Chinastandards.org

CCS J 11

# NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

chinastandards.org - PREVIEW

# GB/T 6445-2021

# Rolling bearings - Needle roller bearing track rollers - Boundary dimensions, geometrical product specifications(GPS) and tolerance values

**Issued on: December 31, 2021** **Implemented on: July 1, 2022**

**Issued by: State Administration for Market Regulation, China National Standardization Administration**

Preview: page 1 of 5 shown, full document available. Complete English PDF, instant download:
https://chinastandards.org/standards/gb-t-6445-2021

Chinastandards.org

# Table of Contents

foreword

Introduction

1 Scope

2 Normative references

3 Terms and Definitions

4 symbols

Chinastandards.org · PREVIEW

## foreword

This document is in accordance with the provisions of GB/T 1:1-2020 "Guidelines for Standardization Work Part 1: Structure and Drafting Rules of Standardization Documents"

drafted:

This document replaces GB/T 6445-2007 "Outline Dimensions and Tolerances of Roller and Needle Bearings for Rolling Bearings", and GB/T 6445-

Compared with:2007, the main technical changes are as follows:

a) The Product Geometric Specification (GPS) system is applied (see Chapter 4);

b) Added the chapter "Code Method" (see Chapter 5);

c) Corrected the value of dimension lG of KR13 and KRV13 stud type roller needle roller bearings (see Table 4, Table 3 of the:2007 edition):

This document is modified and adopted ISO 7063:2018 "Rolling Roller Needle Bearing Dimensions, Product Geometry Specifications (GPS)

and tolerance values":

This document has the following structural adjustments compared to ISO 7063:2018:

a) Added Chapter 5;

b) Chapters 6 and 7 correspond to Chapters 5 and 6 of ISO 7063:2018, respectively;

c) Added Chapter 8:

Compared with ISO 7063:2018, this document has many technical differences: In the outer margins of the clauses involved, a vertical single

Lines (|) are marked:



Preview: page 2 of 5 shown, full document available. Complete English PDF, instant download:
https://chinastandards.org/standards/gb-t-6445-2021

The technical differences between this document and ISO 7063:2018 and their reasons are as follows:

a) In order to facilitate the use of the document, in Chapter 3 "Terms and Definitions" and some footnotes in Table 1, the undated references to my country's standardization

The document replaces the corresponding undated reference to the International Standardization Document (see Chapter 3 and Table 1);

b) In order to facilitate the use of documents, the description of the symbol "Fw" has been added (see Table 1);

c) According to the actual production situation of roller needle roller bearings in my country, the size range of light series retaining ring roller needle roller bearings has been expanded (see Table 2);

d) In order to facilitate the use of documents, the bolt radial oil hole diameter M1 and the bolt ends of the light series bolt type needle roller bearings are specified:

Axial oil hole diameter M (see Table 1 and Table 4);

e) To facilitate the use of the document, the chapter "Code Method" has been added (see Chapter 5);

f) In order to ensure product accuracy, the "10mm~30mm" in the tolerance dimension section of the outer ring of the retaining ring type roller needle roller bearing is refined into

"10mm~18mm" and "18mm~30mm", and tightened the tolerance requirements of the dimension segment "10mm~18mm" (see Table 6);

g) To facilitate the use of documents, the requirements for bolt thread tolerances are added (see 7:3);

h) In order to facilitate the use of documents, the requirements for surface roughness have been increased (see Chapter 8):

The following editorial changes have been made to this document:

--- To facilitate the use of documents, the bearing model has been added to the dimension table (see Table 2 to Table 5):

Please note that some content of this document may be patented: The issuing agency of this document assumes no responsibility for identifying patents:

## Introduction

This document is the geometric elements of mechanical parts specified in the Product Geometry Specification (GPS) system (see the matrix model of GB/T 20308)

document:



Preview: page 3 of 5 shown, full document available. Complete English PDF, instant download:
https://chinastandards.org/standards/gb-t-6445-2021

Unless otherwise specified, the basic principles of ISO /GPS given in GB/T 4249 apply to this document, given in ISO 14253-1

Default principles apply to technical specifications developed in accordance with this document:

For the relationship between functional requirements and measurement methods and measurement uncertainty, it is recommended to consider it, and measurement uncertainty is recommended to pay attention to

ISO 14253-2:

Roller Bearing Roller Needle Bearing Dimensions,

Product Geometric Specifications (GPS) and Tolerance Values

## 1 Scope

This document specifies the dimensional characteristics, nominal dimensions and tolerance values of circlip type and bolt type roller needle roller bearings:

This document applies to the design, inspection and acceptance of roller needle roller bearings:

## 2 Normative references

The contents of the following documents constitute essential provisions of this document through normative references in the text: Among them, dated citations

documents, only the version corresponding to that date applies to this document; for undated references, the latest edition (including all amendments) applies to

this document:

GB/T 197 Common thread tolerance (GB/T 197-2018, ISO 965-1:2013, MOD)

GB/T 272-2017 rolling bearing code method

GB/T 307:3-2017 General technical rules for rolling bearings

GB/T 1182 Product Geometric Specifications (GPS) Geometric Tolerance Shape, Orientation, Position and Runout Tolerance Marking (GB/T 1182-

2018, ISO 1101:2017, MOD)

GB/T 6930 Rolling Bearing Vocabulary (GB/T 6930-2002, ISO 5593:1997, IDT)

GB/T 38762:1 Product Geometric Specifications (GPS) Dimensional Tolerances Part 1: Linear Dimensions (GB/T 38762:1-

2020, ISO 14405-1:2016, MOD)



Preview: page 4 of 5 shown, full document available. Complete English PDF, instant download:
https://chinastandards.org/standards/gb-t-6445-2021

ISO /T S17863 Product Geometric Specifications (GPS) Tolerance marking of moving components [Geometricalproductspecifica-

tion(GPS)-Tolerancingofmoveableassemblies]

## 3 Terms and Definitions

Terms and definitions defined in GB/T 1182, GB/T 6930, GB/T 38762:1 and ISO /T S17863 apply to this document:

## 4 symbols

To indicate the application of the ISO /GPS system, namely GB/T 4249, the dimensional characteristics shall be included in the technical product documentation (as shown in the drawings): with this

The dimensional specifications related to these characteristics are given in Table 1 and Figures 1 and 2:

The description of the symbols is consistent with GPS terminology:

The tolerance value associated with the characteristic is expressed by t plus the characteristic symbol, such as tdeltaDmp:

The default ISO size specification operation set in this document is consistent with GB/T 38762:1, that is, two-point size is valid:

chinastandards.org · PREVIEW



Preview: page 5 of 5 shown, full document available. Complete English PDF, instant download:
https://chinastandards.org/standards/gb-t-6445-2021