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

GB/T 21974-2024

Replacing GB/T 21974-2008

**YZRW series eddy-current braking wound-rotor three-phase
induction motors for crane and metallurgical applications -
Technical specification (frame size 112315)**

YZRW系列起重及冶金用涡流制动绕线转子三相异步电动机 技术规范（机座号112~315）

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part

1. Structure and drafting rules for standardization documents" Drafting. This document replaces GB/T 21974-2008 "Technical Specification for YZRW Series Eddy Current Braking Wound Rotor Three-Phase Asynchronous Motors for Hoisting and Metallurgy" Compared with GB/T 21974-2008, in addition to structural adjustments and editorial changes, the main technical changes are as follows:

--- Added motor models and examples (see 4.1);

--- Changed the protection level of the motor (see 4.2, 4.1 of the 2008 edition);

--- Change the frame sizes 315S1, 315S2 and 315M corresponding to rated power 55kW, 75kW and 90kW to 315S and 315M Corresponding to 55kW and 75kW (see Table 2, Table 2 of the 2008 edition);

--- Changed the D1 size of the frame size 180L in Table 3 and Table 4, changed the frame size 180L~315M in Table 3 and the frame size in Table 4 E1 limit deviation for 180L~225M, changed K basic dimension and position tolerance for frame size 160M~225M in Table

3 The basic dimensions and position tolerances of the S for frame sizes 112M~225M in Table 4 have been changed, and the tolerances of the S for frame sizes 112M~225M in Table 4 have been added. The T limit deviation of 225M has been increased, and the shaft extension key dimensions and tolerances of the shaft extension diameter 95 in Table 5 have been added (see Table 3 to Table 5, 2008 Edition Table 3 to Table 5);

- Changed the limit deviation of key width (see Table 5, Table 5 of the.2008 edition);
- 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 $\pm 2\%$ of the mean value" (see 5.8);
- Added "cold insulation resistance should not be less than 5M Ω " (see 5.9);
- Added 1s withstand voltage test (see 5.10);
- Changed the requirements for motor vibration and noise (see 5.18 of the.2008 edition);

1 Scope

GB/T 21974-2024 is the Chinese national standard on yzrw series eddy-current braking wound-rotor three-phase induction motors for crane and metallurgical applications - technical specification (frame size 112315), in the field of electrical engineering. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 23 August 2024 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 March 2025. Classification: ICS 29.160.30, CCS K26. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document defines the terms and definitions of YZRW series eddy current brake wound rotor three-phase asynchronous motors for lifting and metallurgical applications, and specifies It describes the type, basic parameters and dimensions, and technical requirements, describes the corresponding test methods, and stipulates the inspection rules as well as the marking, packaging and storage Use period. This document is applicable to eddy current brake wound rotor three-phase asynchronous motors (base) for electric transmission of various lifting machinery and metallurgical auxiliary equipment No. 112~315) and the manufacture of eddy current brakes.

2 Normative references

The contents of the following documents constitute essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB/T 191 Pictorial markings for packaging, storage and transportation

GB/T 755 Ratings and performance of rotating electrical machines

GB/T 756 Cylindrical shaft extensions for rotating electrical machines

GB/T 757 Conical shaft extensions for rotating electrical machines

GB/T 997 Classification of structural types, installation types and terminal box positions of rotating electrical machines (IM code)

GB/T 1032 Test methods for three-phase asynchronous motors

GB/T 1096 Ordinary flat key

GB/T 1958 Geometrical Product Specifications (GPS) Geometric Tolerance Testing and Verification

GB/T 1971 Terminal marking and direction of rotation of rotating electrical machines

GB/T 1993 Cooling methods for rotating electrical machines

GB/T 2423.4 Environmental testing for electric and electronic products Part

3 Noise limits

GB 20237 Safety requirements for lifting metallurgy and shielded motors

GB/T 21975 Reliability test method for three-phase asynchronous motors for hoisting and metallurgy

GB/T 22719.1 Interturn insulation of loose-fitting windings of AC low-voltage motors Part