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

GB/T 14295-2019

Replacing GB/T 14295-2008

Air filters

空气过滤器

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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 14295-2008 "Air Filter". Compared with GB/T 14295-2008, the main technical changes are as follows:

- Modified the classification and marking methods of products;
- Added PM_x purification efficiency requirements and test methods;
- Added requirements and test methods for the rated power and working voltage of the electrostatic air filter;

---Modified the limit requirements for the increase in ozone concentration of the electrostatic air filter;

---Added requirements for test instruments;

---Added the performance requirements for the air filter test device;

---Added the antistatic test method of the air filter;

---Modified the requirements of the standard test dust for the air filter dust holding capacity test, and increased the dust holding capacity limit. This standard was proposed by the Ministry of Housing and Urban-Rural Development of the People's Republic of China. This standard is under the jurisdiction of the National Standardization Technical Committee for HVAC and Purification Equipment (SAC/TC143). The organization responsible for drafting this standard. China Academy of Building Research Co., Ltd. Participated in the drafting of this standard. Tsinghua University, Academy of Military Sciences Chemical Defense Research Institute, National Environmental Protection Equipment Quality Supervision and Inspection Center (Jiangsu), Beijing Oriental Measurement and Testing Institute, Suzhou Huatai Air Filter Co., Ltd., Heshi (Suzhou) Special Materials Co., Ltd., Zhejiang Jinhaihuan Environmental Technology Co., Ltd., Honeywell Environmental Automation Products (Tianjin) Co., Ltd., Amic Air Filter (Suzhou) Co., Ltd., Ai (China) Environmental Purification Co., Ltd., Guangzhou Industrial Microbiology Testing Center, Nanjing Tianjia Environmental Technology Co., Ltd., TSI China Company, Zhejiang Manruid Environmental Technology Co., Ltd., Zhejiang Dunan Artificial Environment Co., Ltd., Dandong Shifa Industrial Filter Cloth Co., Ltd., Dandong Tianhao Purification Material Co., Ltd., Suzhou Beian Electronic Technology Co., Ltd., Shanghai Jiefeiran Environmental Technology Co., Ltd., Hefei Midea Warm Tong Equipment Co., Ltd., Apollo Environmental Protection Equipment Co., Ltd., Shunde District, Foshan City, Hebei Zhongkangweier Environmental Technology Co., Ltd., Jiangsu Shengwei Filtration Equipment Co., Ltd., Shandong Xuesheng Electric Co., Ltd., Guangdong Microbial Analysis and Testing Center, Zhongshan Shangpin Environmental Purification Technology Co., Ltd., Sichuan Yimikang Environmental Technology Co., Ltd., Guangdong Guohua Civil Air Defense Technology Co., Ltd. The main drafters of this standard. Wang Zhichao, Xu Zhaowei, Han Hao, Zhang Zhenzhong, Xu Xiaohao, Xiao Yiqun, Huang Luying, Li Jiandong, Wang Zhiyong, Yang Yingxia, Hou Yinyan, Zheng Yu, Ji Qizheng, Jiang Longhao, Zheng Hui, Feng Weihao, Du Shaoping, Wu Xiaoquan, Zhang Jianhua, Chen Wei, Li Li, Gao Shan, Xing Chunshuang, Wang Weiran, Zhou Ye, Chen Zhan, Zhong Yaowu, Chen Long, Luo Fan, Zhang Lisong, Xie Xiaobao, Huang Hai, Huang Cunyong, Guo Fusong, Chen Weizhong. The previous versions of the standard replaced by this standard are as follows:

---GB/T 14295-1993, GB/T 14295-2008. air filter

1 Scope

China's national standard for air filters - the panel, bag and cartridge filters used in ventilation and air conditioning systems, in industrial supply air and in the intakes of equipment. It specifies the terms and definitions, the classification and marking, the general requirements, the requirements, the test methods, the inspection rules, and the marking, packaging, transport and storage of air filters. An air filter is a product where the obvious figure is the misleading one. Efficiency alone says nothing useful, because any filter can be made more efficient by making it denser, and a denser filter costs more pressure drop - which is paid for continuously in fan energy for the whole life of the installation, and which usually exceeds the purchase price of the filter within months. So the standard specifies efficiency and resistance together, and it specifies them not only when the filter is new but as the filter loads with dust: the initial efficiency of a clean filter is not what it will deliver in service, and on some media it is markedly lower than the loaded value while the resistance climbs steadily. The dust holding capacity is the third quantity, and it is what determines how long the filter lasts before it must be changed. Together those three - efficiency, resistance and dust holding capacity, each measured by a prescribed method with a prescribed test dust and aerosol - are what allows two filters to be compared on the only basis that matters, which is the total cost of achieving a given air cleanliness over a year. Around them sit the construction requirements, the leakage past the frame and the seal - which on a well-made filter badly installed is where most of the unfiltered air goes - the resistance to moisture, and the fire behaviour of the media. Issued on 4 June 2019 and in force since 1 May 2020, it replaces GB/T 14295-2008.

This standard specifies the terms and definitions, classification and marking, general requirements, requirements, test methods, inspection rules, signs, and Packaging, transportation and storage. This standard applies to air filters for ventilation, air conditioning and air purification systems or equipment. This standard does not apply to air filters with high efficiency and above.

2 Normative references

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

GB/T 191 Packaging, storage and transportation pictorial signs

GB/T 1019 General rules for packaging of household and similar electrical appliances

GB/T 1236 Standardized air duct performance test for industrial ventilators

GB/T 2828.1 Sampling inspection procedure by attributes Part

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Equipment that uses filtration, adhesion or charged capture to remove particulate matter in the air.

3.2 After the particles are charged by a high-voltage electrostatic field, they are captured by the dust collecting plate to achieve the removal of airborne particles in the air. filter.

3.3 Rated air volume In the standard air state, the air volume flow through the air filter in the nominal unit time.

4.1 Classification

4.1.1 According to the efficiency level, it is divided into coarse efficiency filters, medium efficiency filters, high and medium efficiency filters and sub-high efficiency filters, and the codes are C, Z, GZ respectively And YG. Among them, coarse-effect filters are divided into coarse-effect type 1, coarse-effect type 2, coarse-effect type 3 and coarse-effect type 4, and the codes are C1, C2, C3 and C4; Medium-efficiency filters are divided into medium-efficiency type 1, medium-efficiency type 2 and medium-efficiency type

3. The codes are Z1, Z2 and Z3 respectively.

4.1.2 According to the structure type, it is divided into flat type, bag type, folding type, winding type, barrel type, pole plate type and honeycomb type, and the codes are PB, DS, ZZ, JR, TS, JB and FC.

4.2 Marking Example

1. Air filter with medium efficiency type 2, bag type, 592mmx592mmx600mm and rated air volume of 3400m³/h, marked as K-Z2-DS-592x592x600-3400. Example

2. An air filter with coarse-effect type 3, flat plate, 610mmx610mmx80mm, and rated air volume of 2000m³/h, marked as K-C3-PB-610x610x80-2000.

Note. The principle of expression of air filter dimensions is. the air flow direction is the depth, and the air flow direction is the vertical length of the vertical section as the height and level. Length is width.

5 General requirements

5.1 The application of air filter should meet the environmental protection and fire resistance requirements of the occasion.

5.2 The electrostatic air filter should meet the following requirements.

a) The single-phase rated voltage should not be greater than 250V, the three-phase rated voltage should not be greater than 480V, and the rated frequency should be 50Hz;

b) Power-off protection should be provided to ensure that when the unit structure is opened for repair or maintenance, its internal devices are automatically powered off;