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

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Replacing GB 38383-2019

**Minimum allowable values and grades of the energy efficiency
and water efficiency for dishwashers**

洗碗机能效水效限定值及等级

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Table of Contents

- 1 Scope
- 2 Normative references
- 3 Terms and definitions
- 4 Energy efficiency and water efficiency grades
- 5 Technical requirements
- 6 Test methods
 - 6.1 General requirements
 - 6.2 Test and calculations
 - 6.2.2 Calculation
 - 6.2.2.1 Energy efficiency index
- Annex A

1 Scope

GB 38383-2025 is the Chinese national standard on minimum allowable values and grades of the energy efficiency and water efficiency for dishwashers, 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 energy efficiency and water efficiency grades, technical requirements and test methods for electric dishwashers for household and similar purposes (hereinafter referred to as "dishwashers"). This document applies to dishwashers that use cold and/or hot water. This document does not apply to commercial or similar dishwashers.

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 4214.3, Test method for noise of household and similar electrical appliances --

Particular requirements for dishwashers

GB/T 20290-2024, Electric dishwashers for household use -- Methods for measuring the performance

GB/T 23119, Household and similar electrical appliances -- Water for performance testing

GB 44498, Household and similar electrical appliances -- Health technical specification

3 Terms and definitions

For the purposes of this document, the terms and definitions defined in GB/T 20290- 2024 as well as the followings apply.

3.1 standard washing program The cleaning, rinsing and drying processes of dishwashers.
NOTE

4 Energy efficiency and water efficiency grades

Dishwasher energy and water efficiency grades are divided into five grades based on the energy efficiency index and water efficiency index, with grade 1 representing the highest energy and water efficiency level. The dishwasher energy and water efficiency grade is determined based on the lowest grade achieved in the two indices listed in Table

1.The measured energy and water efficiency indexes for each grade must meet the requirements in Table 1.

5 Technical requirements

5.1 Dryness index The dryness index PD shall not be less than 1.08.

5.2 Cleanliness index The cleanliness index PC shall not be less than 1.12.

5.3 Noise Noise shall comply with the requirements of GB 44498.

5.4 Minimum allowable values of energy efficiency and water efficiency The minimum allowable values of the energy efficiency and water efficiency for dishwashers are the energy efficiency index and water efficiency index specified in Grade 5 in Table 1.

5.5 Allowable deviation of stated value The test shall be conducted according to the test method described in Chapter

6.The deviation between the measured values of the energy consumption per standard washing program, water consumption per standard washing program, cleanliness index, dryness index, and noise index and the manufacturer's stated values shall not exceed the requirements of Table 2.

6.1 General requirements

6.1.1 Pre-test preparation Install and set up the test sample according to the product instructions. Allow the sample to rest for 12 h under the test conditions described in 6.1.3. Then, use a standard detergent and rinse aid. Run at least 3 standard wash cycles to remove any residue from the sample.

6.1.2 Test device Detergents, rinse aids, and salt shall comply with the requirements of Annex C. The amount of detergent shall be set according to the manufacturer's recommendations, but shall not exceed $8\text{ g} + ($

$0.5\text{ g} \times \text{number of individual tableware sets})$. The amount of rinse aid and salt shall also be set according to the manufacturer's recommendations. NOTE. When there is disagreement about the test results, test aids with national standard sample (substance) certificates shall be used for testing.

6.1.8 Standard dishwasher Standard dishwashers shall comply with the provisions of Annex D. NOTE. When there is disagreement about the test results, a standard dishwasher with a national standard sample (substance) certificate shall be used for the test.

6.2 Test and calculations

6.2.1 Test Except for the test methods specified below, other tests shall be carried out in accordance with the provisions of GB/T 20290-2024.

a) The noise test shall be completed before conducting other performance tests. The noise test load shall comply with the requirements of 6.1.6. The loading method shall be the same as that for other performance tests. The noise test additive shall comply with the requirements of 6.1.7. The dosage shall comply with the requirements of GB/T 4214.3.

b) The test prototype and the standard dishwasher shall be tested in parallel (using the same batch and contaminants prepared at the same time). The test prototype's power consumption, water consumption, drying performance, and cleaning performance shall be tested simultaneously. Use the tableware specified in Annex B. Prepare the contaminants according to the method in Annex A to achieve the specified contamination state. Dry the contaminated tableware according to the method in Annex E. Load the dried contaminated tableware into the test prototype according to the loading method provided by the manufacturer. Load the standard dishwasher according to Annex F. After loading, begin testing.

c) After the standard wash cycle is complete, the test sample and standard dishwasher shall remain connected to the power supply and undisturbed. After 30 min, immediately fully open the test sample door. Conduct a combined evaluation of drying and cleaning performance according to Annexes G and H. Simultaneously record power and water consumption.

Annex A

(normative) Contaminants and tableware contamination methods

A.1 Contaminants

Contaminants include milk, tea, minced meat, eggs, oatmeal, spinach, and margarine.

A.2 Preparation and use of contaminants

A.2.1 General

Each test shall use freshly prepared contaminants. Once prepared, the contaminants shall be refrigerated in a sealed container. The time between final preparation of the contaminant and its application on tableware shall not exceed 12 h. Based on the number of tableware sets in the test prototype and standard dishwasher, calculate the total mass of contaminants required (g/piece x number of tableware). The contamination process began with preheating the milk. The tea and other contaminants are prepared simultaneously. During the tea pre-drying process (1 h), the preparation and use of the other contaminants are completed. For tea and milk contamination, follow the procedures in A.2.2 and A.2.3. For other contaminants, use a dedicated contamination tool to apply a specified amount of contaminant to the designated tableware. The contamination shall be evenly distributed. Do not re-coat contaminated dishes after they have dried.

A.2.2 Milk

A.2.2.1 General requirements

Use ultra-heat-treated (U.H.T.) milk with a fat content of 1.5%~2%. Use within 30 days of the expiration date. Refrigerate opened milk. Use within 2 days. If U.H.T. milk is unavailable, use fresh homogenized milk with a fat content of 1.5%~2%. Refrigerate after opening and use within 2 days.

A.2.2.2 Preparation of required tools

Microwave ovens shall comply with the requirements of Annex F of GB/T 20290-2024. NOTE. When there is disagreement about the test results, use a microwave oven with a national standard sample (substance) certificate to conduct the test. Glasses shall comply with the requirements of Annex B. Pipette capacity shall be 10 mL.

A.2.2.3 Microwave preheating

Before cooking milk, preheat the microwave as follows:

- a) Place six glasses containing 50 mL of water in a microwave oven at a temperature of $(23 \pm 2)^{\circ}\text{C}$. These glasses are not used as test loads;
- b) Place the glasses evenly along a circle with a diameter of 160 mm (the center of the circle is the center of the glass turntable), see Figure A.1;
- c) According to the requirements of Annex F of GB/T 20290-2024, the microwave oven heats $t_{u,1}$ at a nominal power of 780 W ($P_{u,1}$). Then, it heats $t_{u,2}$ at a nominal power of 150 W ($P_{u,2}$);