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

GB/T 29718-2013

**Rolling bearings - Main shaft bearings for wind turbine
generators**

滚动轴承 风力发电机组主轴轴承

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Table of Contents

1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Symbols	2
5 Code Method 2 6 structure type	3
4 Technical requirements 4	8
9 Detection 10	10
11 Inspection Rules	11
11 Flag Rust-proof packaging 12	11
12 Structure Types Appendix A (informative) Common spindle bearings, Dimension	13

Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules. The standard proposed by China Machinery Industry Federation. This standard by the National Standardization Technical Committee of Rolling (SAC/TC98) centralized. This standard is mainly drafted by: Luoyang LYC Bearing Co., Ltd. The main drafters of this standard. Pangbi Tao, Donghan Jie, Yang Desheng, Zhou Lin, Xu Lingling, Wang Jing Hubei. Participated in the drafting of this standard. Luoyang Bearing Research Institute Co., Ltd., Dalian Metallurgical Bearing Co., Ltd., Northwest Bearing Co. Shares The company, Chengdu Tianma Railway Bearing Co., Ltd., Beijing Beijing Metallurgical Mill Bearing Manufacturing Co., Ltd. Hai Fei bearing race, State Power United Power Technology Co., Ltd. Participate drafters of this standard. Zhang Tian, Wang Dehui, Xu Yun, Wang Wenge, Luo Hong, Zhuduan Feng, Zhao Lian spring, Yanghuai Yu, Liu Wei. Rolling wind turbine spindle bearings

1 Scope

China's national standard for the main shaft bearings of wind turbine generators. It specifies the structure types, the designation method, the dimensions, the technical requirements, the test methods, the inspection rules and the marking and packaging of those bearings, and it applies to their manufacture, testing and selection by users. The main shaft bearing carries the rotor. Everything the wind does to the blades arrives at this bearing: the weight of a rotor that may be a hundred tonnes, the thrust of the wind pushing the whole rotor downwind, the bending moment from the wind being stronger at the top of the swept area than at the bottom, and the fluctuating loads from turbulence, from wind shear and from

each blade passing the tower. It carries all of that while turning at perhaps fifteen revolutions per minute - slowly enough that generating a lubricant film is difficult, and with loads that vary continuously rather than settling to a steady value. It is also the least accessible large component in the machine, and replacing it means dismantling the drivetrain at height. Main shaft bearings are consequently among the most heavily engineered rolling bearings made, and they have been among the least reliable components of wind turbines in service - the industry's field experience with them has driven several changes of arrangement, from single spherical roller bearings to paired tapered rollers to integrated designs. That history is why a national standard for them exists as a separate document from the general bearing standards: the duty is specific, the sizes are large, the consequences of failure are expensive, and the selection is made by a turbine designer rather than by a bearing catalogue. Issued on 18 September 2013 and in force since 1 June 2014.

This standard specifies the structure type wind turbine spindle bearings, code-named method, dimensions, technical requirements, testing methods, inspection Rules, signs and packaging. This standard applies to wind turbine spindle bearings (hereinafter referred to as bearing) production testing and user selection, acceptance.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 230.1-2009 metallic materials - Rockwell hardness test - Part 1. Test methods (A, B, C, D, E, F, G, H, K, N, T scale)

GB/T 231.1-2009 metallic materials Brinell hardness test - Part 1. Test methods

GB/T 272-1993 Rolling Code Method

GB/T 273.3-1999 Rolling bearings dimensions, general plan Principles and Methods

GB/T 307.2-2005 Rolling measuring and testing

GB/T 307.3-2005 bearings - General technical rules

GB/T 1979-2001 structural steels times and defect Fig.

GB/T 3203-1982 carburizing bearing steels

GB/T 4199-2003 Rolling defined tolerances Determination of depth after the

GB/T 5617-2005 steel induction hardening or flame hardening of effective case

GB/T 6930-2002 Rolling Words

GB/T 7811-2007 Rolling Parameter Symbol

GB/T 8597-2013 Rolling rust-proof packaging

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