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

GB 32049-2015

**Minimum allowable values of energy efficiency and energy
efficiency grades for household and similar purposes A.C.
electric ventilating fans**

家用和类似用途交流换气扇能效限定值及能效等级

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1 Scope

GB 32049-2015 is the Chinese national standard on minimum allowable values of energy efficiency and energy efficiency grades for household and similar purposes a.c. electric ventilating fans, 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 18 September 2015 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 October 2016. 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 Standard specifies the minimum allowable values, energy efficiency grades, evaluating values of energy conservation, test methods, inspection rules and energy efficiency grade marking for household and similar purposes A.C. electric ventilating fans (hereinafter referred to as ventilating fans). This Standard is applicable to AC motor-driven ventilating fans, of which the single-phase rated voltage is not more than 250 V, the rated input power not more than 500 W, and the impeller diameter is not more than 500 mm. This Standard does not apply to ventilating fans for the following purposes:

- a) ventilating fans that are specially designed for industrial use;
- b) ventilating fans that are intended for use in special conditions, such as places where there are corrosive, flammable, explosive gases, dust, steam or coal gas;

- c) ventilating fans for air heaters, freezers or air conditioners and air-to-air energy recovery devices;
- d) ventilating fans that are embedded in appliances such as stoves and microwave cooking appliances;
- e) marine ventilating fans;
- f) type-C ventilating fans, two-way air-out fans, and type-B and type-D ventilating fans of which the maximum static pressure is less than

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only the dated version applies to this document. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 1236, Industrial fan. Performance testing using standardized airways

GB/T 2828.1, Sampling procedures for inspection by attributes. Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection

GB/T 2829, Sampling procedures and tables for periodic inspection by attributes (apply to inspection of process stability)

GB/T 14806, A.C. electric ventilating fans and regulators for household and similar purposes

3 Terms and definitions

Terms and definitions determined by GB/T 14806 and the following ones are applicable to this document.

3.1 Energy efficiency values for ventilating fans Under the standard test conditions, the ratio of the measured air volume of the ventilating fan to the measured input power of the fan blade drive motor, in cubic meters per watt [$\text{m}^3/(\text{min} \cdot \text{W})$].

3.2 Minimum allowable values of energy efficiency for ventilating fans The minimum energy efficiency value for ventilating fans that is allowed under the standard test conditions, in cubic meters per watt [$\text{m}^3/(\text{min} \cdot \text{W})$].

3.3 Reach minimum allowable values of energy efficiency for ventilating fans The minimum allowable values of energy efficiency for ventilating fans that is implemented after several years of implementation of this Standard.

3.4 Evaluating values of energy conservation for ventilating fans The minimum energy efficiency index that an energy-conservation ventilating fan shall achieve under standard test conditions, in cubic meters per watt [$\text{m}^3/(\text{min} \cdot \text{W})$].

4 Technical requirements

4.1 Basic requirements The performance of the ventilating fans to which this Standard applies shall comply with the requirements of GB/T 14806.

4.2 Energy efficiency grades for ventilating fans requirements in GB/T 1236. If there is any dispute over the test results, test and determine according to the method that is specified in GB/T 1236.

6.1 Delivery inspection

6.1.1 The inspection plan which refers to GB/T 2828.1 and GB/T 2829, shall be carried out by the manufacturer's quality inspection department in accordance with relevant enterprise standards.

6.1.2 Products whose energy efficiency values are recognized, through inspection, to be inconsistent with the requirements of

4.3 are not allowed to be delivered.

6.2 Type inspection

6.2.1 When any of the following conditions occurs, the type inspection of minimum allowable values shall be carried out:

- a) new products that are trial-produced;
- b) when the product design, process or used materials are changed to significantly affect its performance;
- c) when inspection requirements are put forward by the quality and technical supervision department.

6.2.2 For sampling of type inspection, 3 machines shall be sampled at a time, one for testing and two for standby application. If the test result does not meet the specified requirements, test the two standby samples; the measured values shall meet the specified requirements; otherwise, the batch of products shall be judged as unqualified.

7 Energy efficiency grade marking

7.1 The manufacturer shall determine the rated energy efficiency grades of the product in accordance with the requirements of this Standard and the test results.