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

GB/T 23333-2024

Replacing GB/T 23333-2009

Evaporative air coolers

蒸发式冷风扇

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Standardization Administration of the PRC**

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Foreword

This document was issued on 15 March 2024 by the State Administration for Market Regulation; Standardization Administration of the PRC and takes effect on 1 October 2024.

It is a GB/T standard: recommended rather than compulsory, but it is the text a Chinese reviewer applies.

The document runs to 19 pages in translation. The identification, the dates, the table of contents and the clauses reproduced on this page are taken from the standard itself.

It replaces GB/T 23333-2009, which is superseded.

1 Scope

GB/T 23333-2024 is the Chinese product standard for evaporative air coolers: the appliance that cools by evaporating water into the airstream rather than by a refrigeration cycle. It sells in very large numbers in China as a cheap alternative to air conditioning, and its performance depends entirely on the ambient humidity, which is what makes an agreed test condition essential rather than merely useful. The standard sets the classification and the basic parameters, the requirements on the cooling performance expressed as the temperature drop and the evaporation efficiency at the stated test conditions, the air volume, the power consumption and the efficiency, the water consumption and the water tank capacity and the running time it gives, the noise, the requirements on the filter and on the cleanability of the wetted parts, which is the hygiene question for this appliance, the

safety-related requirements and the durability, together with the test methods, the inspection rules and the marking, packaging, transport and storage. The 2024 edition replaces GB/T 23333-2009.

This document specifies the terms and definitions, classification and model designation, requirements, test method, inspection rules, marking, packaging, transportation and storage of evaporative air coolers for household and similar use (hereinafter referred to as "air cooler").

This document is applicable to the evaporative air coolers for household and similar use with single-phase rated voltage not exceeding 250V and other rated voltage not exceeding 480V.

This document is not applicable to:

- air coolers but designed exclusively for industrial purposes;
- air coolers intended to be used in locations where special conditions prevail, such as the presence of a corrosive or explosive atmosphere (dust, vapor or gas);
- air coolers with rated output air volume exceeding 1,500m³/h.

2 Normative references

The following documents contain provisions which, through reference in this text, constitute provisions of this document. For dated references, only the edition cited applies. For undated references, the latest edition (including any amendments) applies.

GB/T 1019 General requirements for the package of household and similar electrical appliances

GB/T 1236 Industrial fans - Performance testing using standardized airways

GB/T 2423.3 Environmental testing - Part 2: Testing method - Test cab: damp heat, steady state

GB/T 2423.17 Environmental testing for electric and electronic products - Part 2: Test methods - Test Ka: Salt mist

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 4214.1 Test method for noise of household and similar electrical appliances - General requirements

GB 4343.1 Electromagnetic compatibility requirements for household appliances, electric

tools and similar apparatus - Part 1: Emission

GB/T 4706.1 Household and similar electrical appliances - Safety - Part 1: General requirements

GB/T 4706.23 Household and similar electrical appliances - Safety - Part 2: Particular requirements for room heaters

GB/T 4706.27 Household and similar electrical appliances-safety - Part 2: Particular requirements for fans

GB/T 4706.45 Household and similar electrical appliances - Safety - Particular requirements for air-cleaning appliances

GB/T 4706.115 Household and similar electrical appliances - Safety - Part 115: Particular requirements for evaporative air cooler

GB/T 7725 Room air conditioner

GB 17625.1 Electromagnetic compatibility - Limits - Part 1: Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)

GB 21551.2 Antibacterial and cleaning function for household and similar electrical appliances - Particular requirements of material

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

3 Terms and definitions

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

3.1

evaporative air cooler

an apparatus that uses the principle of evaporation and heat absorption of water to mechanically ventilate air through a moist cooling pad, thereby lowering the temperature of the treated air

3.2

cooling pad

a substance that provides an evaporation interface and increases the area of water-air contact

3.3

air flow

volume of air delivered by an air cooler per unit of time under specified conditions

Note: It is expressed in m³/h. The rated output air flow is specified by the manufacturer.

3.4

evaporative quantity

amount of water consumed per unit time by the air cooler during evaporative cooling operation under specified conditions

Note: It is expressed in mL/h or L/h. The rated evaporation is indicated by the manufacturer.

3.5

energy efficiency ratio

ratio of the sensible heat taken away by the air flow per unit time to the input power of the air cooler when the air cooler undergoes evaporative cooling under the specified conditions

Note: It is expressed in W/W.

3.6

rated water tank capacity

amount of water to be contained when the tank is filled to the highest indicated water level prescribed by the manufacturer

Note: It is expressed in L. The rated water tank capacity is indicated by the manufacturer.

3.7

standby mode(s)

when connected to the main power, the air cooler provides one or more of the following user-oriented functions or protection functions, which is a continuous mode for any product:

--other modes (including active mode on or off) can be triggered by triggering remote switches (including remote control), internal sensors and timers;

--continuous function: information or status display including clock;

--continuous function: sensor-based function.

4 Classification and model designation

4.1 Product classification

By function:

--Single cooling type: with code omitted;

--Heating and cooling type: with code indicated by R.