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

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**Evaporative air cooler
(English Translation)**

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1 Scope

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

This standard applies to the air cooler which has a rated voltage of single-phase appliance of not more than 250 V, a rated voltage of other appliances of not more than 480 V, cools the air by the evaporative heat absorption principle of water, is used for household and similar places.

This standard does not apply to.

- Air cooler designed only for industrial use;
- Air cooler intended to use in a special environment where corrosive or explosive gases (such as dust, steam or gas) are often generated.

2 Normative references

The provisions in following documents become the provisions of this Standard through reference in this Standard. For the dated references, the subsequent amendments (excluding corrections) or revisions do not apply to this Standard;

however, parties who reach an agreement based on this Standard are encouraged to study if the latest versions of these documents are applicable.

For undated references, the latest edition of the referenced document applies.

GB/T 191 Packaging - Pictorial marking for handling of goods (GB/T 191-2008, ISO 780.1997, MOD)

GB/T 1019-2008 General requirements for the package of household and similar electrical appliances

GB/T 1236 Industrial fans - Performance testing using standardized airways (GB/T 1236-2000, idt ISO 5801.1997)

GB/T 2423.3 Environmental testing for electric and electronic products - Part 2. Testing method test Cab. Damp heat Steady state (GB/T 2423.3-2006, IEC 60068-2.78.2001)

GB/T 2423.17 Environmental testing for electric and electronic products - Part 2. Test method - Test Ka. Salt mist (GB/T 2423.17-2008, IEC 60068-2.11.1981)

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 2828.1-2003, ISO 2859-1.1999, IDT)

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

GB/T 4214.1 Acoustics - Household and similar electrical appliances - Test code for determination of airborne acoustical noise - Part 1. General requirements (GB/T 4214.1-2000, eqv IEC 60704-1.1997)

GB 4343.1 Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 1. Emission (GB 4343.1-2003, CISPR14-1.2000, IDT)

GB 4706.1 Household and similar electrical appliances - Safety - Part 1.

General requirements [GB 4706.1-2005, IEC 60335-1.2004 (Ed4.1), IDT]

GB 4706.23 Household and similar electrical appliances - Safety - Part 2.

Particular requirements for room heaters [GB 4706.23-2007, IEC 60335 2.30.2004 (Ed4.1), IDT]

GB 4706.27 Household and similar electrical appliances-safety - Part 2.

Particular requirements for fans [GB 4706.27-2008, IEC 60335-2.80.2004 (Ed2.1), IDT]

GB 4706.45 Safety of household and similar electrical appliances - Particular requirements

for air-cleaning appliances (GB 4706.45-1999, idt IEC 60335-2-65.1993)

GB 4706.48 Safety of household and similar electrical appliances - Particular requirements for humidifiers (GB 4706.48-2000, idt IEC 60335-2-98.1997)

GB 5296.2 Instructions for use of products of consumer interest - Part 2.

Household and similar electrical appliances

GB/T 7725 Room air conditioners (GB/T 7725-2004, ISO 5151.1994, NEQ)

GB 17625.1 Electromagnetic compatibility - Limits - Limits for harmonic current emissions (equipment input current ≤ 16 A per phase) (GB 17625.1-2003, IEC 61000-3-2.2001, IDT)

5 Requirements

The air cooler shall meet the requirements of this standard. The air cooler with additional functions shall also meet the requirements of the corresponding national and industry standards, meanwhile be manufactured according to the drawings and technical documents approved by the prescribed procedures.

5.1 Environmental conditions of use

- a) Ambient temperature. 5 °C ~ 43 °C.
- b) The relative humidity of the air is below 95% (at a temperature of 25 °C).

5.2 General requirements

5.2.1

Appearance.

- a) The surface of the plastic parts shall be smooth and even, with uniform color; it shall not have defects such as bubbles, spots, obvious scratches.
- b) The main surface of the electro-plated parts shall be smooth and fine; the color shall be uniform. There shall be no defects such as peeling, bottom exposure, blister, deformation.
- c) The surface of the coated parts is flat and smooth; the coating is firm.

There shall be no defects such as spots, pinholes, blisters, falling off.

5.2.2

Anti-rust of electro-plated parts.

After the electroplated parts have been subjected to the salt spray test of 6.7 of this

standard, the metal rust spots and rust traces on the plating of main surface are not more than 2 per square decimeter; not more than 4 per square decimeter on the non-main surface; the area of rust spot and rust trace shall not exceed 1 mm². When the surface area of the test piece is less than 100 cm², it is not allowed for rust spot and rust trace.

5.2.3

Firmness of coating.

After the coated parts are subjected to the damp heat test in 6.8 of this standard, the number of air bubbles on the main surface shall be not more than 4 per square centimeter; on the non-main surface shall be not more than 8 per square centimeter. The diameter of the bubbles is not more than 1 mm. No peeling of the coating shall occur at the edges, corners or small holes.

Note: The air cooler is placed in the normal use state; the air flow side and the decorative board are the front surface, then the main surface refers to the surface that can be viewed from the front, the top, the left, the right.

flow of the air cooler.

The following conditions shall be met during the test.

- a) At rated frequency and rated voltage;
- b) All control and regulating components of the air cooler shall be adjusted to the position where the air volume is maximum;
- c) For the lower air outlet type and the upper air outlet type, it is allowed to rotate 90° to facilitate connection of the horizontal air volume measuring pipeline;
- d) The air cooler does not supply water; the evaporation pad is in a dry state;
- e) The distance between any surface of the air cooler and the surrounding obstacles shall not be less than 1.5 times the length of the diagonal line of this surface of the air cooler;
- f) The dry bulb temperature of the inlet is 38 °C and the wet bulb temperature is 23 °C.

6.2 Test of evaporative quantity

Specific test method for evaporative quantity.

- a) The air cooler during the test shall contain all the parts and accessories required for actual use and be filled with water.
- b) The indoor air circulation shall be such that the wind speed at 1 m from the air cooler does not exceed 0.5 m/s.
- c) The size of the test chamber shall be such that the minimum distance from the air cooler to the surrounding wall is not less than 1 m; the minimum distance from the air outlet to the