

ICS 91.140.70

QB

**LIGHT INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

QB/T 5418-2019

**Thermostatic shower system
(English Translation)**

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1 Scope

This standard specifies the terms and definitions, classification, working conditions, materials, requirements, test methods, inspection rules and signs, packaging, transportation, storage of thermostatic showers (hereinafter referred to as "showers").

This standard applies to showers, which are installed in bathrooms, shower rooms, and other sanitary facilities, under the conditions of nominal pressure 0.10 MPa ~ 0.50

MPa and water medium temperature 4 °C ~ 85 °C.

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) is applicable to this standard.

GB/T 1176 Casting copper and copper alloys

GB/T 2828.1-2012 Sampling procedures for inspection by attributes - Part 1:

Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection

GB/T 4208-2017 Degrees of protection provided by enclosure (IP code)

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

GB/T 5231 Designation and chemical composition of wrought copper and copper alloys

GB/T 5270-2005 Metallic coatings on metallic substrates - Electrodeposited and chemically deposited coatings - Review of methods available for testing adhesion

GB/T 6461-2002 Methods for corrosion testing of metallic and other inorganic coatings on metallic substrates - Rating of test specimens and manufactured articles subjected to corrosion tests

GB/T 7306.1 Pipe threads with 55 degree thread angle where pressure-tight joints are made on the threads - Part 1: Parallel internal and taper external threads

6 Materials

6.1

Parts in contact with water shall not use corrosive materials, such as zinc alloy.

6.2

Casting copper materials shall comply with the provisions of GB/T 1176. Processed copper materials shall comply with the provisions of GB/T 5231.

6.3

The stainless steel material shall be 06Cr19Ni10, which is specified in GB/T 20878-

2007, or other stainless steel materials with corrosion resistance not lower than the above designations.

6.4

Other materials shall meet the performance requirements.

7.1 Appearance

7.1.1

The surface of the plating shall be glossy and uniform. There shall be no defects such as peeling, cracking, burning, exposed bottom, peeling off, black spots, obvious pitting, burrs.

7.1.2

The surface of the coating shall be fine-structured, smooth, uniform in color. There shall be no defects such as sagging, exposed bottom, obvious scratches, bumps.

7.1.3

The polished surface shall be smooth. There shall be no obvious defects such as burrs, scratches, bumps.

7.1.4

There shall be no defects such as burrs and sharp corners on the surface, that is accessible to the human body.

7.1.5

The thread surface shall be smooth and clean. There shall be no obvious dents, broken teeth, and other defects.

7.1.6

There shall be no cracks, scars, pores, rusts, etc., on the surface of metal fittings.

7.2 Processing and assembly

7.2.1

The external sealing pipe thread of the product shall meet the requirements of GB/T 7306.1 or GB/T 7306.2. The external non-sealing pipe thread of the product shall meet the requirements of GB/T 7307, where the external thread shall not be lower than the grade B precision of GB/T 7307.

7.2.2

The action of the assembled handle or handwheel shall be light, stable and free from jamming; the transfer switch shall be switched smoothly, lightly and free from jamming.

7.4.6.2 Flow reduction

Test according to 8.4.6.2. After 30 s, the temperature (T_m) of the shower mixture shall deviate from the initial temperature (T_0) by no more than 2 K, meanwhile the temperature fluctuation shall not be greater than 1 K.

7.4.6.3 Changes in water supply pressure

Test according to 8.4.6.3. For non-shower outlets: The temperature of the mixed water (T_m) shall not deviate from the initial temperature (T_0) by more than 2 K. For shower outlets or outlets for other purposes: In the first 5 s, the duration -- where the deviation between the mixed water temperature (T_m) and the initial temperature (T_0) exceeds 3 K

-- shall not be more than 1 s; after 5 s, the mixed water temperature (T_m) shall not deviate from the initial temperature (T_0) by more than 2 K, meanwhile the temperature fluctuation shall not be greater than 1 K.

7.4.6.4 Changes in supply water temperature

Test according to 8.4.6.4. For non-shower outlets: The temperature of the mixed water (T_m) shall not deviate from the initial temperature (T_0) by more than 2 K. For shower outlets or outlets for other purposes: In the first 5 s, the duration -- where the deviation between the mixed water temperature (T_m) and the initial temperature (T_0) exceeds 3 K

-- shall not be more than 1 s; after 5 s, the mixed water temperature (T_m) shall not deviate from the initial temperature (T_0) by more than 2 K, meanwhile the temperature fluctuation shall not be greater than 1 K.

7.4.7.1 Failure of cold water

Test according to 8.4.7.1. After the cold water is turned off, the mixed water temperature (T_m) shall not exceed 49 °C, when the water output within the first 5 s is not greater than 200 mL; the mixed water temperature (T_m) shall not exceed 42 °C, when the water output within the first 5 s is greater than 200 mL; the water output within the next 30 s shall not exceed 300 mL. After the cold water supply is restored, the deviation of the mixed water temperature (T_m) from the initial temperature (T_0) shall not exceed 2 K.

7.4.7.2 Failure of hot water

Test according to 8.4.7.2. After the hot water is turned off, the water output in the first 5 s shall not exceed 250 mL; after the hot water supply is resumed, the deviation -- between the mixed water temperature (T_m) and the initial temperature (T_0) -- shall not exceed 2 K.

7.4.8 Outlet water temperature

Carry out the test according to 8.4.8. The maximum temperature of the outlet water shall be 38 °C ~ 49 °C.

7.4.9.1 Control functions

Carry out 30000 cycle tests according to 8.4.9.1. During the test, the parts shall not be broken, jammed, leaked. After the test is completed, the performance shall meet the requirements of 7.4.2, 7.4.4, 7.4.5, 7.4.6, 7.4.7.