>A</i> <sup>b</sup> | <i>r</i> <sub>1</sub> min. | <i>r</i> <sub>2</sub> max. |
|----------|---------|------------------------------------|----------|-----------------------|----------------------------|----------------------------|
| mm       | in      | mm                                 | mm       | mm                    | mm                         | mm                         |
| 26,988   | 1-1/16  | 37,9                               | 0,8      | 4,2                   | 0,5                        | 0,8                        |
| 28,575   | 1-1/8   |                                    |          |                       |                            |                            |
| 30       | —       |                                    |          |                       |                            |                            |
| 30,162   | 1-3/16  |                                    |          |                       |                            |                            |
| 31,75    | 1-1/4   |                                    |          |                       |                            |                            |
| 31,75    | 1-1/4   | 44,7                               | 0,8      | 4,2                   | 0,5                        | 0,8                        |
| 33,338   | 1-5/16  |                                    |          |                       |                            |                            |
| 34,925   | 1-3/8   |                                    |          |                       |                            |                            |
| 35       | —       |                                    |          |                       |                            |                            |
| 36,512   | 1-7/16  |                                    |          |                       |                            |                            |
| 38,1     | 1-1/2   | 49,4                               | 1,6      | 5                     | 0,5                        | 1,2                        |
| 39,688   | 1-9/16  |                                    |          |                       |                            |                            |
| 40       | —       |                                    |          |                       |                            |                            |
| 41,275   | 1-5/8   | 54,4                               | 1,6      | 5                     | 0,5                        | 1,2                        |
| 42,862   | 1-11/16 |                                    |          |                       |                            |                            |
| 44,45    | 1-3/4   |                                    |          |                       |                            |                            |
| 45       | —       |                                    |          |                       |                            |                            |
| 46,038   | 1-13/16 | 60                                 | 1,6      | 5                     | 0,5                        | 1,2                        |
| 47,625   | 1-7/8   |                                    |          |                       |                            |                            |
| 49,212   | 1-15/16 |                                    |          |                       |                            |                            |
| 50       | —       |                                    |          |                       |                            |                            |
| 50,8     | 2       |                                    |          |                       |                            |                            |
| 50,8     | 2       | 66,9                               | 1,6      | 5                     | 0,5                        | 1,2                        |
| 52,388   | 2-1/16  |                                    |          |                       |                            |                            |
| 53,975   | 2-1/8   |                                    |          |                       |                            |                            |
| 55       | —       |                                    |          |                       |                            |                            |
| 55,562   | 2-3/16  |                                    |          |                       |                            |                            |
| 57,15    | 2-1/4   | 73,5                               | 1,6      | 6,6                   | 0,5                        | 1,6                        |
| 58,738   | 2-5/16  |                                    |          |                       |                            |                            |
| 60       | —       |                                    |          |                       |                            |                            |
| 60,325   | 2-3/8   |                                    |          |                       |                            |                            |
| 61,912   | 2-7/16  |                                    |          |                       |                            |                            |
| 63,5     | 2-1/2   | 78,6                               | 1,6      | 6,6                   | 0,5                        | 1,6                        |
| 65       | —       |                                    |          |                       |                            |                            |
| 68,262   | 2-11/16 | 82                                 | 1,6      | 6,6                   | 0,5                        | 1,6                        |
| 70       | —       |                                    |          |                       |                            |                            |

NOTE 1 See [Figures 1, 4 and 5](#).

NOTE 2 For preferred bearing sizes, refer to [Tables 2 and 6](#).

<sup>a</sup> *d*<sub>3</sub> is to be interpreted as *d*<sub>3</sub> max.

<sup>b</sup> *A* is to be interpreted as *A* min.

