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Rolling bearings — Internal clearance — Part 1: Radial internal clearance for radial bearings

Roulements — Jeu interne —

Partie 1: Jeu interne radial pour roulements radiaux



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Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
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Contents

Page

Foreword	iv
Introduction.....	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Symbols.....	2
5 Radial internal clearance	2
5.1 Radial contact groove ball bearings.....	2
5.2 Double-row self-aligning ball bearings	4
5.3 Cylindrical roller bearings and needle roller bearings	5
5.4 Toroidal roller bearings	8
5.5 Double-row self-aligning roller bearings	10
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.

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 5753-1 was prepared by Technical Committee ISO/TC 4, *Rolling bearings*, Subcommittee SC 4, *Tolerances*.

This first edition of ISO 5753-1 cancels and replaces ISO 5753:1991, which has been technically revised and extended. Internal clearance values for larger bore sizes have been added for each bearing type, together with values for cylindrical roller bearings with tapered bore and toroidal roller bearings with both cylindrical and tapered bores.

ISO 5753 consists of the following parts, under the general title *Rolling bearings — Internal clearance*:

— *Part 1: Radial internal clearance for radial bearings*

Axial internal clearance will form the subject of a future part 2.

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Introduction

The radial internal clearance values apply to bearings, designed in such a way that they can take purely radial load, which are not mounted or preloaded and are not subjected to any external load (i.e. with no measuring load being applied). Since measurements of radial clearance can only be made with a measuring load applied, the radial displacement resulting from the elastic deformation of the rings and rolling elements has to be added to the clearance values specified in this part of ISO 5753. The magnitude of these clearance values depends on the number and diameter of the rolling elements and the extent of contact between the rolling elements and the raceways. Methods for the measurement of radial internal clearance are given in ISO 1132-2.

Depending on the design of the bearing and measuring method, some scatter of the results of repeated measurements can be experienced. Manufacturers are expected to take such scatter into consideration by applying correspondingly reduced manufacturing tolerances.