



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

GB/T 21559.1-2023

**Rolling bearings - Linear motion rolling bearings - Part 1:
Dynamic load ratings and rating life**

Issued on: May 23, 2023

Implemented on: December 1, 2023

Issued by: SAMR; SAC

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Foreword

This document was drafted in accordance with the provisions of GB/T 1.1-2020

"Directives for standardization - Part 1.Rules for the structure and drafting of standardizing documents".

This document is Part 1 of GB/T 21559 "Rolling bearings - Linear motion rolling bearings". GB/T 21559 has issued the following parts.

- Part 1.Dynamic load ratings and rating life;
- Part 2.Static load ratings.

This document replaces GB/T 21559.1-2008 "Rolling bearings - Linear motion rolling bearings - Part 1.Dynamic load ratings and rating life". Compared with GB/T 21559.1-2008, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

- a) MODIFY some figures (see Figures 2, 4, 8, and 9 of this document, Figures 2, 4, 8, and 9 of the 2008 edition);
- b) MODIFY some terms (see 3.2 and 3.11 of this document, 3.2 and 3.11 of the 2008 edition).

This document is identical to ISO 14728-1.2017 "Rolling bearings - Linear motion

rolling bearings - Part 1. Dynamic load ratings and rating life".

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. The issuing authority of this document shall not be held responsible for identifying any or all such patent rights.

This document was proposed by China Machinery Industry Federation.

This document shall be under the jurisdiction of National Technical Committee on Rolling Bearings of Standardization Administration of China (SAC/TC 98).

Drafting organizations of this document. Luoyang Bearing Research Institute Co., Ltd., C & U Group Co., Ltd., Harbin Bearing Group Co., Ltd., Zhejiang Jingjiu Bearing Industry Co., Ltd., Henan University of Science and Technology.

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The previous released versions replaced by this document are as follows.

- GB/T 21559.1-2008;
- this is the first revision.

Rolling bearings - Linear motion rolling bearings -
Part 1. Dynamic load ratings and rating life

1 Scope

This document specifies the calculation methods of the basic dynamic load ratings and basic rating life of linear motion rolling bearings, as well as the calculation methods of the life of linear motion rolling bearings and the conditions required for reliable life calculations.

This document applies to linear motion rolling bearings made of contemporary, commonly used, high quality hardened bearing steel, manufactured according to good processing methods, and of which the shape of the rolling contact surfaces is basically of conventional design.

This document does not apply to designs where the rolling elements operate directly on the smooth surface of the mechanical equipment, unless the surface is equivalent in all

aspects to the raceway of the linear motion rolling bearing component it replaces.

2 Normative references

The following referenced documents are indispensable for the application 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 281 Rolling bearings - Dynamic load ratings and rating life

NOTE. GB/T 6391-2010 Rolling bearings - Dynamic load ratings and rating life (ISO 281:2007,

IDT)

ISO 5593 Rolling bearings - Vocabulary

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

3 Terms and definitions

For the purpose of this document, the terms and definitions defined in ISO 281 and ISO 5593, and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses.

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