

ICS 13.220.10

CCS C84



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

GB 16670-2025

Cabinet gas fire extinguishing equipment

柜式气体灭火装置

Issued on: June 30, 2025

Implemented on: July 1, 2026

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

Table of Contents

1 Scope	1
2 Normative references	1
3 Terms and Definitions	1
4 Model compilation	1
4.1 Method for compiling fire extinguishing equipment model	1
4.2 Component Model Compilation Method	2
5.Requirement	2
5.1 Fire extinguishing equipment	2
5.2 Bottle Group	3
5.3 Check valve	6
5.4 Nozzle	6
5.5 Signal feedback device	6
5.6 Low leakage high sealing valve	6
5.7 Connecting pipe	6
5.8 Drive	7
5.9 Control Device	7
5.10 Cabinet Requirements	7
6 Test methods	7
6.1 Test requirements	7
6.2 Inspection of appearance, dimensions, working pressure, materials, markings, nameplates, devices and components	7
6.3 Manual operation test	7
6.4 Insulation resistance measurement	8
6.5 Fire extinguishing device linkage test	8
6.6 Concentration distribution test	8
6.7 Bottle group filling density and filling pressure test	10
6.8 Fire extinguishing system status monitoring and data application platform function test	10
6.9 Hydraulic strength test	10
6.10 Airtightness test	11
6.11 Vibration test	12
6.12 Temperature cycle leakage test	12
6.13 Bottle group tipping impact test	12

6.14 Impact resistance test of accidental discharge protection device	12
6.15 Fire extinguishing agent bottle group release time	12
6.16 Overpressure test	12
6.17 Working reliability test	12
6.18 Action test under maximum and minimum working pressure	12
6.19 Salt spray corrosion test	12
6.20 Stress corrosion test	12
6.21 Sulfur dioxide corrosion test	12
6.22 Contact resistance test	12
6.23 Safety relief device operation test	12
6.24 Weighing device alarm function test	12
6.25 High and low temperature test	13
6.26 Weighing device overload test	13
6.27 Check the pressure indicator dial and display screen	13
6.28 Basic error test of pressure display indication	13
6.29 Pressure indicator alternating load test	13
6.30 Pressure display alarm function test	13
6.31 Digital pressure display power supply test	13
6.32 Liquid level measuring device alarm function test	13
6.33 Check valve opening pressure test	13
6.34 Nozzle impact resistance test	13
6.35 Signal feedback device action test	13
6.36 Voltage Withstand Test	13
6.37 Low leakage high sealing valve closing pressure test	13
6.38 Drive device performance test	13
6.39 Control device performance test	14
6.40 Hot air aging test for non-metallic connecting pipes	14
6.41 Low temperature test of non-metallic connecting pipes	14
6.42 Cabinet Test	14
6.43 Lifting lug strength test	14
7 Inspection Rules	14
7.1 Inspection categories, inspection items and test procedures	14
7.2 Sampling Methods	14
7.3 Determination of test results	15
8 Marking, packaging, transportation, storage	18

8.1 Sign	18
8.2 Packaging	18
8.3 Transportation	18
8.4 Storage	18
9 User Manual	18
36 Appendix P (Normative) Cabinet Test Procedure and Sample Quantity 37 P.1 Test Procedure 37 P.2 Sample quantity	37

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. This document replaces GB 16670-2006 Cabinet-type gas fire extinguishing equipment. Compared with GB 16670-2006, except for structural adjustments and editorial In addition to the modifications, the main technical changes are as follows:

- a) The model compilation method has been changed (see Chapter 4, Chapter 4 of the.2006 edition);
- b) Modified some performance parameters in Table 1 (see Table 1, Table 1 of the.2006 edition);
- c) Added the requirements for warning signs for fire extinguishing devices (see 5.1.2.4);
- d) Added concentration distribution performance requirements and test methods (see
- e) Added fire extinguishing device status monitoring and data application platform functional requirements and test methods (see 5.1.8, 6.8);
- f) Fire extinguishing requirements have been deleted (see
- 5.7 of the.2006 edition);
- g) Added the requirements for the number of fire extinguishing agent cylinders (see 5.2.2), and the requirements and test methods for accidental discharge protection devices (see 5.2.5 and 6.14);
- h) Added gas cylinder design, manufacturing, inspection requirements (see 5.2.7.3), color and marking requirements (see 5.2.7.5);
- i) Deleted the requirements for vessel strength, sealing, and overpressure (see
- 5.9.6 of the.2006 edition);

1 Scope

China's mandatory national standard for cabinet gas fire extinguishing equipment. A cabinet unit is a self-contained pre-engineered system: the agent cylinder, the valve, the nozzle and the control are all built into a single enclosure that stands in the room it protects, so no distribution pipework is designed or installed on site. That is what makes it the practical choice for small protected volumes - a server room, a switchroom, an archive - where designing a piped system would cost more than the room is worth. The trade is that everything must be settled at manufacture rather than by the installing engineer: the agent quantity, the discharge time and the nozzle coverage are fixed to a stated protected volume, and using the unit outside that volume voids the protection. The standard specifies the requirements, the discharge performance and the tests for such equipment.

This document defines the terms and definitions of cabinet type gas fire extinguishing devices (hereinafter referred to as "fire extinguishing devices"), and specifies the requirements, inspection rules, marking, packaging, transportation, storage, instruction manual and filling of fire extinguishing agents are described, and the corresponding test methods are described. This document applies to cabinet-type heptafluoropropane gas fire extinguishing equipment and cabinet-type carbon dioxide gas fire extinguishing equipment stored in high-pressure form. This document does not apply to cabinet-type carbon dioxide gas fire extinguishing devices stored in low-pressure form.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB 4396 Carbon dioxide fire extinguishing agent

GB/T 5099.1 Steel seamless gas cylinders Part

1.Steel cylinders with a tensile strength less than 1100 MPa after quenching and tempering

GB/T 5100 Steel welded gas cylinders

GB/T 8979 Pure nitrogen, high-purity nitrogen and ultra-pure nitrogen

GB/T 9969 General principles for instructions for use of industrial products

GB 12463 General Technical Requirements for Transport Packaging of Dangerous Goods

GB 18614 Heptafluoropropane (HFC227ea) fire extinguishing agent

GB 25972-2024 Gas fire extinguishing systems and components