



SLOVENSKI STANDARD

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Rolling bearings - Insert bearings and eccentric locking collars - Boundary dimensions and tolerances

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**Rolling bearings — Insert bearings and
eccentric locking collars — Boundary
dimensions and tolerances**

*Roulements — Roulements "insert" et bagues de blocage
excentriques — Dimensions d'encombrement et tolérances*

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 9628 was prepared by Technical Committee ISO/TC 4, *Rolling bearings*, Subcommittee SC 6, *Insert bearings and accessories*.

This second edition cancels and replaces the first edition (ISO 9628:1992), which has been technically revised.

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Rolling bearings — Insert bearings and eccentric locking collars — Boundary dimensions and tolerances

1 Scope

This International Standard specifies the 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 referenced documents are indispensable for the application 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 15:1998, *Rolling bearings — Radial bearings — Boundary dimensions, general plan*

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

ISO 5593, *Rolling bearings — Vocabulary*

ISO 15241, *Rolling bearings — Symbols for quantities*

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3 Terms and definitions

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

3.1

insert bearing

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

NOTE 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

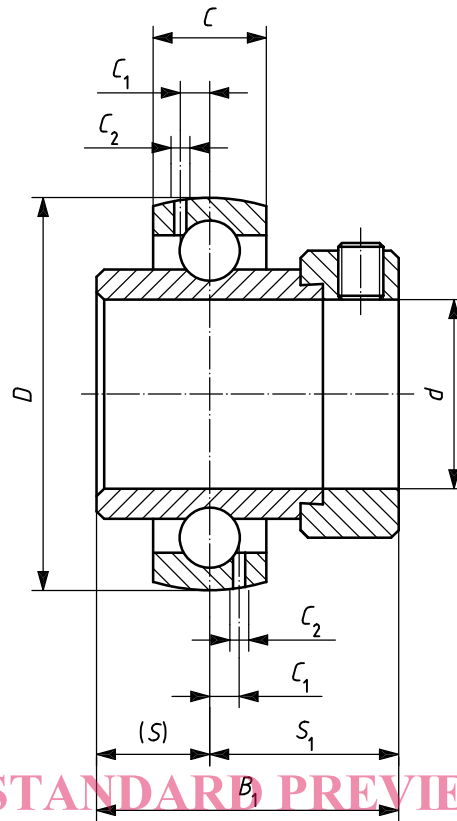
For the purposes of this document, the symbols given in ISO 15241 and the following apply.

The symbols (except those for tolerances) shown in Figures 1 to 6 and the values given in Tables 1 to 8 denote nominal dimensions unless specified otherwise.

NOTE Figures 1 to 6 are drawn schematically and sealing devices and cages are not shown in Figures 1 to 4.

| | |
|-------|--|
| A | width of eccentric surface of inner ring |
| A_1 | width of eccentric surface of eccentric locking collar |
| B | width of inner ring |

| | |
|----------------|---|
| B_1 | overall width of inner ring including eccentric locking collar |
| B_2 | width of eccentric locking collar |
| C | width of outer ring |
| C_1 | distance from centre of outer ring to centre of lubrication zone |
| C_2 | width of lubrication zone |
| D | outside diameter of bearing |
| d | bore diameter of bearing and of eccentric locking collar |
| d_1 | outside diameter of eccentric locking collar |
| d_2 | small bore diameter of eccentric surface (at theoretical sharp corner) of eccentric locking collar |
| d_3 | large outside diameter of eccentric surface (at theoretical sharp corner) of inner ring |
| H | eccentricity of inner ring eccentric extension and of eccentric locking collar |
| r_1 | chamfer dimension of eccentric surface of inner ring |
| $r_{1s \min}$ | smallest single chamfer dimension of eccentric surface of inner ring |
| r_2 | fillet radius of eccentric surface of inner ring |
| $r_{2s \max}$ | largest single fillet radius of eccentric surface of inner ring |
| r_3 | fillet radius of eccentric surface of eccentric locking collar |
| $r_{3s \max}$ | largest single fillet radius of eccentric surface of eccentric locking collar |
| r_4 | chamfer dimension of eccentric surface of eccentric locking collar |
| $r_{4s \min}$ | smallest single chamfer dimension of eccentric surface of eccentric locking collar |
| S | distance from centre of raceway to face of inner ring on side opposite locking device |
| S_1 | distance from centre of raceway to face of inner ring or eccentric locking collar limiting overall bearing width on locking device side |
| V_{dsp} | variation of bore diameter of bearing in a single plane |
| Δ_{A1s} | deviation of a single width of eccentric surface of eccentric locking collar |
| Δ_{B2s} | deviation of a single width of eccentric locking collar |
| Δ_{dmp} | deviation of mean bore diameter of bearing in a single plane |
| Δ_{ds} | deviation of a single bore diameter of eccentric locking collar |
| Δ_{d2s} | deviation of a single small bore diameter of eccentric surface of eccentric locking collar |
| Δ_{Hs} | deviation of eccentricity of inner ring eccentric extension and of eccentric locking collar in a single plane |



