

Translated English of Chinese Standard: GB25958-2010

Translated by: www.ChineseStandard.net

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ICS 27.010

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NATIONAL STANDARD

OF THE PEOPLE'S REPUBLIC OF CHINA

GB 25958–2010

Minimum allowable values of energy efficiency and values of efficiency grade for small-power motors

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Issued on: January 10, 2011

Implemented on: July 01, 2011

**Issued by: General Administration of Quality Supervision, Inspection
and Quarantine of the People's Republic of China;**

**Standardization Administration of the People's Republic of
China**

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Foreword

Subclause 4.3 and 4.4 of this Standard are mandatory, the rest clauses are recommendatory.

This Standard is proposed by Environment and Resource Integrated Utilization Department of National Development and Reform Commission.

This Standard is under the jurisdiction of National Technical Committee (SAC/TC 20) on Energy Fundamentals and Management of Standardization Administration of China.

The responsible drafting organizations are: Guangzhou Electrical Apparatus Research Institute, China Standards Research Institute, Low-power Machinery Subcommittee of National Rotating Machinery Standardization Administration, Shanghai Entry-Exit Inspection And Quarantine Bureau, Guangdong Welling Motor Manufacturing Co., Ltd, International Copper Association, Emerson(China) Motor Co., Ltd, Kaiping Sanwei Micromotor Co., Ltd, Haicheng Suprasuny Pump Co., Ltd, Nanjing Nanvi Electric Motor Co., Ltd, Foshan City Nanhai Jiuzhou Popula Fan Co., Ltd, Tianjin Zhonghuan Tianhong Micromotor Co., Ltd, Foshan Tianyang Motor Manufacturing Co., Ltd, WeiHai Techfull Simo Motor Co., Ltd, Wuhu Tongli Motor Co.,Ltd and Guangzhou Vkan Certification & Testing Co., Ltd.

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Minimum allowable values of energy efficiency and values of efficiency grade for small-power motors

1 Scope

This standard specifies energy efficiency grade, minimum allowable values of energy efficiency, target minimum allowable values of energy efficiency, evaluating values of energy conservation, and test method for small-power asynchronous motors (hereinafter referred to as “motor”).

This standard is applicable to general purpose motors - small-power 3-phase asynchronous motor (10 W to 2200 W) powered by 50 Hz & 690 VAC and below voltage; capacitor running asynchronous motor (10 W to 2200 W); capacitor starting asynchronous motor (120 W to 3700 W), double-value capacitor asynchronous motor (250 W to 3000 W); and motor (6 W to 550 W) for air conditioning fan in room etc.

2 Normative and Quoted References

The articles contained in the following documents have become this standard when they are quoted herein. For the dated documents so quoted, all the modifications (excluding corrections) or revisions made thereafter shall not be applicable to this Standard. For the undated documents so quoted, the latest editions shall be applicable to this Standard.

GB/T 1032 Test procedures for three-phase induction motors

GB/T 5171 General technical requirements for small power motors

GB/T 9651-2008 Test procedures for single-phase induction motor

GB 12350 Safety requirements of small-power motors

3 Terms and Definitions

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

3.1

4.2 Energy efficiency grade of motor

Energy efficiency grade of motor is divided into 3 grades - Grade 1 is the highest grade of energy efficiency. Under the rated power output, the efficiency of each grade's motor shall not be less than those specified in Tables 1 to 5.

The permissible efficiency tolerance of motors shall be in accordance with GB/T 5171 and in compliance with relevant product standards.

For motor of which rated power is not listed in Tables 1 to 5, its efficiency may be determined by the linear interpolation method.

Table 4 Energy efficiency grade and efficiency of double-value-capacitor asynchronous motor %

Rated Power W	Energy Efficiency Grade					
	Grade 1		Grade 2		Grade 3	
	2 Poles	4 Poles	2 Poles	4 Poles	2 Poles	4 Poles
250	-	69,3	-	65,7	-	62,0
370	73,8	72,0	70,5	68,6	67,0	65,0
550	76,4	74,6	73,3	71,4	70,0	68,0
750	78,1	77,2	75,2	74,2	72,0	71,0
1100	80,6	78,9	77,9	76,1	75,0	73,0
1500	81,4	80,6	78,8	77,9	76,0	75,0
2200	82,2	81,4	79,8	78,8	77,0	76,0
3000	83,9	82,2	81,6	79,8	79,0	77,0

References and Original Chinese Documents

[1] GB 25958-2010 Minimum allowable values of energy efficiency and values of efficiency grade for small-power motors.

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