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

GB/T 21978.2-2014

Replacing GB/T 11832-2002

**Instrument for precipitation observation-Part 2: Tipping bucket
rainfall sensor**

降水量观测仪器 第2部分：翻斗式雨量传感器

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Foreword

GB/T 21978 "Precipitation observation instruments" is divided into seven sections.

- Part 1. gauges;
- Part 2. tipping bucket rain sensor;
- Part 3. Siphon rain gauge;
- Part 4. float rain gauge;
- Part 5. rainfall display logger;
- Part 6. Snowmelt snow meter;
- Part 7. Optical snow meter. This section GB/T 21978 Part 2. This section drafted in accordance with GB/T 1.1-2009 given rules. This Part replaces GB/T 11832-2002 "tipping bucket rain gauge", compared with the GB/T 11832-2002, the main changes as follows:
 - Delete the original recording standards and technical content display portion, while the standard name change to include GB/T 21978 "Precipitation Outlook Measuring instrument "family of standards;
 - Repeatability requirement re provisions;
 - Increase measurement accuracy, repeatability of test methods;
 - Increased sampling requirements. This section proposed by the People's Republic of China Ministry of Water Resources. This part of the National Technical Committee of Standardization Technical Committee hydrological hydrological instruments (SAC/TC199/SC1) centralized. This section drafted by: MWR hydrological instruments and geotechnical engineering Instrument Quality Supervision and Testing Center, Nanjing

Yangtze water conservancy Automation Technology Art Development Corporation, China Institute of Water Resources and Hydropower, Beijing Meike Auto Technology Development Co., Ministry of Water Resources, Nanjing Auto Hydrological The Institute, Ningbo Sunshine Auto Parts Co., Ltd. Ningbo Beilun Cup China Hydraulic Equipment Co., Ltd. The main drafters of this section. Xu Haifeng, Ne Min Feng, Wu Yi, Li Wei, Dong Xiuying, cattle Rui-ping, SUN will, Wu Yuxiao. This part of the standard replaces the previous editions are.

--- GB/T 11832-1989, GB/T 11832-2002. Precipitation observation instrument Part 2. tipping bucket rain sensor

1 Scope

GB/T 21978.2-2014 is the Chinese national standard on instrument for precipitation observation-part 2: tipping bucket rainfall sensor, in the field of natural and applied sciences. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 8 July 2014 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 19 January 2015. Classification: ICS 07.060, CCS N93. 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 section GB/T 21978 specifies the requirements for tipping bucket rain sensor, test methods, inspection rules, marks and instructions for use, Packaging, transportation, storage and so on. This section applies to continuous observation of rainfall tipping bucket rain sensor (hereinafter referred to as sensors).

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 9359 Basic environmental testing instruments hydrological conditions and methods

GB/T 13264 percent nonconforming small batch count sampling procedures and sample forms

GB/T 18185-2000 hydrological instruments reliability technical requirements

GB/T 18522.3-2001 hydrologic instruments - Part 3. Basic performance and method

GB/T 18522.6-2007 hydrologic instruments - Part 6. inspection rules and signs, packaging,

transportation, storage and operation manual

GB/T 19677 Terms and symbols for hydrological Instruments

GB/T 50095 standard hydrological basic terminology and symbols

3 Terms and Definitions

GB/T 19677, GB/T 50095 and defined by the following terms and definitions apply to this document.

3.1 Wetting loss loss of wetness Has entered the port before rain rain flows into the dump did not get trapped part measurement. NOTE. moist loss generally occurs when the rains start.

3.2 Repeatability limit repeatability limit Under repeatability conditions, the difference between any two measurements of the same measured with 95% probability will not be exceeded limits.

4 Structure and composition

Structure of the sensor is generally divided into rain bearing member and the metering member port. Rain bearing instruments through the mouth parts to collect rain, turn the metering member Metering hopper, and physical output signal can be measured. Metering component layers to dump classification, can be divided into single dump double And three dump dump form.