Table 7 (continued)

| <i>d</i> |         | <i>d</i> <sub>3</sub> <sup>a</sup> | <i>H</i> | <i>A</i> <sup>b</sup> | <i>r</i> <sub>1</sub> min. | <i>r</i> <sub>2</sub> max. |
|----------|---------|------------------------------------|----------|-----------------------|----------------------------|----------------------------|
| mm       | in      | mm                                 | mm       | mm                    | mm                         | mm                         |
| 71,438   | 2-13/16 | 87                                 | 1,6      | 6,6                   | 0,5                        | 1,6                        |
| 74,612   | 2-15/16 |                                    |          |                       |                            |                            |
| 75       | —       |                                    |          |                       |                            |                            |
| 79,375   | 3-1/8   | 92,7                               | 1,6      | 6,6                   | 0,5                        | 1,6                        |
| 80       | —       |                                    |          |                       |                            |                            |
| 80,962   | 3-3/16  |                                    |          |                       |                            |                            |
| 85       | —       | 102                                | 1,6      | 6,6                   | 0,5                        | 1,6                        |
| 87,312   | 3-7/16  |                                    |          |                       |                            |                            |
| 90       | —       | 106,1                              | 1,6      | 6,6                   | 0,5                        | 1,6                        |
| 93,662   | 3-11/16 | 115,5                              | 1,6      | 6,6                   | 0,5                        | 1,6                        |
| 95       | —       |                                    |          |                       |                            |                            |
| 100      | —       | 118,9                              | 1,6      | 6,6                   | 0,5                        | 1,6                        |
| 100,012  | 3-15/16 |                                    |          |                       |                            |                            |

NOTE 1 See [Figures 1, 4 and 5](#).

NOTE 2 For preferred bearing sizes, refer to [Tables 2 and 6](#).

<sup>a</sup> *d*<sub>3</sub> is to be interpreted as *d*<sub>3</sub> max.

<sup>b</sup> *A* is to be interpreted as *A* min.

Table 8 — Eccentric locking collars for insert bearings — Wide and narrow overall width — Diameter series 2

| <i>d</i> |       | <i>d</i> <sub>1</sub> <sup>a</sup> | <i>d</i> <sub>2</sub> <sup>b</sup> | <i>B</i> <sub>2</sub> | <i>H</i> | <i>A</i> <sub>1</sub> | <i>r</i> <sub>3</sub> max. | <i>r</i> <sub>4</sub> min. |
|----------|-------|------------------------------------|------------------------------------|-----------------------|----------|-----------------------|----------------------------|----------------------------|
| mm       | in    | mm                                 | mm                                 | mm                    | mm       | mm                    | mm                         | mm                         |
| 12       | —     | 28,6                               | 21,6                               | 13,5                  | 0,8      | 4                     | 0,4                        | 0,8                        |
| 12,7     | 1/2   |                                    |                                    |                       |          |                       |                            |                            |
| 14,288   | 9/16  |                                    |                                    |                       |          |                       |                            |                            |
| 15       | —     |                                    |                                    |                       |          |                       |                            |                            |
| 15,875   | 5/8   |                                    |                                    |                       |          |                       |                            |                            |
| 17       | —     |                                    |                                    |                       |          |                       |                            |                            |
| 17,462   | 11/16 |                                    |                                    |                       |          |                       |                            |                            |
| 19,05    | 3/4   | 33,3                               | 26,6                               | 13,5                  | 0,8      | 4                     | 0,4                        | 0,8                        |
| 20       | —     |                                    |                                    |                       |          |                       |                            |                            |
| 20,638   | 13/16 | 38,1                               | 31,6                               | 13,5                  | 0,8      | 4                     | 0,4                        | 0,8                        |
| 22,225   | 7/8   |                                    |                                    |                       |          |                       |                            |                            |
| 23,812   | 15/16 |                                    |                                    |                       |          |                       |                            |                            |
| 25       | —     |                                    |                                    |                       |          |                       |                            |                            |
| 25,4     | 1     |                                    |                                    |                       |          |                       |                            |                            |

NOTE 1 See [Figure 6](#).

NOTE 2 For preferred bearing sizes, refer to [Tables 2 and 6](#).

<sup>a</sup> *d*<sub>1</sub> is to be interpreted as *d*<sub>1</sub> max.

<sup>b</sup> *d*<sub>2</sub> is to be interpreted as *d*<sub>2</sub> max.

