



SLOVENSKI STANDARD
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Rolling bearings - Accessories for sleeve type linear ball bearings - Part 2: Boundary dimensions and tolerances for series 5

Wälzlager - Zubehör für Linearlager mit Kugelumlauf und Hülse - Teil 2: Grenzabmaße und Toleranzen für die Serie 5

Roulements - Accessoires pour douilles à billes linéaires - Partie 2: Dimensions d'encombrement et tolérances pour la série 5

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Rolling bearings — Accessories for sleeve type recirculating linear motion ball bearings —

Part 2:

Boundary dimensions and tolerances for series 5

Roulements — Accessoires pour roulements à mouvement linéaire à recirculation de billes, type manchon —

Partie 2: Dimensions d'encombrement et tolérances pour la série 5

(Revision of ISO 13012:1998)

ICS 21.100.20

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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 13012-2 was prepared by Technical Committee ISO/TC 4, *Rolling Bearings*, Subcommittee SC 11, *Linear motion rolling bearings*.

This second edition cancels and replaces the first edition (ISO 13012:1998), which has been technically revised.

ISO 13012 consists of the following parts, under the general title *Rolling bearings — Accessories for sleeve type recirculating linear motion ball bearings*:

- Part 1: *Boundary dimensions and tolerances for series 1 and 3*
- Part 2: *Boundary dimensions and tolerances for series 5*

Introduction

The use of linear motion rolling bearings can be facilitated by the selection of bearing housings, shafts, shaft support blocks and shaft support rails. These items, referred to as accessories, can aid in the application of the linear motion rolling bearings to achieve the desired criteria of smooth, accurate, low-friction linear motion free from chatter or stick-slip.

The appropriate selection of bearing housing type, shaft and shaft support should be established between the manufacturer and the user.

This standard was developed to be used with International Standard ISO 10285.

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Rolling bearings — Accessories for sleeve type recirculating linear motion ball bearings — Part 2: Part 2: Boundary dimensions and tolerances for series 5

1 Scope

This International Standard gives the boundary dimensions, other relevant dimensions and their tolerances of accessories for sleeve type recirculating linear motion ball bearings which are specified in ISO 10285

This standard includes the following accessories:

Housings

flangeless, closed and adjustable types for series 5 linear motion ball bearings

flangeless, open and open adjustable types for series 5 linear motion ball bearings

Shaft support rails

standard type for series 5 linear motion ball bearings

Shaft support blocks

flanged type for series 5 linear motion ball bearings

Shafts

solid and tubular types for series 5 linear motion ball 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 286-2, *ISO system of limits and fits — Part 2: Tables of standard tolerance grades and limit deviations for holes and shafts*

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

ISO 1302, *Geometrical Product Specifications (GPS) — Indications of surface texture in technical product documentation*

ISO 3754, *Steel — Determination of effective depth of hardening after flame or induction hardening*

ISO 5593, *Rolling bearings — Vocabulary*

ISO 10285, *Rolling bearings — linear motion, recirculating ball, sleeve type — Metric series*

ISO 15241, *Rolling bearings — Symbols for quantities*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 1132-1, ISO 5593, ISO 10285 and the following apply.

3.1 flangeless housing

linear bearing housing which has a face with bolt holes or threaded holes for attachment to a support face nominally parallel to the bearing axis

3.2 flanged housing

linear bearing housing which has a face with projecting lugs having bolt holes for attachment to a support surface nominally parallel with the bearing axis

3.3 closed (linear ball bearing) housing

linear bearing housing in which the bearing seating is circumferentially continuous

3.4 adjustable (linear ball bearing) housing

linear bearing housing with a longitudinal slit across its bearing seating which facilitates the mechanical adjustment of the bearing seating diameter

3.5 open (linear ball bearing) housing

linear bearing housing with a longitudinal section removed to provide clearance over a shaft and support rail unit

3.6 open adjustable (linear ball bearing) housing

linear bearing housing which has the features of both open and adjustable linear ball bearing housings

3.7 shaft support rail

longitudinal pedestal which provides continuous support to a shaft

NOTE Shaft support rails may be used with open type linear ball bearings.

3.8 shaft support block

block which provides support to a shaft

NOTE Shaft support blocks are normally used to support the shaft at its ends and may be used with closed type, adjustable type or open type linear ball bearings.

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 5, and the values given in Tables 1 to 6 denote nominal dimensions unless specified otherwise.

4.1 Housings, flangeless, closed and adjustable types for series 5 linear motion ball bearings

See Table 1 and Figure 1

A (overall) width

D_a seating diameter

F_w bore diameter of ball complement of linear motion ball bearings (reference)

G designation of screw thread of attachment hole

H distance from mounting face to centreline of seating diameter

H_1 (overall) height

J centre distance between bolt holes

J_1 centre distance between bolt holes (width)

L length of housing

L_1 distance from side face to centreline of seating diameter

N diameter of bolt hole

4.2 Housings, flangeless, open and open adjustable types for series 5 linear motion ball bearings

See Table 2 and Figure 2

A (overall) width

D_a seating diameter

E width of sector opening (at diameter D_a)

F_w bore diameter of ball complement of linear motion ball bearings (reference)

G designation of screw thread of attachment hole

H distance from mounting face to centreline of seating diameter

H_1 (overall) height

J centre distance between bolt holes (length)

J_1 centre distance between bolt holes (width)

L length of housing

L_1 distance from side face to centreline of seating diameter

α angle of sector opening