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

GB/T 30307-2013

**Household and similar drinking water treatment equipment
(English Translation)**

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1 Scope

This standard specifies the terms and definitions, classification and naming, technical requirements, test methods, inspection rules, marking, packaging, transportation and storage of household and similar purposes drinking water treatment equipment.

This standard applies to household and similar purposes drinking water treatment equipment (hereinafter referred to as "drinking water treatment equipment").

2 Normative references

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) are applicable to this standard.

GB/T 191 Packaging - Pictorial marking for handling of goods

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

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 4214.1 Acoustics - Household and similar electrical appliances - Test code for determination of airborne acoustical noise - Part 1. General requirements

GB 4706.1 Safety of household and similar electrical appliances - Part 1.

General requirements

GB 5749-2006 Standards for drinking water quality

Ultrafiltration

The physical screening process of using the pressure difference as a driving force to separate a molecular weight which ranges from several hundred to several millions at a membrane pore size of about $0.001\ \mu\text{m} \sim 0.2\ \mu\text{m}$, abbreviated as UF.

3.6

Nanofiltration

The membrane separation process of using pressure as the driving force to remove the divalent or higher polyvalent ions as well as the organic matter which has a molecular weight of 200 or more, abbreviated as NF.

3.7

Reverse osmosis

The process of applying an external pressure higher than the osmotic pressure of the solution to the water inlet side of the membrane, which only allows the water and some components in the solution to selectively permeate, whilst the other substances are not permeable and are trapped on the surface of the membrane, abbreviated as RO.

3.8

Mineralization

The process of adding one or several mineral components beneficial to the human body to the water.

3.9

Ion exchange

The process of the chemical reaction of reversible exchange between the ions present in the solution and the ion exchange solid medium, which has no change to the solid structure, abbreviated as IE.

3.10

Electrodialysis

The process of using the ion exchange membrane as a separation medium, the potential difference as a power, to cause the anion and cation in the water to migrate at certain direction and pass through the ion exchange membrane, thereby performing ion separation

process, abbreviated as ED.

The ratio of the decrease in the amount of a substance in the influent to the total content of the substance in the influent, expressed as a percentage.

3.19

Recovery

After purification, the ratio of purified water to total influent, which is expressed as a percentage.

3.20

Rate of regeneration

Under the specified operating conditions, the ratio of the main functional index to the those at the initial state of the water treatment unit after regeneration, which is expressed as a percentage.

3.21

Purified water flow rate

Under the specified operating conditions, the amount of water produced per nominal unit time of the manufacturer, expressed in liters per hour (L/h).

3.22

Total production capacity

Under the specified operating conditions, when the effluent quality of the drinking water treatment equipment meets the requirements and the purified water flow rate is not less than the nominal purified water flow rate, the accumulated water production when any of the purification units are regenerated or replaced, in liters (L)

3.23

Influent pressure

The water pressure at the water inlet of the drinking water treatment equipment during operation, in megapascals (MPa).

3.24

Maximum working pressure

The maximum value of the working pressures as nominally used by the manufacturer or the upper limit of the working pressure range, in megapascals (MPa).

a) Municipal tap water or other centralized water supply;

b) Pressure. ≤ 0.4 MPa (gauge pressure);

c) Water temperature. 5 °C ~ 38 °C.

5.1.2 Power supply

Voltage. 187 V ~ 242 V;

Frequency. 50 Hz.

5.1.3 Environmental conditions

a) Temperature. 4 °C ~ 40 °C;

b) Relative humidity. ≤ 90% (at 25 °C).

5.2 Appearance requirements

5.2.1

The appearance of drinking water treatment equipment shall be clean, tidy, free of rust.

5.2.2 The surface of the exposed structure of the drinking water treatment

equipment shall be flat and smooth, with uniform color and no sharp edges.

5.2.3 The surface of the coating of drinking water treatment equipment shall be flat and bright; the color is uniform; the coating is firm. The surface shall not have obvious defects such as flowing marks, scratches, wrinkles, pits, blistering, holiday, collection of sand.

The decorative plating of the electroplated parts shall be smooth and fine, the color shall be uniform. There shall be no defects such as spots, rust spots, pinholes, blisters, peeling of plating.

The surface of the plastic parts shall be smooth and even; the color shall be uniform. There shall be no defects such as cracks, blisters, obvious shrinkage or deformation.

5.3 Structural requirements

5.3.1

Structural design shall consider easy maintenance or replacement of the filter element.

5.3.2

The layout of the pipeline is reasonable; the connection is firm.

5.3.3 Drinking water treatment equipment (except for non-continuous treatment

equipment for drinking water) shall, when subjected to the hydrostatic pressure test, rupture pressure test, cyclic pressure test as specified in Table 1, be free