Table 8 (continued)

| <i>d</i> |         | <i>d</i> <sub>1</sub> <sup>a</sup> | <i>d</i> <sub>2</sub> <sup>b</sup> | <i>B</i> <sub>2</sub> | <i>H</i> | <i>A</i> <sub>1</sub> | <i>r</i> <sub>3</sub> max. | <i>r</i> <sub>4</sub> min. |
|----------|---------|------------------------------------|------------------------------------|-----------------------|----------|-----------------------|----------------------------|----------------------------|
| mm       | in      | mm                                 | mm                                 | mm                    | mm       | mm                    | mm                         | mm                         |
| 26,988   | 1-1/16  | 44,5                               | 37,9                               | 15,9                  | 0,8      | 4                     | 0,4                        | 0,8                        |
| 28,575   | 1-1/8   |                                    |                                    |                       |          |                       |                            |                            |
| 30       | —       |                                    |                                    |                       |          |                       |                            |                            |
| 30,162   | 1-3/16  |                                    |                                    |                       |          |                       |                            |                            |
| 31,75    | 1-1/4   |                                    |                                    |                       |          |                       |                            |                            |
| 31,75    | 1-1/4   | 55,6                               | 44,7                               | 17,5                  | 0,8      | 4                     | 0,4                        | 0,8                        |
| 33,338   | 1-5/16  |                                    |                                    |                       |          |                       |                            |                            |
| 34,925   | 1-3/8   |                                    |                                    |                       |          |                       |                            |                            |
| 35       | —       |                                    |                                    |                       |          |                       |                            |                            |
| 36,512   | 1-7/16  |                                    |                                    |                       |          |                       |                            |                            |
| 38,1     | 1-1/2   | 60,3                               | 49,4                               | 18,3                  | 1,6      | 4,8                   | 0,4                        | 1,2                        |
| 39,688   | 1-9/16  |                                    |                                    |                       |          |                       |                            |                            |
| 40       | —       |                                    |                                    |                       |          |                       |                            |                            |
| 41,275   | 1-5/8   | 63,5                               | 54,4                               | 18,3                  | 1,6      | 4,8                   | 0,4                        | 1,2                        |
| 42,862   | 1-11/16 |                                    |                                    |                       |          |                       |                            |                            |
| 44,45    | 1-3/4   |                                    |                                    |                       |          |                       |                            |                            |
| 45       | —       |                                    |                                    |                       |          |                       |                            |                            |
| 46,038   | 1-13/16 | 69,9                               | 60                                 | 18,3                  | 1,6      | 4,8                   | 0,4                        | 1,2                        |
| 47,625   | 1-7/8   |                                    |                                    |                       |          |                       |                            |                            |
| 49,212   | 1-15/16 |                                    |                                    |                       |          |                       |                            |                            |
| 50       | —       |                                    |                                    |                       |          |                       |                            |                            |
| 50,8     | 2       |                                    |                                    |                       |          |                       |                            |                            |
| 50,8     | 2       | 76,2                               | 66,9                               | 20,7                  | 1,6      | 4,8                   | 0,4                        | 1,2                        |
| 52,388   | 2-1/16  |                                    |                                    |                       |          |                       |                            |                            |
| 53,975   | 2-1/8   |                                    |                                    |                       |          |                       |                            |                            |
| 55       | —       |                                    |                                    |                       |          |                       |                            |                            |
| 55,562   | 2-3/16  |                                    |                                    |                       |          |                       |                            |                            |
| 57,15    | 2-1/4   | 84,2                               | 73,5                               | 22,3                  | 1,6      | 6,4                   | 0,4                        | 1,6                        |
| 58,738   | 2-5/16  |                                    |                                    |                       |          |                       |                            |                            |
| 60       | —       |                                    |                                    |                       |          |                       |                            |                            |
| 60,325   | 2-3/8   |                                    |                                    |                       |          |                       |                            |                            |
| 61,912   | 2-7/16  |                                    |                                    |                       |          |                       |                            |                            |
| 63,5     | 2-1/2   | 97                                 | 78,6                               | 23,9                  | 1,6      | 6,4                   | 0,4                        | 1,6                        |
| 65       | —       |                                    |                                    |                       |          |                       |                            |                            |
| 68,262   | 2-11/16 | 97                                 | 82                                 | 23,9                  | 1,6      | 6,4                   | 0,4                        | 1,6                        |
| 70       | —       |                                    |                                    |                       |          |                       |                            |                            |

NOTE 1 See [Figure 6](#).

NOTE 2 For preferred bearing sizes, refer to [Tables 2](#) and [6](#).

<sup>a</sup> *d*<sub>1</sub> is to be interpreted as *d*<sub>1</sub> max.

<sup>b</sup> *d*<sub>2</sub> is to be interpreted as *d*<sub>2</sub> max.



