

**AUTOMOTIVE INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

QC/T 1064-2017

**Road tanker for flammable liquid goods transportation --
Pressure and vacuum breather vent
(English Translation)**

Issued on: January 9, 2017

Implemented on: July 1, 2017

Issued by: Ministry of Industry and Information Technology

Table of Contents

- 1 Scope
- 2 Normative references
- 3 Terms and definitions
- 4 Technical requirements
 - 4.1 Basic requirements
 - 4.2 Functional requirements
- 5 Test methods and requirements
 - 5.1 Number of tests
 - 5.2 Opening pressure test of breathing valve
 - 5.3 Seat tightness test
 - 5.4 Overturning tightness test
 - 5.5 Drop test
 - 5.6 Static Conduction Test
- 6 Inspection rules
 - 6.1 Factory inspection
 - 6.2 Type inspection
- 7 Identification

1 Scope

This standard specifies the terms and definitions, requirements, and tests of breathing valves installed on tank vehicles for road transport of flammable liquid dangerous goods.

Methods, inspection rules and signs.

This standard is applicable to the third category of transport stipulated in GB 6944, where the steam pressure at 50 ° C is not greater than 110 kPa (absolute pressure) Flammable liquids, but not including liquid desensitized explosives or road transport tank vehicles with toxic and corrosive media Breathing valve.

2 Normative references

The following documents are essential for the application of this standard. For dated references, only the dated version applies to this standard. For undated references, the latest version (including all amendments) is applicable to this standard.

GB/T 1239.2 Technical specifications for cold rolled cylindrical coil springs Part 2.
Compression springs GB/T 23935 Design and calculation of cylindrical coil spring GB 6944
classification and article number of dangerous goods GB/T 7307 55 ° unsealed pipe thread

3 Terms and definitions

The following terms and definitions apply to this standard.

Pressure valve and vacuum breather Installed on the tank or manhole cover, it can be opened and closed automatically as the pressure inside the tank changes, so that valve.

Marked set pressure

Indicate the pressure at the beginning of exhalation and inhalation on the breathing valve.

Actual set pressure

Examine the pressure when the breathing valve starts to exhale and inhale.

Flow area

The minimum cross-sectional area of the flow channel between the valve inlet end and the sealing surface of the closing member is used to calculate the theoretical flow child without any resistance effect.

Flow diameter

Corresponds to the diameter of the runner area.

4.1 Basic requirements

4.1.1

Breathing valves shall comply with the requirements of this standard and shall be manufactured according to product drawings and technical documents.

4.1.2

The raw materials, purchased parts, outsourced parts and other components applied on the breathing valve shall comply with the relevant standards and be produced by the valve can only be used after the manufacturer has passed the acceptance test.

4.2 Functional requirements

4.2.1

The breathing valve should be able to balance the pressure difference between the inside and outside of the tank to keep it within the allowable range.

Valves for similar functions.

4.2.2

The breathing valve shall be equipped with a stainless steel wire flame-retarding net of not less than 80 mesh or other parts capable of performing the same flame-proof function.

4.2.3

Pressure setting.

4.2.3.1

The exhalation opening pressure should be set between 6 kPa and 12 kPa.

4.2.3.2

Suction opening pressure should be set at -4 kPa ~ -2 kPa.

4.2.4

Measure the opening pressure.

The opening pressure obtained from the actual inspection shall meet the nominal opening pressure requirements of the breathing valve.

4.2.5

Seat tightness.

Under 0.8 times the measured opening pressure, select the holding time in accordance with Appendix A. The valve leakage rate during the holding time should comply with Appendix B.

Level A requirements.

4.2.6

Overturning tightness.

Place the breathing valve in the normal use installation direction, rotate 90 °, 180 ° and 270 about the horizontal axis and hold the breathing valve at the opening pressure. Under a pressure of 22 kPa, the pressure shall be maintained for the time specified in Appendix A, and its leakage rate shall meet the requirements of Grade F in Appendix B.

4.2.7

Fall leakage.

The breathing valve is pressurized into the main container within 1 minute after the drop test, so that the gauge pressure at the centerline of the breathing valve reaches 0.8 the breathing valve measures the positive opening pressure. Select the dwell time in accordance with Appendix A, and the leakage rate shall meet the requirements of Grade B in Appendix B.

4.2.8

Design temperature range.

The design temperature of the breathing valve should be 20 ~ 50; When there are special environmental requirements, the design temperature should be -40 ~ 70.

4.2.9

Materials.

4.2.9.1

The materials used for the manufacture of breathing valves must be fully considered for their compatibility with the media they are in contact with.

4.2.9.2

The housing of the breathing valve should be made of aluminum alloy or stainless steel, and should not be made of iron and non-metal materials.

4.2.10

Spring.

4.2.10.1

Breathing valve spring shall be calculated according to the design of GB/T 23935.

4.2.10.2

Breathing valve springs shall meet the technical requirements of GB/T 1239.2 precision level 2 springs.

4.2.10.3

Each end of the breathing valve spring shall have a supporting plane greater than or equal to 1/2 turn, and the end of the supporting ring shall be tight with the working ring.

4.2.11

Connection.

When using a flange connection, the flange must meet the flange connection size of C.2 in Appendix C; using a thread connection, the thread must meet Requirements of G1K or G2 in GB/T 7307.

4.2.12

Electrostatic resistance.

The conductive resistance between any conductive part on the breathing valve assembly and the breathing valve body must not be higher than 10.