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NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA

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Replacing GB 18613-2012, GB 25958-2010

Minimum Allowable Values of Energy Efficiency and Values of Efficiency Grades for Motors

电动机能效限定值及能效等级

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Foreword

This Standard was drafted as per the rules specified in GB/T 1.1-2009.

This Standard replaced GB 18613-2012 *Minimum Allowable Values of Energy Efficiency and Energy Efficiency Grades for Small and Medium Three-Phase Asynchronous Motors*, and GB 25958-2010 *Minimum Allowable Values of Energy Efficiency and Values of Efficiency Grade for Small-Power Motors*. Compared with GB 18613-2012 and GB 25958-2010, this Standard made the major technical changes as follows besides the editorial modifications:

- Modify the scope of application of the standard (see Clause 1 of this Edition; Clause 1 of GB 18613-2012 and Clause 1 of GB 25958-2010);
- Delete the target minimum allowable value of energy efficiency for the motor and the energy saving evaluation value of the motor (see 3.2 and 3.3 of GB 18613-2012);
- Improve the requirements for the minimum allowable value of energy efficiency for the three-phase asynchronous motor (see Table 1 of this Edition; Table 1 of GB 18613-2012 and Table 1 of GB 25958-2010);
- Add the energy efficiency grade of 8-pole three-phase asynchronous motor (see Table 1 of this Edition);
- Improve the energy efficiency index requirements for capacitor starting, capacitor operation, and dual-value capacitor asynchronous motors (see Table 2, Table 3, and Table 4 of this Edition);
- Delete the energy efficiency index requirements of the room air conditioner fan motor (see Table 5 of GB 25958-2010);
- Add the energy efficiency index requirements for the capacitor operation motor for the air conditioner fan and the brushless DC motor for the air conditioner fan (see Table 5 and Table 6 of this Edition);
- Delete the technical requirements of the target minimum allowable value and energy-saving evaluation value of the low-power motor (see 4.4 and 4.5 of GB 25958-2010);
- Delete the requirements of 120W energy efficiency grade for single-phase and three-phase small-power motors (see Table 1, Table 2, Table 3 of this Edition; Table 1, Table 2, Table 3 of GB 25958-2010);
- Add the test method requirements for the capacitor operation motor for the air

Minimum Allowable Values of Energy Efficiency and Values of Efficiency Grades for Motors

1 Scope

This Standard specifies the energy efficiency grades, minimum allowable values of energy efficiency and test methods for three-phase asynchronous motors, single-phase asynchronous motors, and motors for air conditioner fans.

This Standard is applicable to, under the rated voltage 1000V below, 50Hz three-phase AC power supply, rated power in the range of 120W ~ 1000kW, the number of poles is 2, 4, 6 and 8, single-speed closed self-cooled, N designed, general-purpose motors or general-purpose explosion-proof motors for continuous operation. It is also applicable for general-purpose motors such as capacitor-started asynchronous motors (120W~3700W), capacitor-operated asynchronous motors (120W~2200W), dual-value capacitor asynchronous motors (250W~3700W) powered by 690V and below and 50 Hz AC power supply, as well as capacitor-operated motors for air conditioner fans (10 W to 1100 W) and brushless DC motors for air conditioner fans (10 W to 1100 W).

2 Normative References

The following documents are essential to the application of 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) are applicable to this document.

GB/T 755-2019 Rotating Electrical Machines - Rating and Performance

GB/T 1032 Test Procedure for Three-Phase Induction Motors

GB/T 5171.1-2014 Small Power Motors - Part 1: General Technical Requirements

GB/T 5171.21 Small Power Motors - Part 21: General Test Methods

3 Terms and Definitions

For the purpose of this document, the following terms and definitions apply.

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