

ICS 97.030



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

GB/T 2423.3-2016

**Environmental testing - Part 2: Testing method - Test Cab: Damp
heat, steady state
(English Translation)**

Issued on: October 22, 2016

Implemented on: April 1, 2017

**Issued by: Ministry of Industry and Information Technology of PRC 3. No
action is required - Full-copy of this standard w**

Table of Contents

Foreword...	3
1 Scope...	4
2 Normative references...	4
3 Terms and definitions...	5
4 Dangerous area classification...	6
5 General requirements of ventilation system...	7
6 General requirements of gas detection and alarming system...	9
7 General requirements of grounding system...	11
8 Refrigerant storage...	11
9 Filling...	15
10 Sealing...	17
11 Detection of refrigerant leakage...	18
12 Product operation test room...	19
13 Repair...	20
14 Finished product storage...	20
15 Plant...	21
16 Safety management...	21

Foreword

This standard was drafted in accordance with the rules of GB/T 1.1-2009.

This standard was proposed by the Federation of Light Industry.

This standard shall be under the jurisdiction of the National Household Electrical Appliances Standardization Technical Committee (SAC/TC 46).

The drafting organizations of this standard. China Household Electrical Appliances Association, Zhuhai Gree Electric Co., Ltd., Guangdong Media Refrigeration Equipment Co., Ltd., Qingdao Haier Air Conditioner Limited Company, TCL Air Conditioner (Zhongshan) Co., Ltd., Hisense Kelon Electric Co., Ltd., China Light Industry Changsha Engineering Co., Ltd., Shanghai Schenck Machinery Co., Ltd., Ulvac Eastern Vacuum (Chengdu) Co., Ltd.,

Ministry of Public Security Tianjin Fire Research Institute, Huazhong University of Science and Technology, Ningbo Oaks Air Conditioning Co., Ltd.

1 Scope

This standard specifies the safety technical requirements, operation procedures, and safety management for using flammable refrigerants in household and similar room air conditioner industry.

This standard applies to the production line design, production, transform, daily production and management of room air-conditioner products as defined in GB/T 7725, the mobile air-conditioners as defined in GB/T 22257 AND the dehumidifier as defined in GB/T 19411.

2 Normative references

The following documents are essential to the application of this document. For the dated documents, only the versions with the dates indicated are applicable to this document; for the undated documents, only the latest version (including all the amendments) are applicable to this Standard.

GB 150 Pressure vessels (all parts)

GB 3836.1 Explosive atmospheres - Part 1. Equipment - General requirements

GB 4208 Degrees of protection provided by enclosure (IP code)

GB 4706.32 Safety of household and similar electrical appliances - Particular requirements for heat pumps, air-conditioner and dehumidifier

GB/T 7725 Room air conditioners

GB/T 7778 Number designation and safety classification of refrigerants

GB/T 8163-2008 Seamless steel tubes for liquid service

GB/T 19411 Dehumidifiers

GB/T 22257 General specification for mobile air conditioner

GB 50016 Code for design on building fire protection and prevention

GB 50058 Code for design of electrical installations in explosive

atmospheres

GB 50140 Code for design of extinguisher distribution in buildings

GB 50184 Code for acceptance of construction quality of industrial metallic piping engineering

GB 50235 Code for construction of industrial metallic piping engineering

GB 50243-2002 Code of acceptance of construction quality of ventilation and air conditioning

GB 50257 Code for construction and acceptance of electric equipment on fire and explosion hazard electric equipment installation engineering

JT 617-2004 The regulation of automobile transportation of dangerous goods

TSG R 7001-2013 Pressure vessels periodical inspection regulation

3 Terms and definitions

The terms and definitions as defined in GB/T 7725 and GB 4706.32 AND the following terms and definitions apply to this document.

3.1

Flammable refrigerant

The refrigerant classified into type A2 and A3 in accordance with GB/T 7778.

3.2

Lower explosive limit, LEL

Under the temperature of 23 °C and the atmospheric pressure of 101325 Pa, the minimum concentration of the flammable gas when its mixture with air can produce explosion in encountering fire source.

3.3

Mechanical ventilation

5.2.1 The ventilation equipment shall comply with the relevant requirements of GB 3836.1 AND shall have the explosion-proof certificate.

5.2.2 The fan shall be of single set double speed exhaust fan or double set single speed exhaust fan, AND the single speed exhaust fan must be one in use and one for standby.

5.2.3 The ventilation pipeline shall be of metallic pipeline, AND after installation, the test air leakage rate for 10% testing of all air pipeline shall reach to the requirements of GB 50243-2002.

5.2.4 The ventilation system shall follow the principles of "fresh air incoming from top and exhaust air from bottom", the vent hole shall be as close to the floor and the possible leakage point as possible, AND the height from the lower edge of the vent hole to the floor shall not exceed 100 mm. The envelope room and the relatively enclosed room shall be equipped with the fresh air inlet at the upper part; AND if the inlet is within the workshop of dangerous area, the inlet shall be higher above the dangerous area for more than 1.5 m.

5.2.5 The air duct shall be beyond the roof for 1 m ~ 2 m, AND it shall install the lightning protection device as specified AND connect it to the lightning protection network of the building.

5.2.6 The ventilation system shall be equipped with air pressure or air flow switches; it shall not be able to start the relevant equipment when the ventilation system does not run; AND when the ventilation system fails during production, it shall issue alarm and cut off the relevant power supplies AND stop the running of relevant equipment after time delay.

5.2.7 The branch pipe of air duct and each vent hole shall be installed with the air volume regulator valve, AND clearly indicated of the valve switch.