Table 8 (continued)

| <i>d</i> |         | <i>d</i> <sub>1</sub> <sup>a</sup> | <i>d</i> <sub>2</sub> <sup>b</sup> | <i>B</i> <sub>2</sub> | <i>H</i> | <i>A</i> <sub>1</sub> | <i>r</i> <sub>3</sub> max. | <i>r</i> <sub>4</sub> min. |
|----------|---------|------------------------------------|------------------------------------|-----------------------|----------|-----------------------|----------------------------|----------------------------|
| mm       | in      | mm                                 | mm                                 | mm                    | mm       | mm                    | mm                         | mm                         |
| 71,438   | 2-13/16 | 102                                | 87                                 | 23,9                  | 1,6      | 6,4                   | 0,4                        | 1,6                        |
| 74,612   | 2-15/16 |                                    |                                    |                       |          |                       |                            |                            |
| 75       | —       |                                    |                                    |                       |          |                       |                            |                            |
| 79,375   | 3-1/8   | 111,1                              | 92,7                               | 25,4                  | 1,6      | 6,4                   | 0,4                        | 1,6                        |
| 80       | —       |                                    |                                    |                       |          |                       |                            |                            |
| 80,962   | 3-3/16  |                                    |                                    |                       |          |                       |                            |                            |
| 85       | —       | 113                                | 102                                | 25,4                  | 1,6      | 6,4                   | 0,4                        | 1,6                        |
| 87,312   | 3-7/16  |                                    |                                    |                       |          |                       |                            |                            |
| 90       | —       | 119                                | 106,1                              | 25,4                  | 1,6      | 6,4                   | 0,4                        | 1,6                        |
| 93,662   | 3-11/16 | 127                                | 115,5                              | 27                    | 1,6      | 6,4                   | 0,4                        | 1,6                        |
| 95       | —       |                                    |                                    |                       |          |                       |                            |                            |
| 100      | —       | 139,7                              | 118,9                              | 31,8                  | 1,6      | 6,4                   | 0,4                        | 1,6                        |
| 100,012  | 3-15/16 |                                    |                                    |                       |          |                       |                            |                            |

NOTE 1 See [Figure 6](#).

NOTE 2 For preferred bearing sizes, refer to [Tables 2](#) and [6](#).

<sup>a</sup> *d*<sub>1</sub> is to be interpreted as *d*<sub>1</sub> max.

<sup>b</sup> *d*<sub>2</sub> is to be interpreted as *d*<sub>2</sub> max.

7 Tolerances

Tolerances for insert bearings and eccentric locking collars are given in [Tables 9](#) to [12](#).

In [Tables 9](#) to [12](#), the symbols U and L are used as follows:

- U = upper limit deviation;
- L = lower limit deviation.

Table 9 — Tolerances for bearings — Diameter series 2

| <i>d</i> |        | <i>t</i> <sub>Δdmp</sub> |   | <i>t</i> <sub>Vdsp</sub> | <i>t</i> <sub>H</sub> |
|----------|--------|--------------------------|---|--------------------------|-----------------------|
| >        | ≤      | U                        | L |                          |                       |
| mm       |        | μm                       |   | μm                       | μm                    |
| 10       | 18     | +15                      | 0 | 10                       | 200                   |
| 18       | 31,75  | +18                      | 0 | 12                       | 200                   |
| 31,75    | 50,8   | +21                      | 0 | 14                       | 200                   |
| 50,8     | 80,962 | +24                      | 0 | 16                       | 200                   |
| 80,962   | 120    | +28                      | 0 | 19                       | 200                   |

NOTE Tolerance values are applicable to finished bore diameters, whether or not the bore is plated or treated.

