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

GB 15322.3-2019

Replacing GB 15322.3-2003

**Combustible gas detectors - Part 3: Portable combustible gas
detectors for industrial and commercial use**

可燃气体探测器 第3部分：工业及商业用途便携式可燃气体探测器

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Foreword

All technical content in this section is mandatory. GB 15322 "combustible gas detector" is divided into the following parts.

- Part 1. Point-type combustible gas detectors for industrial and commercial use;
- Part 2. Household flammable gas detectors;
- Part 3. Portable combustible gas detectors for industrial and commercial use;
- Part 4. Linear and flammable gas detectors for industrial and commercial use. This part is the third part of GB 15322. This part is drafted in accordance with the rules given in GB/T 1.1-2009. This part replaces GB 15322.3-2003 "Combustible gas detectors Part 3. Portable with a measuring range of 0~100% LEL Combustible gas detectors and GB 15322.6-2003 "Combustible gas detectors - Part 6. Portable flammable gas detector". Compared with GB 15322.3-2003 and GB 15322.6-2003, the main technical changes in this section are as follows:
 - Combine the contents of GB 15322.3-2003 and GB 15322.6-2003 into one part;
 - According to the measurement range, the detectors are divided into three types. detectors with measuring range between 3%LEL and 100% LEL, measuring range Detectors below 3% LEL and detectors measuring over 100% LEL. Divide the detector according to the way of working There are two types. continuous working detectors and single measuring detectors (see Chapter 3, GB 15322.3-2003 and Chapter 4 of GB 15322.6-2003);
 - Increased the requirements for the detector concentration display function (see 4.3.1.5);
 - Modified the test conditions of the high temperature (running) test and the low temperature (running) test, and alarmed the detector under various test conditions Action value requirements (see Chapter 4, GB 15322.3-2003 and Chapter 5 of GB 15322.6-2003);
 - Increased anti-poisoning performance test (see 4.3.12);
 - Increased low concentration operation test (see 4.3.14). This part is proposed and managed by the Emergency Management Department of the People's Republic of China. This section drafted by: Shenyang Fire Research Institute of Emergency Management Department, Chengdu Anchuang Electronics Co., Ltd., Hanwei Technology Group Co., Ltd.,

Fuyang Huaxin Electronic Instrument Co., Ltd., Jinan Benan Technology Development Co., Ltd., Yingjisen Safety Fire System (Shanghai) Co., Ltd. Company, Beijing Weitai Safety Equipment Co., Ltd., Xi'an Bokang Electronics Co., Ltd., Shanghai Dajiang Electronic Instrument Co., Ltd. The main drafters of this section. Guo Chunlei, Fei Chunxiang, Guan Mingyang, Guo Rui, Xie Feng, Ding Hongjun, Kang Weidong, Zhang Yingxi, Zhao Yu, Wang Qiang, Jiang Miaofoei, Deng Lihong, Zhao Yingran, Jiang Bo, Meng Yu, Zhu Gang, Wang Yuxiang, Li Keting, Jia Dongmei. The previous versions of the standards replaced by this section are.

---GB 15322-1994;

---GB 15322.3-2003;

---GB 15322.6-2003. Combustible gas detector Part 3. Portable for industrial and commercial use Combustible gas detector

1 Scope

Part 3 of China's mandatory series on combustible gas detectors, covering the portable instrument - the personal monitor clipped to a belt and the hand-held detector carried into a confined space, a trench, a tank or a plant area before and during work. This part specifies the classification, the requirements, the tests, the inspection rules and the marking of portable combustible gas detectors for industrial and commercial use. What separates the portable instrument from the fixed head of Part 1 is that it is a piece of personal protective equipment: it goes where the person goes, and the person is relying on it in a place where the atmosphere may become lethal in a minute. So beyond the response requirements common to the series - the alarm set points as a fraction of the lower explosive limit, the accuracy, the response and recovery times, the repeatability, and the drift of zero and span - this part sets what makes an instrument survivable and trustworthy in the hand: the battery endurance for a full shift and the warning before it fails, the alarm that must be perceptible over plant noise and through hearing protection, the mechanical robustness against being dropped, the enclosure protection against dust and water, the behaviour when the instrument is carried between very different atmospheres, and the self-check that runs at switch-on. The environmental and electromagnetic programme and the explosion protection to GB 3836 complete it, since the instrument is carried by definition into places where flammable gas may be present. Issued on 14 October 2019 and in force since 1 November 2020, it replaces GB 15322.3-2003.

This part of GB 15322 specifies the classification, requirements, tests, inspection rules and regulations for portable flammable gas detectors for industrial and commercial use. Sign. This section applies to industrial and commercial applications for the detection of hydrocarbons, ethers, esters, alcohols, carbon monoxide, hydrogen and other combustibles. Portable flammable gas detector (hereinafter referred to as "detector") for gas and vapor. Special properties used in industrial and commercial locations The detectors

may also be implemented in addition to the special requirements specified by the relevant standards.

2 Normative references

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

GB 3836.1-2010 Explosive atmosphere - Part 1. General requirements for equipment

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

GB 12978 Fire Electronic Product Inspection Rules

GB 15322.1-2019 flammable gas detectors - Part 1. flammable gas detectors for industrial and commercial use

GB/T 16838 Fire electronic products environmental test methods and severity

GB/T 17626.2-2018 Electromagnetic compatibility test and measurement technology
Electrostatic discharge immunity test

GB/T 17626.3-2016 Electromagnetic compatibility test and measurement technology RF
electromagnetic field radiation immunity test

3 Classification

3.1 According to the measurement range is divided into.

- a) detectors measuring between 3% LEL and 100% LEL;
- b) detectors measuring below 3% LEL (including detectors for detecting carbon monoxide);
- c) Detectors with a measurement range of 100% LEL or more.

Note. The lower explosive limit (LEL) is the lowest explosive concentration of flammable gas or vapor in the air.

3.2 Divided into working methods.

- a) continuous working type detectors;
- b) Single measurement type detector.

4 Requirements

4.1 General The detector shall meet the relevant requirements of Chapter 4 and be tested in accordance with the provisions of Chapter 5 to confirm the detector's requirements for Chapter 4.