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

**GB 30254-2024**

Replacing GB 30254-2013

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**Minimum allowable values of energy efficiency and energy  
efficiency grades for cage three-phase high voltage induction  
motor**

高压三相笼型异步电动机能效限定值及能效等级

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### Foreword

This Document was drafted as per the rules specified in GB/T 1.1-2020 Directives for Standardization - Part

1. Rules for the Structure and Drafting of Standardizing Documents. This Document replaced GB 30254-2013 Minimum Allowable Values of Energy Efficiency and the Energy Efficiency Grades for Cage Three-phase High Voltage Induction Motor. Compared with GB 30254-2013, the major technical changes of this Document are as follows besides the structural adjustments and editorial modifications.

- a) Change the scope of the standard (see Clause 1 of this Edition; Clause 1 of the 2013 Edition);
- b) Delete the energy-saving evaluation value of cage three-phase high voltage induction motors (see 3.2 of the 2013 Edition);
- c) Add the requirements for the energy efficiency limit value of motors (see 5.2 of this Edition; 4.3 of the 2013 Edition);
- d) Delete the requirements for the energy-saving evaluation value of motors (see 4.4 of the 2013 Edition);
- e) Change the range of application of the test method for rated power (see Clause 6 of this Edition; Clause 5 of the 2013 Edition);
- f) Add the energy efficiency rating indicators of cage three-phase high voltage induction motors with 2 poles (rated power 3,550 kW~10,000 kW) under 3 kV (

3.3 kV) and 6 kV voltage IC01, IC11, IC21, IC31, IC81W cooling methods (see Table 1 of this Edition; Table 1 of the 2013 Edition);

g) Add energy efficiency rating indicators for cage three-phase high voltage induction motors with 2 poles (rated power 2,500 kW~10,000 kW) under 10 kV voltage IC01, IC11, IC21, IC31, IC81W cooling methods (see Table 2 of this Edition; Table 2 of the 2013 Edition);

## 1 Scope

GB 30254-2024 is the Chinese national standard on minimum allowable values of energy efficiency and energy efficiency grades for cage three-phase high voltage induction motor, in the field of energy and heat transfer engineering. It carries no /T suffix, which in the Chinese system means compliance is mandatory: a product or a practice within its scope has to meet it to be lawfully made, sold or carried out in China. 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 September 2025. Classification: ICS 27.010, CCS F01. 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 specifies the energy efficiency level, technical requirements and test methods of high-voltage three-phase cage-type asynchronous motors (hereinafter referred to as "motors"). This document is applicable to

50 Hz three-phase AC power supply, continuous working vertical, horizontal motors and explosion-proof motors, with 2 poles to 12 poles, voltage, cooling method, rated power range as follows:

3.3 kV) and 6 kV voltage, IC01, IC11, IC21, IC31, IC81W cooling method, rated power is 200 kW to 25,000 kW;

b) Under 10 kV voltage, IC01, IC11, IC21, IC31, IC81W cooling method, rated power is 200 kW to 22,400 kW;

3.3 kV) and 6 kV voltage, IC611, IC616, IC511, IC516 cooling method, rated power is 200 kW to 10,000 kW;

d) Under 10 kV voltage, IC611, IC616, IC511, IC516 cooling method, rated power is 200 kW~10,000 kW;

3.3 kV) and 6 kV voltage, IC411 cooling method, rated power is 200 kW~3,150 kW;

f) Under 10 kV voltage, IC411 cooling method, rated power is 200 kW~2,800 kW.

## 2 Normative References

The provisions in following documents become the essential provisions of this Document through reference in this Document. For the dated documents, only the versions with the dates indicated are applicable to this Document; for the undated documents, only the latest version (including all the amendments) is applicable to this Document.

GB/T 755 Rotating electrical machines - Rating and performance

GB/T 1032-2023 Test methods of three-phase induction motors

## 3 Terms and Definitions

For the purposes of this Document, the following terms and definitions apply.

3.1 Minimum allowable values of energy efficiency for cage three-phase high voltage induction motor

## 4 Energy Efficiency Grades

The energy efficiency grade of motors is divided into 3 grades, among which Grade-1 has the highest energy efficiency. The measured efficiency of motors of each grade at rated output power shall be no lower than the requirements of Tables 1 to 6, and the tolerance shall comply with the provisions of GB/T 755.

## 5 Technical Requirements

The requirements for energy efficiency limit values of motors are as follows:

## 6 Test Methods

For motors with a rated power of 2,000 kW or less, the power loss shall be determined according to the Method-B (loss analysis method for measuring input and output power) specified in