Table 10 — Tolerances for bearings — Diameter series 3

| $d$   |        | $t_{\Delta dmp}$ |   | $t_{Vdsp}$ |
|---|--------|------------------|---|------------|
| $>$   | $\leq$ | U                | L |            |
| mm  |        | $\mu m$          |   | $\mu m$    |
| 24  | 30,162 | +18              | 0 | 12         |
| 30,162  | 50     | +21              | 0 | 14         |
| 50  | 80,962 | +24              | 0 | 16         |
| 80,962  | 120    | +28              | 0 | 19         |
| 120   | 140    | +33              | 0 | 22         |
| NOTE Tolerance values are applicable to finished bores, whether or not the bore is plated or treated. |        |                  |   |            |

Table 11 — Tolerances for eccentric locking collars — Diameter series 2

| $d$  |        | $t_{\Delta ds}$ |     | $t_{\Delta d2s}$ |   | $t_H$   | $t_{\Delta B2s}$ |      | $t_{A1}$ |
|--|--------|-----------------|-----|------------------|---|---------|------------------|------|----------|
| $>$  | $\leq$ | U               | L   | U                | L |         | U                | L    |          |
| mm   |        | $\mu m$         |     | $\mu m$          |   | $\mu m$ | $\mu m$          |      | $\mu m$  |
| 10   | 36,512 | +250            | +25 | +300             | 0 | 200     | +270             | -270 | 180      |
| 36,512   | 55,562 | +300            | +25 | +400             | 0 | 200     | +330             | -330 | 180      |
| 55,562   | 80,962 | +300            | +25 | +400             | 0 | 200     | +330             | -330 | 220      |
| 80,962   | 120    | +350            | +35 | +500             | 0 | 200     | +330             | -330 | 220      |
| NOTE Tolerance values are applicable to finished bore diameters, whether or not the bore is plated or treated. |        |                 |     |                  |   |         |                  |      |          |

Table 12 — Tolerances for diameter of the spherical outer surface of outer ring — Diameter series 2 and 3

| $D$  |        | $t_{\Delta Dm}^b$ |       |
|--|--------|-------------------|-------|
| $>$  | $\leq$ | U                 | $L^a$ |
| mm   |        | $\mu m$           |       |
| 30   | 50     | 0                 | -11   |
| 50   | 80     | 0                 | -13   |
| 80   | 120    | 0                 | -15   |
| 120  | 150    | 0                 | -18   |
| 150  | 180    | 0                 | -25   |
| 180  | 250    | 0                 | -30   |
| 250  | 315    | 0                 | -35   |
| <sup>a</sup> The lower value of $t_{\Delta Dm}$ shall not be applicable to the distance within 1/4 the width dimensions of outer ring from the face of the outer ring. |        |                   |       |
| <sup>b</sup> The values of $t_{\Delta Dm}$ may be determined as agreed between the purchaser and the supplier.   |        |                   |       |

8 Radial internal clearances

Radial internal clearance of complete bearings is the arithmetical mean of the radial distances through which one of the rings can be displaced relative to the other, from one extreme position to the diametrically opposite extreme position, in different angular directions and without being subjected to any external load.

Values for radial internal clearance of complete bearings are given in [Tables 13](#) and [14](#).

Table 13 — Radial internal clearance — Diameter series 2

| <i>d</i> |         | <i>D</i> | Group N |      | Group 3 |      |
|----------|---------|----------|---------|------|---------|------|
|          |         |          | min.    | max. | min.    | max. |
| mm       | in      | mm       | μm      |      | μm      |      |
| 12       | —       | 40       | 10      | 25   | 18      | 33   |
| 12,7     | 1/2     |          |         |      |         |      |
| 14,288   | 9/16    |          |         |      |         |      |
| 15       | —       |          |         |      |         |      |
| 15,875   | 5/8     |          |         |      |         |      |
| 17       | —       |          |         |      |         |      |
| 17,462   | 11/16   |          |         |      |         |      |
| 19,05    | 3/4     | 47       | 12      | 28   | 20      | 36   |
| 20       | —       |          |         |      |         |      |
| 20,638   | 13/16   | 52       | 12      | 28   | 23      | 41   |
| 22,225   | 7/8     |          |         |      |         |      |
| 23,812   | 15/16   |          |         |      |         |      |
| 25       | —       |          |         |      |         |      |
| 25,4     | 1       |          |         |      |         |      |
| 26,988   | 1-1/16  | 62       |         |      |         |      |
| 28,575   | 1-1/8   |          |         |      |         |      |
| 30       | —       |          |         |      |         |      |
| 30,162   | 1-3/16  |          |         |      |         |      |
| 31,75    | 1-1/4   |          |         |      |         |      |
| 31,75    | 1-1/4   | 72       | 13      | 33   | 28      | 46   |
| 33,338   | 1-5/16  |          |         |      |         |      |
| 34,925   | 1-3/8   |          |         |      |         |      |
| 35       | —       |          |         |      |         |      |
| 36,512   | 1-7/16  |          |         |      |         |      |
| 38,1     | 1-1/2   | 80       |         |      |         |      |
| 39,688   | 1-9/16  |          |         |      |         |      |
| 40       | —       |          |         |      |         |      |
| 41,275   | 1-5/8   | 85       | 14      | 36   | 30      | 51   |
| 42,862   | 1-11/16 |          |         |      |         |      |
| 44,45    | 1-3/4   |          |         |      |         |      |
| 45       | —       |          |         |      |         |      |
| 46,038   | 1-13/16 | 90       |         |      |         |      |
| 47,625   | 1-7/8   |          |         |      |         |      |
| 49,212   | 1-15/16 |          |         |      |         |      |
| 50       | —       |          |         |      |         |      |
| 50,8     | 2       |          |         |      |         |      |



