



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

GB/T 5801-2020

Replacing GB/T 5801-2006

**Rolling bearings, machine-made ring needle roller bearings,
overall dimensions, product geometric specifications (GPS)
and tolerance values**

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard replaces GB/T 5801-2006 "Rolling bearing 48, 49 and 69 size series needle roller bearing outline dimensions and tolerances", and

Compared with GB/T 5801-2006, the main technical changes are as follows.

- Applied the product geometric technical specification (GPS) system (see Chapter 4);
- Expanded the size range of 49 size series needle roller bearings (see Table 3,.2006 edition of Table 2);
- The size of 59 size series and special series needle roller bearings has been increased (see Table 4, Appendix C);
- Modified the shaft raceway tolerances of needle roller bearings without inner ring (see Appendix A, Appendix A of the.2006 edition)
- The relationship between the symbols and terms in GB/T 5801-2006 and the description in this document has been added (see Appendix B).

This standard uses the redrafting method to modify and adopt ISO 1206.2018 ``Rolling bearing mechanism ring needle roller bearing outline dimensions, product

Geometric Technical Specifications (GPS) and tolerance values.

The technical differences between this standard and ISO 1206.2018 and the reasons are as follows.

--- Regarding normative reference documents, this standard has made adjustments with technical differences to adapt to my country's technical conditions and adjustments.

The situation is collectively reflected in Chapter 2 "Normative Reference Documents", and the specific adjustments are as follows.

* Replace ISO 1101 with GB/T 1182 which is modified to adopt international standards (see Chapter 3);

* Replace ISO 5593 with GB/T 6930 equivalent to the international standard (see Chapter 3);

* Added reference to GB/T 273.3 (see Chapter 5);

* Added reference to GB/T 274 (see Chapter 5);

* Added reference to GB/T 4604.1 (see Chapter 7);

* Added reference to GB/T 7811-2015 (see Table 1).

--- The dimensions of the special series of needle roller bearings are regarded as an informative appendix. The output of special series needle roller bearings is small, and the model is easy to be compared with other series.

Row needle roller bearings are confused, so as an appendix it is only for user reference.

---In Table 2~Table 5 and Table C.1, C.2 has increased the bearing model to facilitate user selection.

This standard was proposed by China Machinery Industry Federation.

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

Drafting organizations of this standard. Luoyang Bearing Research Institute Co., Ltd., Schaeffler (China) Co., Ltd., Suzhou Bearing Factory Co., Ltd., Xiang

Yang Auto Bearing Co., Ltd., Zhejiang Dewo Bearing Co., Ltd.

Introduction

This standard is the geometric elements of mechanical parts specified in the product geometric technical specification (GPS) system (see ISO 14638 matrix model)

standard.

Unless otherwise specified, the basic principles of ISO /GPS given in ISO 8015 apply to this standard, and the deficiencies given in ISO 14253-1

The provincial principle applies to technical specifications formulated in accordance with this standard.

It is recommended to consider the relationship between functional requirements, measurement methods and measurement uncertainty. Suggested attention to measurement uncertainty

ISO 14253-2.

Rolling bearing mechanism ring needle roller bearing outline dimensions,

Product geometric technical specifications (GPS) and tolerance values

1 Scope

This standard specifies the outer dimensions and general tolerance values of needle roller bearings with machined rings (hereinafter referred to as bearings).

This standard specifies the size and geometric characteristics of the bearing and the limit deviation from the nominal size.

This standard applies to complete sets of needle roller bearings and needle roller bearings without inner ring.

Refer to Appendix A for the recommended values of shaft raceway tolerances for needle roller bearings without inner ring.

2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this article

Pieces. For undated references, the latest version (including all amendments) applies to this document.

GB/T 273.3 Rolling bearing overall dimension plan Part 3.Radial bearings (GB/T 273.3-2020, ISO 15.

2017, IDT)

GB/T 274 Maximum chamfer size of rolling bearing

GB/T 1182 Product Geometric Technical Specification (GPS) Geometric tolerance shape, direction, position and run-out tolerance mark

GB/T 4604.1 Rolling bearing clearance Part 1.Radial clearance of radial bearing

GB/T 6930 Rolling Bearing Vocabulary (GB/T 6930-2002, ISO 5593.1997, IDT)

GB/T 7811-2015 rolling bearing parameter symbol (ISO 15241.2012, IDT)

ISO 14405-1 Geometric Technical Specifications for Products (GPS) Dimensional Tolerance Part 1.Linear Dimensions

ISO /T S17863 Product Geometric Technical Specification (GPS) Tolerance standard for movable components

3 Terms and definitions

The terms and definitions defined in GB/T 1182, GB/T 6930, ISO 14405-1 and ISO /T S17863 apply to this document.

The website of the term database used in the standardization work maintained by ISO and IEC is as follows.

4 symbols

The description of symbols is consistent with GPS terminology; the relationship with traditional terminology is shown in Table B.1 of Appendix B. The symbols given in Table 1 apply to this

file.

The tolerance value related to the characteristic is expressed by t plus the characteristic symbol, such as $t_{\Delta Cs}$.