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# NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

# GB 38448-2025

Replacing GB 38448-2019

## Minimum allowable values and grades of the energy efficiency and water efficiency for smart toilets

智能坐便器能效水效限定值及等级

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**Standardization Administration of China**

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## 1 Scope

GB 38448-2025 is the Chinese national standard on minimum allowable values and grades of the energy efficiency and water efficiency for smart toilets, in the field of energy and heat transfer engineering. It carries no /T suffix, which in the Chinese system means compliance is mandatory: a product or a practice within its scope has to meet it to be lawfully made, sold or carried out in China. It was issued on 1 August 2025 by the State Administration for Market Regulation; Standardization Administration of China, and takes effect on 1 April 2027. Classification: ICS 27.010, CCS F01. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document specifies the grades of energy efficiency and water efficiency and technical requirements for smart toilets, and describes the corresponding test methods. This document applies to smart toilets installed on cold water pipelines within buildings.

### 1.5

h) under the test conditions specified in this document.

3.3 standby mode(s) Any mode in which a smart toilet provides one or more of the following user-oriented or protective functions continuously when connected to the mains power supply. - Other modes (including on or off of active mode) are triggered by a remote switch (including remote control), internal sensor, or timer. - Continuous function. Information or status display including a clock. - Continuous function. Sensor-based function. [Source: GB/T 35758-2017, 3.6, modified]

3.4 standby power Average power consumption of a smart toilet in standby mode.

3.5 minimum allowable values of the energy efficiency and water efficiency for smart toilets Under the test conditions specified in this document, the maximum allowable energy consumption per unit cycle, maximum average water consumption for cleaning (if applicable), maximum average water consumption for flushing (if applicable), maximum water consumption for full-flush flushing of dual-flush smart toilets (if applicable), and maximum water consumption for half-flush flushing of dual-flush smart toilets (if applicable) allowed for smart toilets.

## 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB/T 8170 Rules of rounding off for numerical values & expression and judgement of limiting values

GB/T 9195 Terms and classification of building and sanitary ceramics

GB 25502 Minimum allowable values of water efficiency and water efficiency grades for water closets

GB/T 34549 Sanitary ware - Smart toilet

## 3 Terms and definitions

For the purpose of this document, the terms and definitions defined in GB/T 9195, GB 25502, and GB/T 34549, as well as the following, apply.

3.1 smart toilet A toilet controlled by an electromechanical system or program that performs at least one of the following functions. warm water wash (e.g., rear wash, feminine wash) and seat heating. NOTE

1.This includes both integral smart toilets and split smart toilets. NOTE

2.The warm water wash function includes the nozzle self-cleaning function.

3.2 energy consumption per unit cycle Power consumption of a smart toilet during one test cycle (

## 4 Grades of energy efficiency and water efficiency

The energy efficiency and water efficiency of smart toilets are divided into three grades, with grade 1 energy efficiency and water efficiency being the highest. The energy consumption per unit cycle, average water consumption for cleaning (if applicable), average water consumption for flushing (if applicable), water consumption for full- flush flushing of dual-flush smart toilets (if applicable), and water consumption for half- flush flushing of

dual-flush smart toilets (if applicable) for each grade of energy efficiency and water efficiency shall comply with the provisions of Table

1.Determine in accordance with the lowest grade of each indicator in Table 1.

## 5 Technical requirements

5.1 Minimum allowable values of the energy efficiency and water efficiency for smart toilets The minimum allowable values of the energy efficiency and water efficiency for smart toilets are the energy consumption per unit cycle, average water consumption for cleaning (if applicable), average water consumption for flushing (if applicable), water consumption for full-flush flushing of dual-flush smart toilets (if applicable), and water consumption for half-flush flushing of dual-flush smart toilets (if applicable), as specified by grade 3 energy efficiency and water efficiency.

### 5.2 Cleaning function

5.2.1 Water temperature characteristics The maximum cleaning water temperature range shall be controlled between 35 °C and 42 °C. For instantaneous and thermal storage smart toilets, the water temperature difference within 30 s shall not exceed 4 °C. For rapid-heating smart toilets, the water temperature difference within 60 s shall not exceed 4 °C.

5.2.2 Nozzle self-cleaning The ink line on the front 1/4 of the nozzle shall be cleaned completely, leaving no ink residue.

5.2.3 Cleaning area The cleaning area shall be larger than 80 mm2.

5.3 Water seal It shall meet the requirements for the water seal depth and water seal surface dimensions in GB 25502.

5.4 Minimum trap diameter It shall meet the requirements for the minimum trap diameter in GB 25502.

5.5 Flushing function It shall meet the requirements for the flushing function in GB 25502.

5.6 Seat heating function The temperature range of all seat test points shall be controlled between 30 °C and 42 °C.

5.7 Standby power The standby power of a smart toilet shall not exceed

## 6 Test methods

The test methods for energy consumption per unit cycle, water consumption for cleaning, water consumption for flushing, cleaning function, water seal, minimum trap diameter, flushing function, seat heating function, and standby power of smart toilets shall be conducted in accordance with Annex A.