Table 13 (continued)

| <i>d</i> |         | <i>D</i> | Group N |      | Group 3 |      |
|----------|---------|----------|---------|------|---------|------|
|          |         |          | min.    | max. | min.    | max. |
| mm       | in      | mm       | μm      |      | μm      |      |
| 50,8     | 2       | 100      | 18      | 43   | 38      | 61   |
| 52,388   | 2-1/16  |          |         |      |         |      |
| 53,975   | 2-1/8   |          |         |      |         |      |
| 55       | —       |          |         |      |         |      |
| 55,562   | 2-3/16  |          |         |      |         |      |
| 57,15    | 2-1/4   | 110      |         |      |         |      |
| 58,738   | 2-5/16  |          |         |      |         |      |
| 60       | —       |          |         |      |         |      |
| 60,325   | 2-3/8   |          |         |      |         |      |
| 61,912   | 2-7/16  |          |         |      |         |      |
| 63,5     | 2-1/2   | 120      |         |      |         |      |
| 65       | —       |          |         |      |         |      |
| 66,675   | 2-5/8   |          |         |      |         |      |
| 68,262   | 2-11/16 | 125      | 20      | 51   | 46      | 71   |
| 69,85    | 2-3/4   |          |         |      |         |      |
| 70       | —       |          |         |      |         |      |
| 71,438   | 2-13/16 | 130      |         |      |         |      |
| 73,025   | 2-7/8   |          |         |      |         |      |
| 74,612   | 2-18/16 |          |         |      |         |      |
| 75       | —       |          |         |      |         |      |
| 76,2     | 3       |          |         |      |         |      |
| 79,375   | 3-1/8   | 140      |         |      |         |      |
| 80       | —       |          |         |      |         |      |
| 80,962   | 3-3/16  |          |         |      |         |      |
| 82,55    | 3-1/4   | 150      | 24      | 58   | 53      | 84   |
| 85       | —       |          |         |      |         |      |
| 85,725   | 3-3/8   |          |         |      |         |      |
| 87,312   | 3-7/16  |          |         |      |         |      |
| 88,9     | 3-1/2   |          |         |      |         |      |
| 88,9     | 3-1/2   | 160      |         |      |         |      |
| 90       | —       |          |         |      |         |      |
| 93,662   | 3-11/16 | 170      |         |      |         |      |
| 95       | —       |          |         |      |         |      |
| 100      | —       | 180      |         |      |         |      |
| 100,012  | 3-15/16 |          |         |      |         |      |
| 101,6    | 4       |          |         |      |         |      |

