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

GB 19572-2013

Replacing GB 19572-2004

**Low pressure carbon dioxide extinguishing system and
components**

低压二氧化碳灭火系统及部件

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Foreword

Chapters 6 and 8 chapters of this standard is mandatory, the rest are recommended. This standard was drafted in accordance with GB/T 1.1-2009 given rules. This standard replaces GB 19572-2004 "low-pressure carbon dioxide fire extinguishing systems and components." This standard compared with GB 19572-2004 main changes are as follows:

- Added "Normative References" of the contents (see Chapter 2);
- Revised "terms and definitions" of the contents (see Chapter 3, Chapter 3 of the 2004 edition);
- Added "category" (see Chapter 4);
- Added "model establishment" (see Chapter 5);
- Modify the "system" of the contents (see version 7.0, 4.12);
- Modify the extinguishing agent storage container pressure on the contents (see version 6.2.2.2,2004 4.1.1.2);
- Altered the contents of the overpressure relief device (see 6.2.4,2004 version 4.1.3);
- Added "safety relief diaphragm" (see 6.2.4.3);
- Modify the "pressure sensor" of the contents (see version 6.2.5.3,2004 4.1.4.3);
- Modified "fire dose display apparatus" of the contents (see 6.2.6,2004 version 4.1.5);
- Modify the "cooling system" of the contents (see 6.2.7,2004 version 4.1.6);
- Added "Drive" (see 6.3);
- Modify the master control valve, selector valve "operational performance" of the contents (see version 6.4.11,6.5.11,2004 4.3.10,4.4.10);

1 Scope

China's national standard for low pressure carbon dioxide fire extinguishing systems and for

every component that goes into one - the refrigerated bulk CO₂ installations used to protect machinery spaces, turbine halls and large enclosures. It sets the terms and definitions, the classification, the model designation, the requirements, the test methods, the inspection rules, and the marking, labelling and instructions for use, and it applies to the extinguishing systems in which the carbon dioxide is stored in the low pressure, refrigerated form. The requirements clause takes each part of the system in turn: the system as a whole, the storage device, the drive apparatus, the master control valve, the selector valve, the directional valve, the nozzle, the signal feedback device, the controller and the manifold. The test clause is longer still and is where the document earns its price, running from system checks, hydraulic strength and tightness tests through the overpressure tests of the master control, filling, balance and service valves, the working pressure test, the check valve performance test, salt spray corrosion, reliability and reliability at limiting temperature, the equivalent length of the valves, the opening and closing time of the master control valve and the direction of its position indicating switch, to the insulation resistance and contact resistance measurements and the high and low temperature and pointer stability tests of the pressure gauge. Some twenty normative annexes then give, component by component, the test procedure and the number of samples to be taken. The storage vessels themselves fall under GB 150 and the TSG R0004 rules for stationary pressure vessels. Issued on 18 September 2013 and in force since 1 August 2014, it replaces GB 19572-2004.

This standard specifies the terms and definitions of the low-pressure carbon dioxide fire extinguishing systems and components, classification, model designation, requirements, test methods, inspection Rules, signs, labels and use manual. This standard applies to the low-pressure carbon dioxide fire extinguishing agent is stored in the form of carbon dioxide fire extinguishing system.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB 150 (all parts) pressure vessel

GB 4396 carbon dioxide fire extinguishing agent

GB/T 9969 General Instructions industrial products

GB 16669-2010 carbon dioxide fire extinguishing systems and components General technical conditions

GB 25972-2010 gas fire extinguishing systems and components GA61-2010 fixed fire extinguishing system drive, control devices General Safety Technology Supervision TSGR0004 Stationary Pressure Vessels

3 Terms and Definitions

The following terms and definitions apply to this document.

- 3.1 Low-pressure carbon dioxide fire extinguishing system
lowpressurecarbondioxideextinguishingsystem Carbon dioxide fire extinguishing agent at -20 °C ~ -18 °C storage conditions of the fire extinguishing system.
- 3.2 Extinguishing agent storage means extinguishingagentstoragedevice Container service valve, fill valve, balance valve, pressure relief device consists of extinguishing agent stored pressure controls the display device, a display device extinguishing dose Extinguishing agent storage device consisting of home refrigeration systems.
- 3.3 Total control valve mastercontrolvalve Extinguishing agent storage container used for storage extinguishing agent, extinguishing agent release control, and can automatically open and close the valve.
- 3.4 Filling valve filingvalve And fire extinguishing agent storage container connected to the valve for filling carbon dioxide fire extinguishing agent.
- 3.5 Service valve maintenancevalve As can be access to components and fire extinguishing agent storage container communicating valve.
- 3.6 Valves balancevalve Storage container is connected with fire extinguishing agents, carbon dioxide fire extinguishing agent used for filling gas and liquid balance valve.
- 3.7 Overpressure relief device overpressurereliefdevice Installed in the fire extinguishing agent storage containers or closed pipeline overpressure container or piping due to unusual circumstances caused by used to exclude, to ensure that their Safe operation of the device under the allowable pressure, including safety valves and safety relief diaphragms.
- 3.8 Setting pressure setpressure Predetermined pressure relief valve begins to open under the operating conditions, the valve is in the inlet gauge pressure measurement. At this pressure, the prescribed Force open the valve under operating conditions created by the medium pressure valve with the valve seat to maintain the force balance each other.
- 3.9 Back seat pressure re-seatingpressure After the safety valve discharge valve and valve seat again, that the opening height becomes zero static pressure of the valve inlet.
- 3.10 CS switch CSpressureswitch Pressure is used to control the refrigeration unit automatically start and stop switch.
- 3.11 AS switch ASpressureswitch For fire extinguishing agent storage pressure vessel high and low pressure alarm switch.
- 3.12 CPG gauge CPGpressuregauge Refrigeration units for controlling the automatic start and stop gauges.