

ICS 21.100.20
CCS J 11



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 4605-2025

Replacing GB/T 4605-2003

**Rolling bearings - Thrust needle roller and cage assemblies,
thrust washers**

滚动轴承 推力滚针和保持架组件及推力垫圈

(English Translation)

Issued on: October 31, 2025

Implemented on: February 1, 2026

Issued by: State Administration for Market Regulation

Table of Contents

- Foreword
- 1 Scope
- 2 Normative references
- 3 Terms and Definitions
- 4 Symbols

Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document supersedes GB/T 4605-2003 "Rolling Bearings Thrust Needle Rollers and Cage Assemblies and Thrust Washers", and is consistent with GB/T 4605-Compared to 2003, aside from structural adjustments and editorial changes, the main technical changes are as follows.

a) The meanings of some symbols and the dimensional tolerance markings in the figures and tables have been changed (see Chapter 4, Figures 1 and 2, and Tables 1-3, 2003).

(Chapter 4, Figures 1 and 2, and Tables 1 and 2 of the edition).

b) The hardness requirements for the thrust washer and shaft raceway surfaces after heat treatment have been changed (see 8.1.1, 7.1.1 and A.2 of the 2003 edition);

c) The surface roughness requirements for thrust washers and shaft raceways have been changed (see 8.3, 7.3 and A.3 of the 2003 edition);

d) Added functional testing methods for inner and outer diameters (see 9.1.3 and 9.1.4).

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China Machinery Industry Federation.

This document is under the jurisdiction of the National Technical Committee on Standardization of Rolling Bearings (SAC/TC98).

1 Scope

This document specifies the designation, marking, dimensions, technical requirements, testing methods, and inspection procedures for thrust needle rollers, cage assemblies, and thrust washers.

Inspection rules, markings, and rust-proof packaging.

This document applies to the manufacture of general purpose thrust needle rollers and cage assemblies (hereinafter referred to as "assemblies") and thrust washers.

Note: Thrust washers can be used as both shaft rings and seat rings.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

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

This document.

GB/T 272-2017 Rolling Bearing Designation Method GB/T 1800.2-2020 Product Geometric Specification (GPS) - Linear Dimensional Tolerances - ISO Notation System Part 2: Standards Tolerance zone designations and limit deviation tables for holes and shafts GB/T 6930 Rolling Bearings Vocabulary GB/T 7811 Rolling bearing parameter symbols GB/T 8597-2013 Rust-proof packaging for rolling bearings GB/T 24605-2009 Rolling Bearing Product Marking GB/T 24608-2023 Inspection Rules for Rolling Bearings and Their Commodity Parts GB/T 34891-2017 Technical conditions for heat treatment of high carbon chromium bearing steel parts for rolling bearings GB/T 38762.1 Product Geometric Specification (GPS) - Dimensional Tolerances - Part 1: Linear Dimensions JB/T 7051-2006 Method for measuring and evaluating the surface roughness of rolling bearing parts JB/T 7361-2023 Test Method for Hardness of Rolling Bearing Components

3 Terms and Definitions

The terms and definitions defined in GB/T 6930 and GB/T 38762.1 apply to this document.

4 Symbols

To indicate that the ISO/GPS system, namely GB/T 4249, is applied, the technical product documents (as shown in the figure) should include dimensions and geometric characteristics.

Properties. The dimensional and geometric specifications related to these properties are

described in Table 1 and Figures 1 and 2.

The symbols are explained in accordance with GPS terminology.

The tolerance value related to the characteristic is represented by t plus the characteristic symbol (subscript), such as $t_{\Delta ds}$.

The default ISO dimensional specification operation set in this document is consistent with GB/T 38762.1, that is, two-point dimensions are valid.