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

GB/T 18809-2019

Replacing GB/T 18809-2002

General specification for air ion measuring instruments

空气离子测量仪通用规范

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009. This standard replaces GB/T 18809-2002 "General Specification for Air Ion Measuring Instrument", compared with GB/T 18809-2002, the main technology The changes are as follows:

- Adjusted and updated some normative references (see Chapter 2, Chapter 2 of the.2002 edition);
- Added "terms and definitions" (see Chapter 3, Chapter 3 of the.2002 edition);
- "General requirements" and "detailed requirements" are combined and revised to "requirements" (see Chapter 4, Chapters 4 and 5 of the.2002 edition);
- Expanded ion mobility (see 4.4.3, version
- Added "interface compatibility or mutual cooperation" (see 5.7);
- Added "random file" (see Chapter 7);
- Added "Appendix A". Please note that some of the contents of this document may involve patents. The issuing organization of this document is not responsible for identifying these patents. This standard was proposed by the Ministry of Industry and Information Technology of the People's Republic of China. This standard is under the jurisdiction of the National Standardization Technical Committee for Electronic Measuring Instruments (SAC/TC153). This standard was drafted. Cangzhou Southeast Electronic Technology Research Institute, Tsinghua University, China Institute of Metrology, Yangtze River Delta ecological combination, Yanshan University. The main drafters of this standard. Xu Xian, Lin Jinming, Zhang Zhengdong, Tao Kanghua, Li Qingshan. The previous versions of the standards replaced by this standard are.
- GB/T 18809-2002. General specification for air ion meter

1 Scope

GB/T 18809-2019 is the Chinese national standard on general specification for air ion

measuring instruments, in the field of testing. 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 30 August 2019 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 March 2020. Classification: ICS 19.040, CCS L85. 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 standard specifies the requirements, test methods, inspection rules, and random documents of the air ion meter (hereinafter referred to as the instrument). This standard is applicable to the air ion measuring instrument using the working principle of "sucking capacitor collection method", which is the product development, design, production and acceptance. And the main technical basis of the inspection is also the principle and basis for the formulation of product standards and other technical documents.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only the dated version applies to this document. Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB 4793.1-2007 Safety requirements for electrical equipment for measurement, control and laboratory - Part 1. General requirements

GB 4824 Industrial, Scientific and Medical (ISM) Radio Frequency Equipment Harassment Characteristics Limits and Measurement Methods

GB/T 6587-2012 General specification for electronic measuring instruments

GB/T 9969 General guidelines for the use of industrial products

GB/T 11463 Electronic Measuring Instrument Reliability Test

GB/T 17626.2 Electromagnetic compatibility test and measurement technology
Electrostatic discharge immunity test

GB/T 17626.3 Electromagnetic compatibility test and measurement technology RF
electromagnetic field radiation immunity test

GB/T 17626.4 Electromagnetic compatibility test and measurement technology Electrical
fast transient burst immunity test

GB/T 17626.5 Electromagnetic compatibility test and measurement technology Surge
(impact) immunity test

GB/T 17626.6 Electromagnetic compatibility test and measurement technology Conducted disturbance immunity of RF field induction

GB/T 17626.8 Electromagnetic compatibility test and measurement technology power frequency magnetic field immunity test

GB/T 17626.11 Electromagnetic compatibility test and measurement techniques Immunity test for voltage dips, short interruptions and voltage changes

GB/T 18268.1-2010 Electromagnetic compatibility requirements for electrical equipment - Part 1 . General requirements

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Air ion airion A positively or negatively charged gas molecule or group of molecules or other suspended fine particles in the air.

3.2 Air ion concentration airionconcentration The number of positive and negative air ions per unit volume of air.

Note. The unit is the number of ions per cubic meter (ions/m³) or the number of ions per cubic centimeter (ions/cm³).

3.3 Air ion mobility airionmobility The rate of migration of air ions in a unit strength (V/m) electric field.

Note. The unit is square meter per volt m²/(V · s) or square centimeter per volt second cm²/(V · s).