

ICS 07.060
CCS A 47



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

GB/T 45956-2025

**Performance test methods for meteorological instruments and
equipments - Air humidity**

气象仪器设备性能测试方法 空气湿度

Issued on: August 1, 2025

Implemented on: February 1, 2026

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document was proposed by the China Meteorological Administration.

This document is under the jurisdiction of the National Technical Committee for Standardization of Meteorological Instruments and Observation Methods (SAC/TC507).

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Meteorological instrument performance test method Air humidity

1 Scope

This document specifies the instrumentation, test conditions, test items, and data processing for the performance test of meteorological air humidity measuring instruments.

This standard describes the test methods for the performance of air humidity measuring instruments used in meteorological applications and test report requirements.

This document is applicable to the performance test of hair hygrometers (meters), ventilation psychrometers, digital hygrometers, and other air humidifiers used for ground meteorological observation.

For reference use of measuring instruments.

2 Normative references

GB/T 6999-2010

GB/T 8747-2010

GB/T 37467-2019

3 Terms and Definitions

The terms and definitions defined in GB/T 37467-2019 and the following apply to this document.

3.1 humidity hysteresis

The degree of non-overlap between the response curve of a hygrometer during the humidification process and the response curve during the dehumidification process at the same humidity.

4 Instruments and Equipment

4.1 The measurement range of the measuring instruments used can cover the test point range.

4.2 Standard instrument. It is recommended to use a precision dew point meter and humidity generator, which should meet the maximum allowable error of relative humidity of

no more than $\pm 1\%$.

The maximum permissible error of the standard instrument for hair hygrometer (meter) can be an electric ventilation hygrometer with a relative humidity not exceeding $\pm 2\%$.

4.3 Humidity control equipment. A humidity generator or a constant temperature and humidity chamber should be selected based on the performance requirements and physical characteristics of the instrument being tested and meet the following requirements. Column requirements.

- a) The maximum allowable error of relative humidity shall not exceed $\pm 2\%$ (20°C);
- b) Temperature uniformity shall not exceed 0.3°C , and fluctuation shall not exceed $\pm 0.2^{\circ}\text{C}/30\text{min}$;
- c) The relative humidity uniformity shall not exceed 1.0% , and the fluctuation shall not exceed $\pm 1.0\%/30\text{min}$.

5 Test conditions

5.1 Ambient temperature. $(20 \pm 5)^{\circ}\text{C}$.