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

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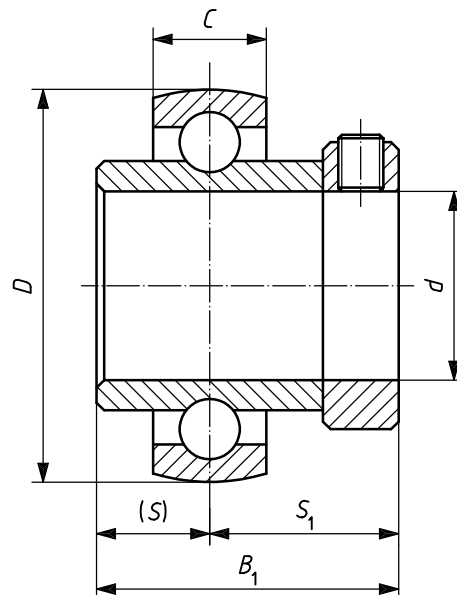


Figure 2 — Bearing with concentric locking collar around the inner ring — Intermediate overall width

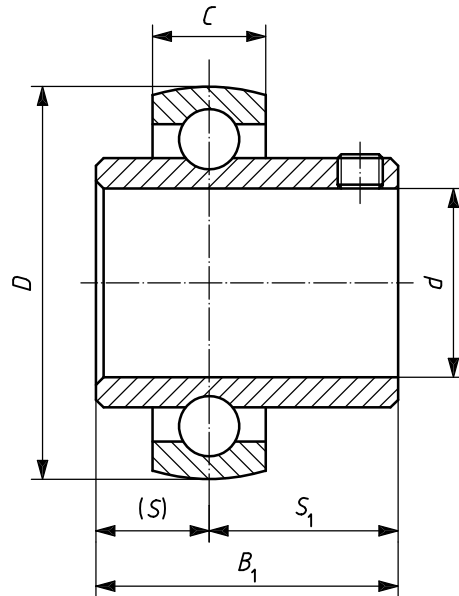


Figure 3 — Bearing with set screws in the inner ring — Intermediate overall width

