

ICS 13.220.10
CCS C83



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

GB 16669-2026

Replacing GB 16669-2010

**General technical specifications for carbon dioxide fire
extinguishing systems and components**

二氧化碳灭火系统及部件通用技术条件

Issued on: January 28, 2026

Implemented on: February 1, 2027

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

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1. Structure and Drafting Rules of Standardization Documents". Drafting. This document supersedes GB 16669-2010 "General Technical Conditions for Carbon Dioxide Fire Extinguishing Systems and Components" and is consistent with GB 16669-2010. Compared to previous versions, aside from structural adjustments and editorial changes, the main technical changes are as follows:

- a) The scope of application has been changed (see Chapter 1, Chapter 1 of the 2010 edition);
- b) Modified "System Operating Pressure", "Fill Density", "Storage Pressure", "Maximum

Operating Pressure", "Minimum Operating Pressure", and "Injection Time". The definition of "low-leakage, high-seal valve" is shown in 3.1, Chapter 3 of the.2010 edition.

c) Added functional requirements and test methods for the fire extinguishing system status monitoring and data application platform (see 5.2.6, 6.11~6.14);

d) The requirements for accidental discharge protection devices have been changed (see 5.3.9,

5.2.9 of the.2010 version);

e) Added requirements for bottle assembly composition and structure (see 5.3.1), bottle assembly filling density test method (see 6.15), and accidental release protection device resistance. Impact testing methods (see 6.19);

f) The requirements for gas cylinders have been changed (see 5.3.12,

5.4 in the.2010 version);

g) The test method for the operation of the safety relief device has been changed (see 6.35, 6.15 in the.2010 edition);

h) The test method for the jet characteristics of a total flood nozzle has been modified (see 6.41,

6.20 of the.2010 edition);

1 Scope

China's mandatory general technical specification for carbon dioxide fire extinguishing systems and their components. Carbon dioxide extinguishes by displacing oxygen, and that single fact defines both its value and its danger. It leaves no residue at all, which is why it protects machinery spaces, generators, printing presses and other places where a water or powder discharge would cause more damage than the fire - and it kills people in the protected space by asphyxiation, at concentrations well below those needed to extinguish. Carbon dioxide systems have killed more people than any other fixed extinguishing system, almost always someone who was inside during a discharge or entered afterwards. So the standard's requirements are dominated by the pre-discharge alarm and delay, the lockout during occupancy, the exit routes, and the warning signs, alongside the storage containers, the pipework and the nozzles.

This document provides a model designation method and specifies the carbon dioxide fire extinguishing system (hereinafter referred to as "fire extinguishing system") and its components (cylinder group, etc.). Nozzle, selector valve, check valve, manifold, connecting pipe, safety relief device, drive device, control device, signal feedback device, low-leakage high-sealing valve. Requirements for pipes, fittings and supports; flow design calculations