Table 14 — Radial internal clearances — Diameter series 3

| <i>d</i> |         | <i>D</i> | Group N |      | Group 3 |      |  |  |  |  |
|----------|---------|----------|---------|------|---------|------|--|--|--|--|
|          |         |          | min.    | max. | min.    | max. |  |  |  |  |
| mm       | in      | mm       | µm      |      | µm      |      |  |  |  |  |
| 25       | —       | 62       | 12      | 28   | 23      | 41   |  |  |  |  |
| 30       | —       | 72       |         |      |         |      |  |  |  |  |
| 30,162   | 1-3/16  |          |         |      |         |      |  |  |  |  |
| 31,75    | 1-1/4   | 80       | 13      | 33   | 28      | 46   |  |  |  |  |
| 33,338   | 1-5/16  |          |         |      |         |      |  |  |  |  |
| 34,925   | 1-3/8   |          |         |      |         |      |  |  |  |  |
| 35       | —       |          |         |      |         |      |  |  |  |  |
| 36,512   | 1-7/16  |          |         |      |         |      |  |  |  |  |
| 38,1     | 1-1/2   | 90       |         |      |         |      |  |  |  |  |
| 40       | —       |          |         |      |         |      |  |  |  |  |
| 41,275   | 1-5/8   | 100      | 14      | 36   | 30      | 51   |  |  |  |  |
| 42,862   | 1-11/16 |          |         |      |         |      |  |  |  |  |
| 44,45    | 1-3/4   |          |         |      |         |      |  |  |  |  |
| 45       | —       |          |         |      |         |      |  |  |  |  |
| 47,625   | 1-7/8   | 110      |         |      |         |      |  |  |  |  |
| 49,212   | 1-15/16 |          |         |      |         |      |  |  |  |  |
| 50       | —       |          |         |      |         |      |  |  |  |  |
| 50,8     | 2       | 120      | 18      | 43   | 38      | 61   |  |  |  |  |
| 52,388   | 2-1/16  |          |         |      |         |      |  |  |  |  |
| 55       | —       |          |         |      |         |      |  |  |  |  |
| 60       | —       |          |         |      |         |      |  |  |  |  |
| 61,912   | 2-7/16  | 130      |         |      |         |      |  |  |  |  |
| 63,5     | 2-1/2   | 140      |         |      |         |      |  |  |  |  |
| 65       | —       |          |         |      |         |      |  |  |  |  |
| 68,262   | 2-11/16 | 150      | 20      | 51   | 46      | 71   |  |  |  |  |
| 70       | —       |          |         |      |         |      |  |  |  |  |
| 74,612   | 2-15/16 | 160      |         |      |         |      |  |  |  |  |
| 75       | —       |          |         |      |         |      |  |  |  |  |
| 76,2     | 3       |          |         |      |         |      |  |  |  |  |
| 85       | —       | 180      | 24      | 58   | 53      | 84   |  |  |  |  |
| 87,312   | 3-7/16  | 190      |         |      |         |      |  |  |  |  |
| 90       | —       |          |         |      |         |      |  |  |  |  |
| 95       | —       | 200      |         |      |         |      |  |  |  |  |
| 100      | —       | 215      |         |      |         |      |  |  |  |  |
| 100,012  | 3-15/16 |          |         |      |         |      |  |  |  |  |
| 101,6    | 4       |          |         |      |         |      |  |  |  |  |
| 105      | —       | 225      | 28      | 66   | 61      | 97   |  |  |  |  |
| 110      | —       | 240      |         |      |         |      |  |  |  |  |
| 120      | —       | 260      |         |      |         |      |  |  |  |  |

Table 14 (continued)

| <i>d</i> |    | <i>D</i> | Group N |      | Group 3 |      |
|----------|----|----------|---------|------|---------|------|
|          |    |          | min.    | max. | min.    | max. |
| mm       | in | mm       | µm      |      | µm      |      |
| 130      | —  | 280      | 33      | 81   | 71      | 114  |
| 140      | —  | 300      |         |      |         |      |



## Bibliography

- [1] ISO 15, *Rolling bearings — Radial bearings — Boundary dimensions, general plan*
- [2] ISO 492, *Rolling bearings — Radial bearings — Geometrical product specifications (GPS) and tolerance values*
- [3] ISO 1132-2, *Rolling bearings — Tolerances — Part 2: Measuring and gauging principles and methods*
- [4] ISO 5459, *Geometrical product specifications (GPS) — Geometrical tolerancing — Datums and datum systems*
- [5] ISO 14253-1, *Geometrical product specifications (GPS) — Inspection by measurement of workpieces and measuring equipment — Part 1: Decision rules for verifying conformity or nonconformity with specifications*
- [6] ISO 14253-2, *Geometrical product specifications (GPS) — Inspection by measurement of workpieces and measuring equipment — Part 2: Guidance for the estimation of uncertainty in GPS measurement, in calibration of measuring equipment and in product verification*
- [7] ISO 14638, *Geometrical product specifications (GPS) — Matrix model*
- [8] ISO 15241, *Rolling bearings — Symbols for physical quantities*



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