

ICS 13.220.10

CCS C85



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

**GB 27901-2011**

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**Portable fire smoke ventilator**

移动式消防排烟机

**Issued on: December 30, 2011**

**Implemented on: June 1, 2012**

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**Issued by: General Administration of Quality Supervision, Inspection and  
Quarantine of the People's Republic of China;  
Standardization Administration of China**

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## Foreword

The standard Chapter 5, Chapters 7 and

8.1 are mandatory, the rest are recommended. This standard was drafted in accordance with GB/T 1.1-2009 given rules. The standard proposed by the People's Republic of China Ministry of Public Security. This standard by the National Standardization Technical Committee appliances Fire Fire accessories Technical Committee (SAC/113/SC5) centralized. This standard was drafted. Shanghai Fire Research Institute of Ministry of Public Security. The main drafters of this standard. Quexing Gui, Lin Xue, Ma Weiguang, Su Lin, Han Xiang, Wang Zhihui, Wang Lijing. This standard is the first release. Portable fire smoke machine

## 1 Scope

GB 27901-2011 is the Chinese national standard on portable fire smoke ventilator, in the field of environment and health protection, safety. It carries no /T suffix, which in the Chinese system means compliance is mandatory: a product or a practice within its scope has to meet it to be lawfully made, sold or carried out in China. It was issued on 30 December 2011 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 June 2012. Classification: ICS 13.220.10, CCS C85. This page is

published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This standard specifies the terms and definitions mobile fire smoke machines, models, technical requirements, test methods, inspection rules and signs, including Loading and storage. This standard applies to human mobile fire smoke machine. This standard does not apply to fixed, vehicle-mounted or used in hazardous areas of fire row Hood.

## 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/T 1236 Industrial fans using standardized airways performance test

GB/T 2888 fan and blower noise measurement method

GB 4208-2008 shell protection (IP code)

JB/T 5135.2 Universal Small Gasoline Engine reliability, durability test and evaluation methods

JB/T 5135.3 Universal Small Gasoline technical conditions

JB/T 6445 Industrial Fan impeller speed test GA211 fire exhaust fan high temperature test methods

## 3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Human can carry (including cart-type), with a total mass not exceeding 100kg, for the scene of the fire to exclude smoke fire smoke machine.

3.2 The use of the internal combustion engine as the power source of the mobile fire smoke machine.

3.3 Using a motor as the power source of the portable fire smoke machine.

3.4 Use turbine for the power source of the mobile fire smoke machine.

## 4 Model

Portable fire smoke machine (hereinafter referred to as smoke machine) models by the category code, category code, feature code, the power source parameters, machine

number, The maximum amount of wind and manufacturer rated speed custom code components. Model methodology smoke machine is as follows: Category Code (smoke machine) Group code (mobile) Feature code (S for the turbine, D is the electric motor, C is diesel, gasoline omitted) - / Power source parameters (turbine manufacturer announced the rated working pressure unit Megapascals (MPa) or gasoline engine, electric motor rated power in kilowatts (kW)) - - Gauge. impeller diameter, in millimeters (mm) divided by 100 Air flow at rated speed, in units of cubic meters per hour (m<sup>3</sup>/h) divided by 1000 Manufacturer Custom Code Example 1. fire smoke machine type internal combustion engine (gasoline engine driving mode), rated at 3.5kW, impeller diameter of 560mm, the maximum rated speed of the wind Amount of 12000m<sup>3</sup>/h of smoke machines, the model for YY3.5/5.6-12. Example 2. Hydraulic fire smoke machine, rated working pressure of 1.0MPa, impeller diameter of 560mm, maximum air flow at rated speed of 12000m<sup>3</sup>/h The smoke machine, the model for YYS1.0/5.6-12. Example 3. Electric fire smoke machine, rated at 3.5kW, impeller diameter of 560mm, maximum air flow at rated speed of 12000m<sup>3</sup>/h of exhaust Machine, the model for YYD3.5/5.6-12.

## 5 Technical requirements

5.1 Basic requirements Smoke machines should be approved by the program prescribed products manufacturing drawings and technical documents. Smoke machine motor or internal combustion engine must be selected through Through stereotypes inspection and comply with the relevant standards. Smoke machine selects the main components should comply with the relevant standards and compliance with this standard Provisions.

### 5.2 appearance quality

5.2.1 smoke machine surface should be smooth, no scratches.

5.2.2 All castings smoke machine outer surface should be no trachoma, loose, cracks, scars and other defects.

5.2.3 smoke machine coupling parts, fasteners should be a tight fit, various pipes should be securely fixed. Black smoke machine metal fasteners

5.2.4 should be embalmed.

5.3 Total weight Smoke machine machine quality should be no more than 100kg (excluding wind pipe, hose and other accessories).

5.4 air volume performance Corresponding to the manufacturer's published under the rated speed of the exhaust air flow, the measured deviation shall not exceed  $\pm 5\%$ .

### 5.5 continuous smooth operation

6.5 by smoke machines continuous operation stability test, the maximum moving distance themselves should not exceed 200mm.

5.6 tilt operation Press the smoke machine tilt

6.6 running test in which each member should not be oil spills, mechanical looseness and other threat to personal safety, Phenomena affect the normal use.

5.7 continuous operation performance By

6.7 continuous operation test smoke machine, smoke machine in the tests should not be leaking components, mechanical looseness and endanger other persons Security, affecting the normal use of the phenomenon.

### **5.10.1 Internal combustion type smoke machine**

5.10.1.1 low temperature start-up performance Smoke machine at low temperature start-up performance testing, start-up time should not exceed 30s.

5.10.1.2 battery capacity Electric start engine, the battery capacity should be able to ensure continuous activation 20 times.

5.10.1.3 Fuel tank capacity Fuel tank capacity smoke machine smoke machine should be able to ensure continuous operation at rated speed 1h.

5.10.1.4 insulation protection Exhaust pipes and mufflers smoke machine exposed portion should be insulated protective measures.

5.10.1.5 Operating Temperature Fire smoke machine type internal combustion engine operating temperature, should comply with the relevant provisions of JB/T 5135.3 in. Other requirements

### **5.10.2 Hydraulic smoke machine**

5.10.2.1 pressure sealing performance Pressure turbine exhaust machine that should be part of the manufacturer's published maximum working pressure of

1.1 times the seal test, there should be no part Leakage, sweating and other defects.

5.10.2.2 pressure strength Pressure turbine exhaust machine that should be part of the manufacturer's published maximum working pressure of

1.5 times the hydrostatic strength test. Tested Process components should not affect the performance of the deformation and cracks and other defects.

5.10.2.3 flow direction mark Smoke machine turbine into and out of the outlet should indicate the direction of flow of permanent identification.

5.10.3 motor enclosure protection rating Smoke machine motor housing protection rating should not be less than specified in GB 4208-2008 grade IP54.

5.10.4 smoke wheel Smoke machine impeller speed performance test shall be carried out,