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

GB/T 30143-2025

Replacing GB/T 30143-2013

**YZR series wound-rotor three-phase induction motors for crane
and metallurgical applications - Technical specification (frame
sizes 450 to 500)**

YZR系列起重及冶金用绕线转子三相异步电动机 技术规范（机座号450～500）

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Table of Contents

1.Scope	1
2 Normative References	1
3.Terms and Definitions	2
4.Types, Basic Parameters, and Dimensions	2
5 General Requirements	6
8 Inspection Rules	9
7 Outgoing Terminal Markings	11

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 replaces GB/T 30143-2013 "Technical Conditions for YZR Series Wound Rotor Three-Phase Asynchronous Motors for Lifting and Metallurgy (Frame Size)". Compared with GB/T 30143-2013, the main technical changes in "Nos. 450~500" are as follows, apart from structural adjustments and editorial changes.

---Added motor model and example descriptions (see 4.1);

---Added "The electric motor has 8 poles and 10 poles" (see 4.6);

---The basic dimensions and limit deviations of the conical shaft extension D have been added (see Table 2);

---The limit deviations for the key width of the motor shaft extension have been changed (see Table 3,.2013 edition);

---Added requirements for the appearance and assembly quality of the electric motor (see 6.1);

---Added the clause "The cold insulation resistance value should not be lower than 5MΩ" (see 6.2);

---Added. "The deviation of any phase of the DC resistance of the three-phase stator winding of the motor in the actual cold state from the average value of the three phases should not exceed..." "±1.5% (Delta connection) or ±2% (Y connection) of the average value" (see 6.3);

---The requirements for motor vibration have been changed (see 6.7,

4.16 of the.2013 edition);

---Chapter 5, Inspection Rules and Test Methods, is changed to Chapter 7, Test Methods, and Chapter 8, Inspection Rules. The inspection rules are in tabular form. For details (see Chapters 7 and 8, and Chapter 5 of the.2013 edition);

---The requirement for wiring diagrams has been added (see 9.4). 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 Electrical Equipment Industry Association. This document is under the jurisdiction of the National Technical Committee on Standardization of Rotating Electrical Machines (SAC/TC26). This document was drafted by: Jiamusi Explosion-proof Motor Research Institute Co., Ltd., Jiamusi Electric Machinery Co., Ltd., and Anhui Wannan Electric Machinery Co., Ltd. Limited Liability Company, Jiangsu Provincial Special Equipment Safety Supervision and Inspection Institute, Jingxian Market Supervision and Inspection Institute (Anhui Provincial Motor Products and Components Quality) Supervision and Inspection Center), Wuhan Electric Machinery Co., Ltd. of Changjiang Shipping Group, Wuxi Hongtai Electric Machinery Co., Ltd., Guangdong Special Equipment Inspection and Research Institute Zhongshan Testing Institute, Daqing Hengchi Electric Co., Ltd., Wuxi Xindali Motor Co., Ltd., Jiangxi Jiangte Motor Co., Ltd., Dalian Darma Electric motor company, Changzhou Institute of Technology. The main drafters of this document are. Wang Liming, Wang Anguo, Xu Quan, Wang Songlei, Zhao Yunfeng, Zhi Gang, Xue Ronghui, Lin Dengtian, Wang Liping, and Zhang Guangqing. Xu Min, Wang Weiping, Wang Jun, Lü Tingxiu, Xu Ziyi, Li Tong, Xu Jie. The release history of this document and the document it replaces is as follows:

---First published in.2013 as GB/T 30143-2013;

1 Scope

GB/T 30143-2025 is the Chinese national standard covering the large slip-ring crane motor - the intermittent duty ratings and the number of starts per hour, the high starting torque the wound rotor gives with external resistance, the insulation and the bearings, and the slip rings and brushgear that need maintaining. It replaces GB/T 30143-2013, with the inverter-fed YZP series GB/T 30145-2025. In force from 1 May 2026. Issued on 31 October 2025, it has been in force since 1 May 2026, replacing GB/T 30143-2013.

This document specifies the types and basic features of the YZR series wound-rotor three-phase asynchronous motors (frame size 450~500) for hoisting and metallurgical applications. The parameters, dimensions, general requirements, and technical requirements describe the corresponding test methods and specify the inspection rules, marking, packaging, and shelf life. This document applies to wound-rotor three-phase asynchronous motors (frame size 450~500) used in various lifting machinery and metallurgical auxiliary equipment. The manufacture of.

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 191 Pictorial Symbols for Packaging and Storage

GB/T 755 Ratings and Performance of Rotating Electrical Machines

GB/T 756 Cylindrical Shaft Extensions of Rotary Electrical Machines

GB/T 757 Conical Shaft Extensions of Rotary Electrical Machines

GB/T 997 Classification of structural types, mounting types and junction box locations of rotating electrical machines (IM codes)

GB/T 1032 Test Methods for Three-Phase Asynchronous Motors

GB/T 1096 General-purpose flat keys

GB/T 1958 Product Geometric Specification (GPS) - Geometric Tolerance Inspection and Verification

GB/T 1971 Markings on wire ends and direction of rotation for rotating electrical machines

GB/T 1993 Cooling methods for rotating electrical machines

GB/T 4772.2 Dimensions and power ratings of rotating electrical machines - Part

3 Noise Limits

GB/T 12351 Environmental Technical Requirements for Tropical Rotating Electrical Machines

GB/T 12665 Requirements for damp heat test of electric motors used under general environmental conditions

GB 20237 Safety requirements for lifting, metallurgical and shielded motors

GB/T 21975 Reliability Test Methods for Three-Phase Asynchronous Motors for Lifting and Metallurgical Use

GB/T 22714 Test Specification for Inter-turn Insulation of Molded Windings of AC Low-voltage Motors