

ICS 91.140
CCS P 47



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

GB 35844-2018

Pressure regulators for liquefied petroleum gas cylinders

瓶装液化石油气调压器

Issued on: February 6, 2018

Implemented on: March 1, 2019

**Issued by: General Administration of Quality Supervision, Inspection and
Quarantine;
Standardization Administration of the PRC**

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Foreword

The entire technical content of this standard is mandatory. This standard was drafted in accordance with the rules given in GB/T 1.1-2009. This standard was proposed and managed by the Ministry of Housing and Urban-Rural Development of the People's Republic of China. This standard was drafted by: China Municipal Engineering North China Design & Research Institute Co., Ltd., Cryth Thermal Energy Technology (Zhongshan) Co., Ltd., Ning Bowanan Co., Ltd., Zhongshan Kavanagh Gas Control System Co., Ltd., Shaanxi Datang Gas Safety Technology Co., Ltd., Hui Dongli Anli Pressure Reducing Valve Manufactory, Rodalexlux Valve (Shanghai) Co., Ltd., Cixi Botman Electric Co., Ltd., Ningbo Shanfeng Valve Co., Ltd., Ningbo Haomei Gas Valve Co., Ltd., National Gas Appliance Quality Supervision and Inspection Center. The main drafters of this standard. Yu Jun, Li Jun, You Jintang, Zhang Feng, Liao Dejin, Liu Bo, Yang Zhennan, Li Bin, Zhang Junfei, Ye Jing, Wu Feng, Yu Xuelian. Bottled liquefied petroleum gas pressure regulator

1 Scope

China's mandatory standard for the pressure regulators fitted to LPG cylinders - the small brass device between a bottle of liquefied petroleum gas and the appliance burning it, present in hundreds of millions of households and restaurants, and the component that fails in a large share of domestic gas accidents. It specifies the terms and definitions, the classification, the requirements, the test methods, the inspection rules and the marking, packaging, transport and storage of regulators for LPG cylinders. What the regulator does is take a pressure that varies with the temperature and the level of liquid in the bottle and deliver a constant low pressure to the appliance, and it has to keep doing that for years while being connected and disconnected by people with no training. The requirements follow from that. The outlet pressure and its stability across the range of inlet pressures and flows; the closing pressure, which is what stops the gas creeping up when the appliance is turned off; the tightness, internal and external, which is the requirement that decides whether a leak develops; the safety devices - the over-pressure shut-off and the relief - that must act if the seat fails; the strength of the body and the connection; the resistance to the ageing of the diaphragm and the seals, since the elastomer is what actually wears out; and the endurance over repeated connection and disconnection. The materials clause matters

more than it looks, because the diaphragm and seat materials have to remain compatible with LPG and its odorant across the whole service temperature range. Issued on 6 February 2018 and in force since 1 March 2019.

This standard specifies the classification and model, requirements, test methods and inspection rules for bottled liquefied petroleum gas pressure regulators (hereinafter referred to as pressure regulators). Signs, warnings and instruction manuals, packaging, transportation and storage. This standard applies to import pressure of 0.03MPa ~ 1.56MPa, rated outlet pressure of 2.80kPa, rated flow is less than or equal to 2m³/h, domestic bottled liquefied petroleum gas pressure regulator with ambient temperature of -20°C to 45°C (hereinafter referred to as domestic pressure regulator); and The inlet pressure is 0.03MPa~1.56MPa, the rated outlet pressure is 2.80kPa or 5.00kPa, and the rated flow is less than or equal to 3.6m³/h, commercial bottled liquefied petroleum gas regulators (hereinafter referred to as commercial regulators) with an ambient temperature of -20°C to 45°C. All pressure values mentioned in this standard refer to gauge pressure.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article Pieces. For undated references, the latest version (including all amendments) applies to this document.

GB/T 196 common thread basic size

GB/T 197 Common thread tolerance

GB/T 1690 vulcanized rubber or thermoplastic rubber liquid resistance test method

GB/T 1804 Tolerances for tolerances of linear and angular dimensions for general tolerances

GB/T 2828.1 Count Sampling Inspection Procedures Part 1. Batch Inspection Sampling Plans Retrieved by Acceptance Quality Limit (AQL)

GB/T 3181 paint film color standard

GB/T 3934 common thread gauge technical conditions

GB/T 5231 processing of copper and copper alloy grades and chemical composition

GB/T 7307 55° non-sealed pipe thread

GB/T 10125 artificial atmosphere corrosion test salt spray test

GB/T 13818 die-cast zinc alloy

GB/T 15115 Die Cast Aluminum Alloy

JB/T 11492 Copper ball valve and stop valve for gas pipelines

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Regulator regulator In the inlet pressure, flow rate and temperature range, always keep the outlet pressure within the preset range. See the main components diagram figure 1.

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