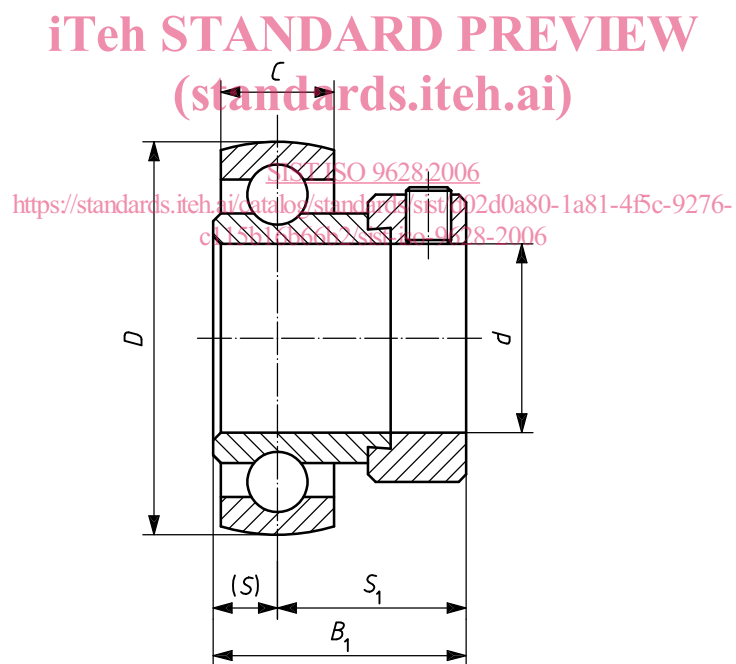


Figure 4 — Bearing with eccentric locking collar — Narrow overall width

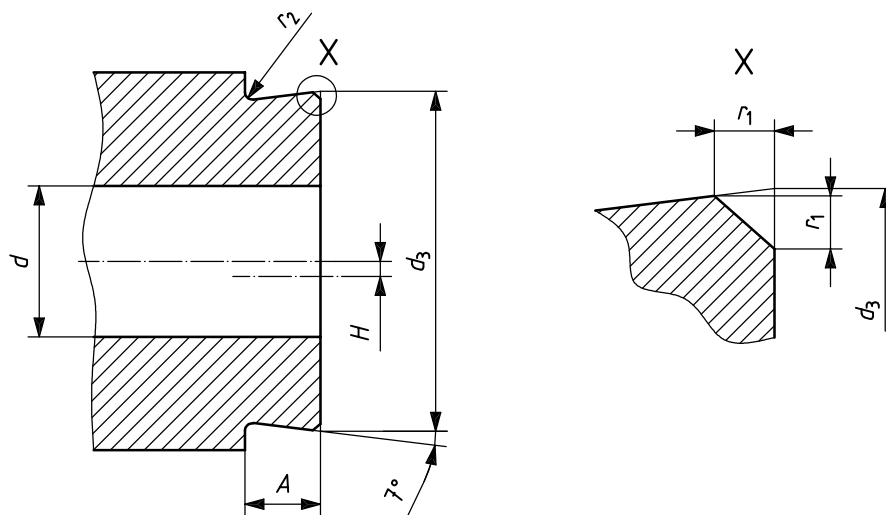
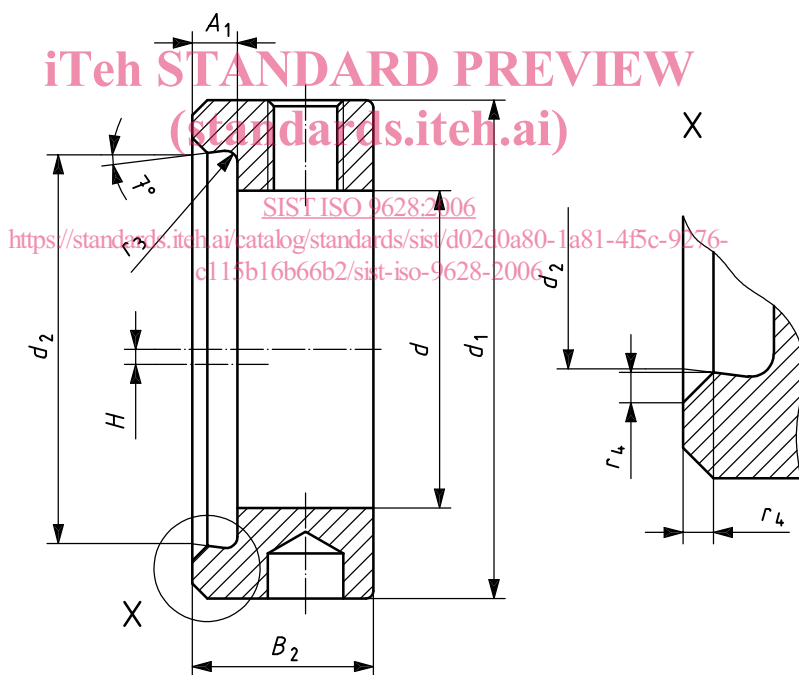


Figure 5 — Eccentric extension of inner ring



NOTE The relative angular position of the plain and tapped holes to each other and to the eccentricity is optional.

Figure 6 — Eccentric locking collar

5 Characteristics

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.