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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB 36893-2024

Replacing GB 36893-2018

Minimum allowable values of energy efficiency and energy efficiency grades for air cleaner

空气净化器能效限定值及能效等级

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Foreword

This document was drafted in accordance with the provisions of GB/T 1.1-2020 Directives for standardization - Part

1.Rules for the structure and drafting of standardizing documents. This document replaces GB 36893-2018 Minimum allowable values of the energy efficiency and energy efficiency grades for air cleaners. Compared with GB 36893- 2018, in addition to structural adjustments and editorial modifications, the main technical changes are as follows:

a) The scope is modified (see Chapter 1; see Chapter 1 of the 2018 edition);

b) The terms and definitions of "air purification function mode", "off mode", "standby mode" and "network mode" are added (see Chapter 3);

c) Changed The terms and definitions of "rated condition", "energy efficiency ratio", "input power of purification", "standby power" and "minimum allowable values of energy efficiency" (see Chapter 3; see Chapter 3 of the 2018 edition);

d) The terms and definitions of "clean air delivery rate of particle" and "purification efficiency of gaseous pollutants" are deleted (see Chapter 3 of the 2018 edition);

e) The classification method of "Category I products" and "Category II products" is modified (see 4.1; see Chapter 4 of the 2018 edition);

f) The requirements for energy efficiency ratio and standby power are modified (see 4.1; see Chapter 4 of the 2018 edition);

g) The requirements for measured and nominal values of energy efficiency ratios and for energy efficiency grades and nominal grades are added (see 4.2);

h) The test method for "particulate matter clean air delivery rate" is modified (see 6.1.1; see 6.1.1.1 of the 2018 edition);

i) The test method for "gaseous pollutant clean air delivery rate" is added (see 6.1.2);

j) The test method for "purification efficiency of gaseous pollutants" is deleted (see 6.1.2 of the 2018 edition);

1 Scope

GB 36893-2024 is the Chinese national standard on minimum allowable values of energy efficiency and energy efficiency grades for air cleaner, 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 29 September 2024 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 October 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 grades, technical requirements, and testing and calculation methods for air cleaners. This document applies to. -- air cleaners with a single-phase rated voltage greater than 5 V and not exceeding 250 V, and other rated voltages not exceeding 480 V; -- air cleaners with the function of removing particulate matter and gaseous pollutants; -- Humidifying purifier and purification fan with independent air purification function modes. This document does not apply to. -- components and modules with air purification functions; -- wearable air cleaners; -- duct purification devices and other similar air cleaners; -- air cleaners designed for industrial use, medical use and vehicles; -- air cleaners used in special environments with corrosive or explosive gases (such as dust, steam or methane gas).

2 Normative references

The provisions of the following documents constitute the essential clauses of this document through normative references in this text. Among them, for referenced documents with dates, only the versions corresponding to the dates are applicable to this document; for referenced documents without dates, the latest versions (including all amendments) are applicable to this document.

GB 12021.9 Minimum allowable values of energy efficiency and energy efficiency grades for electric fans

GB/T 18801-2022 Air cleaner

GB/T 35758-2017 Household electrical appliances-Measurement of standby power

3 Terms and definitions

The terms and definitions defined in GB/T 18801-2022 and the following apply to this document.

3.1 air purification function mode(s) A working mode in which the product only provides a certain removal ability for one or more target pollutants in indoor air.

3.2 rated condition The working state corresponding to the air cleaner's nominal maximum purification capacity.

3.3 off mode(s) A continuous mode other than standby mode, network mode or active mode when the air cleaner is connected to the mains power. An indicator that only reminds the user that the air cleaner is in the off position is included in the category of off mode.

3.4 standby mode(s) A continuous mode in which the air cleaner provides one or more of the following user- oriented functions or protection functions when connected to the main power supply.

3.5 network mode(s) A mode in which the air cleaner is connected to the main power supply and at least one network function has been started (e.g., restarted via a network command or full network communication), but the main function has not yet been started.

4 Energy efficiency grades

4.1 The energy efficiency grade of air cleaners is divided into 3 grades, as shown in Table 1, among which Grade 1 is the highest. The energy efficiency ratio and standby power measured values of each grade of products shall comply with the provisions of Table 1.

4.2 The actual measured value of the energy efficiency ratio of the air cleaner shall not be lower than 90% of the nominal value, and the energy efficiency grade shall not be lower than the nominal grade.

5 Technical requirements

The minimum allowable values of energy efficiency of air cleaners are Grade 3 of the energy efficiency grades in Table 1.

6.1 Energy efficiency ratio

6.1.1 Particulate matter clean air delivery rate test method The particulate matter clean air delivery rate test is carried out after the following conditions are met.

6.1.2 Gaseous pollutant clean air delivery rate test method The gaseous pollutant clean air delivery rate test is carried out after the following conditions are met.

6.1.3 Input power of purification The input power of purification is tested under the following test conditions in accordance with the method specified in

7.6.1 of GB/T 18801-2022, represented by P, and the result is rounded to one decimal place. The test conditions shall meet the following requirements.

6.1.4 Calculation method

6.1.4.1 Calculation method of energy efficiency ratio of particulate matter The PM energy efficiency ratio is calculated according to formula (1), with the result rounded to two decimal places.

6.1.4.2 Calculation method of energy efficiency ratio of gaseous pollutants The energy efficiency ratio of gaseous pollutants is calculated according to formula (2), and the result is rounded to two decimal places.

6.2 Standby power test method The standby power is tested under the conditions specified in

6.1.3 and in accordance with the method specified in GB/T 35758-2017, represented by P0, and the result is rounded to one decimal place.