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

GB/T 30306-2013

**Household and similar purposes drinking water purification
core**

(English Translation)

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1 Scope

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

This standard applies to household and similar purpose drinking water treatment cores (hereinafter referred to as "drinking water treatment core").

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

General requirements

GB 5749 Standards for drinking water quality

GB/T 5750.1 ~ 5750.13-2006 Standard examination methods for drinking water

GB 8537 National food safety standard - Drinking natural mineral water

3.5

Microfiltration

The process of using pressure as a driving force to separate particles within

0.1 μm ~ 1 μm , abbreviated as MF.

3.6

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 μm ~ 0.2 μm , abbreviated as UF.

3.7

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.

3.8

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.

3.9

Rate of rejection

The mass ratio of the specific component as retained by the core of membrane to the total mass of this component in the solution.

3.10

Mineralization

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

the water.

3.11

3.18

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).

3.19

Total production capacity

Under the specified operating conditions, when the effluent quality of the drinking water treatment device 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).

4.1 Classification

It is classified as follows according to the principle of water treatment.

- a) Coarse filter core (CX). The core with coarse filter function, including the core which uses quartz sand, anthracite, natural manganese sand, ceramic, PP cotton, etc. as the filter material.
- b) Membrane core (MX). The core mainly composed of membrane elements, including microfiltration (MF) core, ultrafiltration (UF) core, nanofiltration (NF) core, reverse osmosis (RO) core, etc.
- c) Adsorption core (XX). The core with adsorption function, including the core which uses granular activated carbon (GAC), solid activated carbon (SAC), fiber activated carbon (FAC), adsorption resin, ceramic particles and the like as the filter materials.
- d) Mineralized core (KX). The core with mineralization function, mainly including the core which uses the mineralized ball (MB), medical stone (MS) and the like as the filter materials.
- e) Ion exchange core (LX). The core capable of reversible exchange with ions in water, including the core which uses anion exchange resin or cation exchange resin as the filter materials.
- f) Composite core (FX). The core which has two or more functions.
- g) Other cores (QX). Cores other than the above functions, including cores

5.3.2 The materials and components of drinking water treatment core which are exposed to water shall comply with the requirements of GB/T 17219.

5.3.3 The hygiene safety of the core shall meet the relevant requirements of the national health management department.

5.4 Electrical safety

The safety of the electrical part of the drinking water treatment core shall comply with the requirements of GB 4706.1.

5.5.1 Effluent quality

The effluent quality of the drinking water treatment core shall comply with the relevant regulations of the National Health Administration of the People's

Republic of China as well as the requirements of GB 5749.

5.5.2 Requirements for coarse filter core

The quartz sand and anthracite filter used in the coarse filter core shall meet the requirements of CJ/T 43-2005.

Natural manganese sand filter material shall meet the requirements of CJ/T 3041-1995.

The other cores shall meet the design requirements.

5.5.3.1 Requirements for microfiltration core

The pure water flux and rejection of rejection of the microfiltration core shall meet the design requirements.

5.5.3.2 Requirements for ultrafiltration core

The pure water flux of the ultrafiltration core shall meet the design requirements, the rate of rejection shall be $\geq 90\%$.

5.5.3.3 Requirements nanofiltration core

The minimum flux of the nanofiltration core shall not be lower than the nominal value of the manufacturer. The removal rate of divalent ions is not less than

90%.

6.1.4 Influent water quality

According to the requirements of each test standard or design.