



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

GB/T 39485-2020

**Safety and control devices for gas burners and gas-burning
appliances - Particular requirements - Manual gas valves**

Issued on: November 19, 2020

Implemented on: October 1, 2021

Issued by: SAMR; SAC

Table of Contents

Foreword	3
1 Scope	4
2 Normative references	4
3 Terms and definitions	4
4 Classification and grouping	6
4.1 Classification	6
4.2 Grouping	6
5 Construction and materials	6
5.1 General requirements	6
5.2 Construction	6
5.3 Materials	11
5.4 Gas connections	12
6 Requirements	12
6.1 General requirements	12
6.2 Component requirements	13
6.3 Performance requirements	13
7 Test methods	16
7.1 Test conditions	16
7.2 Component test	16
7.3 Performance requirement test	16
7.4 Sealing angle test of manual gas ball valve	19
8 Inspection rules	19
8.1 Ex-factory inspection	19
8.2 Type inspection	20
9 Marking, installation and operating instructions	21
9.1 Marking	21
9.2 installation and operating instructions	21
9.3 Warning notice	22
10 Packaging, transportation and storage	22
Appendix A (Informative) Structural changes of this Standard compared to ISO 23551-5.2014	23
Appendix B (Informative) Technical differences between this Standard and ISO 23551-5.2014 and reasons therefor	25

Appendix C (Informative) Table of clauses in this Standard supporting the basic requirements of GB 16914-2012	29
Appendix D (Informative) Schematic diagrams of valves	31

1 Scope

This Standard specifies the classification and grouping, construction and materials, requirements, test methods, inspection rules, marking, installation and operating instructions, packaging, transportation and storage of manual gas valves (hereinafter referred to as "valves") for gas burners and gas-burning appliances using city gas as specified in GB/T 13611.

This Standard applies to valves, with a maximum inlet pressure of no more than 500 kPa and a nominal size of no more than DN 50, for gas stoves, integrated stoves, gas ovens, gas burners/machines, gas heating furnaces, gas heaters, gas grills, and other gas-burning appliances or equipment.

This Standard does not apply to manual gas needle valves.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB/T 2828.1, Sampling procedures for inspection by attributes - Part 1. Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection (GB/T 2828.1-2012, ISO 2859-1.1999, IDT)

GB/T 13611, Classification and basic characteristics of city gas

GB/T 30597-2014, General requirements of safety and control devices for gas burners and gas-burning appliances (ISO 23550.2011, MOD)

3 Terms and definitions

For the purposes of this document, the following terms and definitions, as well as those given in GB/T 30597, apply.

3.1 manual gas valve safety lock A device that requires a separate action of the user before being able to open the valve.

4.1 Classification

Valves shall be classified, in accordance with the provisions of 4.1 in GB/T 30597-2014,

into the following categories according to their construction type.

- cock assembly for manual gas valve;
- manual gas ball valve;
- other manual gas valves.

4.2 Grouping

Valve grouping shall comply with the provisions of 4.2 in GB/T 30597-2014.

5.1 General requirements

The general construction of valves shall comply with the provisions of 5.1 in GB/T 30597-2014.

5.2.1 Appearance

The appearance of valves shall comply with the requirements of 5.2.1 in GB/T 30597-2014.

5.2.2.1 Holes used for assembling or installing screws, pins, etc., of valve components

shall not penetrate the gas passage, and the wall thickness between the hole and the gas passage shall not be less than 1 mm.

5.2.2.2 Process holes in the gas passage shall be permanently sealed with metal seals or

firmly sealed with metal seals marked as immovable. Connecting compounds may be used as supplements.

5.2.4 Fastening screws

Fastening screws of valves shall comply with the provisions of 5.2.4 in GB/T 30597-2014.

5.2.5 Movable parts

Movable parts of valves shall comply with the provisions of 5.2.5 in GB/T 30597-2014.

5.2.6 Protective covers

Protective covers of valves shall comply with the provisions of 5.2.6 in GB/T 30597-2014.

5.2.7 Disassembly and reassembly during maintenance and/or adjustment

The disassembly and reassembly of valves during maintenance and/or adjustment shall

comply with the provisions of 5.2.7 in GB/T 30597-2014.

5.2.8 Auxiliary channels

Auxiliary channels of valves shall comply with the provisions of 5.2.8 in GB/T 30597-2014.

5.2.9.1 Except for the following cases, valves shall be opened by rotating

counterclockwise and closed by rotating clockwise.

- a) Valves that supply gas to multiple burners;
- b) When the valve is in the closed position, the valve rod or T-handle is at 90° to the flow direction; when the valve is in the open position, the valve rod or T-handle is parallel to the flow direction.

5.2.9.2 For a valve handle that can be removed without further disassembly of the valve, the removal of the valve handle shall not affect the leak-tightness of the valve; otherwise, a tamper-proof connection shall be used.

5.2.9.4 When the operating spindle is pressed down to release the safety lock, no axial

pressure other than spring pressure shall be applied directly to the closure member.

5.2.10.1 Cock assembly for manual gas valve and other manual gas valves shall be

maintained with a continuous seating force by means other than gravity to compensate for manufacturing tolerances, operational variations or lubricant displacement.

5.2.10.2 During normal use, the force applied to the closure member shall not cause the

closure member to be lifted off the seat or moved to a position that may cause the gas leakage to exceed the value specified in 6.3.1.

5.2.11 Tapered plug

The taper of the tapered plug of the cock assembly for manual gas valve shall be designed to be 1.4 ~ 1.7. The large-diameter end of the tapered plug shall be recessed into the tapered plug cavity, and the small-diameter end shall protrude out of the tapered plug cavity, with sufficient clearance provided for the protruding part.

5.2.12 Sealing angle of manual gas ball valve

When the manual gas ball valve is in the fully closed position, the angle between the gas