

ICS 91.140
CCS P 45



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

GB/T 45776-2025

**Safety and control devices for gas burners and gas appliances -
Particular requirements - Multifunctional controls
(English Translation)**

Issued on: June 30, 2025

Implemented on: January 1, 2026

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

Table of Contents

Preface	
1 Scope	
2 Normative references	
3 Terms and Definitions	
4 Classification and Grouping	
4.1 Classification	
4.2 Group	
5 Structure and Materials	
5.1 General requirements	
5.2 Functional composition	
5.3 Closing mechanism closing control	
5.4 Interactions between functions	
6 Requirements	
6.1 General requirements	
6.2 Airtightness	
6.3 Water-gas linkage valve	
6.4 Overheating safety device	
6.5 Ignition burner and oxygen deficiency protection system	
6.6 Mechanical temperature control function	
6.7 Durability of combined functions	
6.8 Electrical Safety	
6.9 Electromagnetic compatibility safety	
7 Test Method	
7.1 Test conditions	
7.2 Functional Verification	
7.3 Airtightness test	
7.4 Water-gas linkage valve test	
7.5 Overheat safety device test	
7.6 Ignition burner and oxygen deficiency protection system test	
7.7 Mechanical temperature control function test	
7.8 Durability test of combined functions	
7.9 Electrical safety test	

- 7.10 Electromagnetic compatibility safety test
- 8 Inspection Rules
 - 8.1 Factory Inspection
 - 8.2 Type inspection
- 9 Marking, installation and operating instructions
 - 9.1 Sign
 - 9.2 Installation and Operating Instructions
 - 9.3 Warning
- 10 Packaging, transportation and storage
- Appendix A (Informative) Comparison of structure numbers between this document and ISO 23551-8:2023
- Appendix B (Informative) Technical differences between this document and ISO 23551-8:2023 and their causes
- Appendix C (Informative) This document supports the clauses corresponding to the basic requirements of GB 16914-2023 Table
- Appendix D (Normative) Water-gas linkage valve
 - D.1 General
 - D.2 Structure
 - D.3 Requirement
 - D.4 Test method
- Appendix E (Normative) Overheating Safety Device
 - E.1 General
 - E.2 Requirement
 - E.3 Test method
- Appendix F (Normative) Ignition Burner and Oxygen Deficiency Protection System
 - F.1 Structure
 - F.2 Requirement
 - F.3 Test method
- Reference

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document is modified to adopt ISO 23551-8:2023 "Particular requirements for safety

and control devices for gas burners and combustion appliances Part 8 Part. Multi-function control device.

Compared with ISO 23551-8:2023, this document has many structural adjustments. The table below shows the structural number changes between the two documents.

See Appendix A.

This document has many technical differences compared to ISO 23551-8:2023.

A list of these technical differences and their reasons is given in Appendix B.

The following editorial changes have been made to this document.

- a) Added the description of the composition of the multi-function control device in the form of a note (see 3.1);
- b) The note on the term "ignition burner" has been deleted and the source of the term has been added (see 3.6);
- c) Deleted the informative Annexes A, B and C of ISO 23551-8:2023;
- d) Added Appendix A (informative) "Comparison of structure numbers between this document and ISO 23551-8:2023" and Appendix B (informative) "Comparison of structure numbers between this document and ISO 23551-8:2023" Technical differences between this document and ISO 23551-8:2023 and their causes" and Appendix C (Informative) This document supports GB 16914-2023 Basic Requirements Clause Correspondence Table;
- e) Changed the References.

This document is consistent with GB 16914-2023 "Safety Technical Conditions for Gas Burning Appliances". Appendix C provides the supporting Clause correspondence table of GB 16914-2023 basic requirements.

1 Scope

This document specifies the classification and use of multi-function control devices for burners and burning appliances using town gas specified in GB/T 13611.

Grouping, structure and materials, requirements, test methods, inspection rules and marking, installation and operating instructions, packaging, transportation and storage.

This document is applicable to gas burners, combustion appliances or fuels with a nominal size not exceeding DN250 and a maximum inlet pressure not exceeding 500kPa.

Multifunctional control device for combustion equipment.

This document also applies to the following three types of devices.

- Water-gas linkage valve in accordance with Appendix D;
- Overheat safety device in accordance with Appendix E;
- Ignition burner and oxygen deficiency protection system in accordance with Appendix F.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

GB/T 2828.1 Sampling procedures for inspection by attributes Part 1: Sampling plans for batch inspection based on acceptance quality limit (AQL) GB/T 30597 General requirements for safety and control devices for gas burners and combustion appliances (GB/T 30597-2014, ISO 23550:2011, MOD) GB/T 37499 Particular requirements for safety and control devices for gas burners and burning appliances Automatic and semi-automatic valves (GB/T 37499-2019, ISO 23551-1:2012, MOD) GB/T 37992 Particular requirements for safety and control devices for gas burners and combustion appliances - Valve inspection system for automatic stop valves System (GB/T 37992-2019, ISO 23551-4:2018, MOD) GB/T 38390 Particular requirements for safety and control devices for gas burners and combustion appliances - Pressure sensing devices GB/T 38595 Particular requirements for safety and control devices for gas burners and combustion appliances - Mechanical temperature control devices (GB/T 38595-2020, ISO 23551-9:2015, MOD) GB/T 38603 Particular requirements for safety and control devices for gas burners and combustion appliances Electronic controllers GB/T 38693 Particular requirements for safety and control devices for gas burners and combustion appliances - Thermoelectric flameout protection devices (GB/T 38693-2020, ISO 23551-6:2014, MOD) GB/T 39485 Particular requirements for safety and control devices for gas burners and burning appliances - Manual gas valves (GB/T 39485-2020, ISO 23551-5:2014, MOD) GB/T 39488 Particular requirements for safety and control devices for gas burners and burning appliances Electronic gas and air ratio control System (GB/T 39488-2020, ISO 23552-1:2007, MOD) GB/T 39493 Particular requirements for safety and control devices for gas burners and combustion appliances - Pressure regulating devices (GB/T 39493-2020, ISO 23551-2:2018, MOD) GB/T 45384 Particular requirements for safety and control devices for gas burners and burning appliances Pneumatic gas and air ratio control Section device