
**Rolling bearings — Radial bearings,
retaining slots — Dimensions,
geometrical product specifications
(GPS) and tolerance values**

*Roulements — Roulements radiaux, encoches de retenue —
Dimensions, spécification géométrique des produits (GPS) et valeurs
de tolérance*



This document is a preview generated by EUS



COPYRIGHT PROTECTED DOCUMENT

© ISO 2021

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

	Page
Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Graphical description	2
5 Dimensions	4
5.1 General.....	4
5.2 Dimensions for single-row angular contact ball bearings and four-point-contact ball bearings.....	4
5.3 Dimensions for radial cylindrical roller bearings.....	6
6 Tolerance values	7
6.1 General.....	7
6.2 Tolerance values for retaining slots.....	7
Annex A (informative) Example of drawing indications of characteristics with specification for retaining slot	10
Annex B (informative) Application example for a retaining slot	11
Bibliography	12

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).

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).

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

For an explanation of 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 www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 4, *Rolling bearings*, Subcommittee SC 12, *Ball bearings*.

This third edition cancels and replaces the second edition (ISO 20515:2012), which has been technically revised.

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

- the title has been updated;
- the geometrical product specification (GPS) has been modified;
- the specification for the location of the retaining slot's bottom surface has been changed from a distance to a position specification, whereas the tolerance values have to be recalculated and rounded;
- the structure of the tables has been revised.

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.

Introduction

This document is a machine element geometry standard as defined in the geometrical product specification system (GPS system) as presented in matrix model of ISO 14638^[5].

The fundamental rules of ISO GPS given in ISO 8015^[2] apply to this document and the default decision rules given in ISO 14253-1^[3] apply to 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. For measurement uncertainty, it is intended that ISO 14253-2^[4] should be considered.

Rolling bearings — Radial bearings, retaining slots — Dimensions, geometrical product specifications (GPS) and tolerance values

1 Scope

This document specifies dimensions and tolerances of retaining slots to be used for outer rings of single-row angular contact ball bearings, four-point-contact ball bearings and radial cylindrical roller bearings.

The retaining slots are not suitable for use in the outer rings of sealed and shielded radial ball bearings, nor in the outer rings of radial cylindrical roller bearings without ribs.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirement 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, *Rolling bearings — Radial bearings — Boundary dimensions, general plan*

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

ISO 5593, *Rolling bearings — Vocabulary*

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

ISO 15241, *Rolling bearings — Symbols for physical quantities*

ISO 22872¹⁾, *Rolling bearings — Geometrical product specifications (GPS) — Symbols, terms and definitions associated with GPS*

3 Terms and definitions

For the purpose of this document the terms and definitions given in ISO 15, ISO 1101, ISO 5593, ISO 14405-1, ISO 15241, ISO 22872 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 <https://www.electropedia.org/>

3.1

retaining slot

angled slot in an outer ring at the intersection of the outside surface and the face of the ring

Note 1 to entry: See [Figures 1](#) and [2](#); also outline illustration in ISO 5593:2019, Figure 155.

Note 2 to entry: The purpose of the slot is to provide a simple means of preventing rotation of the outer ring of a bearing in relation to the application where it is mounted.

1) Under preparation. Stage at the time of publication: ISO/DIS 22872:2021.