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Secretariat: DIN

Safety and control devices for gas burners and gas-burning appliances — Particular requirements — Part 5: Manual gas valves

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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO ~~documents~~document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

~~Attention is drawn~~ISO draws attention to the possibility that ~~some of the~~elementsimplementation of this document may ~~be involve~~the ~~subject~~use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO [had/had not] received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at [www.iso.org/patents](http://www.iso.org/patents). ISO shall not be held responsible for identifying any or all such patent rights. ~~Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).~~

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 161, *ControlControls and protective devices for gasgaseous and/or oil liquid fuels*.

This second edition cancels and replaces the first edition (ISO 23551-5:2014), which has been technically revised. ~~The main changes compared to the previous edition are as follows:~~

— ~~The main changes are as follows:~~

— ~~the document has been~~ updated to align technically and with the revised format of ~~the latest edition of~~ISO 23550:2018;

— ~~additional changes include correcting~~— references to the current Annexannex structure ~~have been corrected~~.

~~A list of all parts in the ISO 23551 series can be found on the ISO website.~~

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

~~A list of all parts in the ISO 23551 series can be found on the ISO website.~~

## Introduction

This document is designed to be used in combination with ISO 23550. This document, together with ISO 23550, establishes the full requirements as they apply to the product covered by this document.

Where needed, this document adapts ISO 23550 by stating- in the corresponding clause:

- “with the following modification”;
- “with the following addition”;
- “is replaced by the following”; or
- “is not applicable”.

In order to identify specific requirements that are particular to this document, that are not already covered by ISO 23550, this document ~~may contain~~contains certain clauses or subclauses that are additional to the structure of ISO 23550. These subclauses are indicated by the introductory sentence: “Subclause (or Annex) specific to this document”.

To ensure the global relevance of this document, the differing requirements resulting from practical experience and installation practices in various regions of the world have been taken into account. The variations in basic infrastructure associated with gas and/or oil controls and appliances have also been recognized, some of which are addressed in Annexes F, G and H. This document intends to provide a basic framework of requirements that recognize these differences.

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# Safety and control devices for gas burners and gas-burning appliances — Part 6: ~~Thermoelectric flame supervision controls~~ 5: Manual gas valves

## 1 Scope

This document specifies safety, constructional and performance requirements for manual gas valves intended for use with gas burners and gas-burning appliances, hereafter referred to as "valves", unless otherwise specified.

This document applies to the following types of manual gas valves:

- manual gas shut-off valves;
- gas burner valves;
- appliance connector valves;
- delta C valves.

This document applies to valves for gas burners and gas-burning appliances of nominal connection size up to and including DN 100 that can be used and tested independently of these appliances using fuel gases, as natural gas, manufactured gas or liquefied petroleum gas (LPG) at inlet pressures up to and including 500 kPa.

This document is not applicable to corrosive and waste gases.

This document covers type testing only.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

ISO 23550:2018, *Safety and control devices for gas and/or oil burners and appliances* — General requirements

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 23550 and the following apply.

ISO and IEC maintain ~~terminological~~terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

### 3.1

#### manual gas shut-off valve

manually-operated valve for the control of the gas flow from an "off" to an "on" position and vice versa

## **ISO/FDIS 23551-5:2023(E)**

Note 1 to entry: Parts commonly used in manual gas shut-off valves are shown as examples in Figure I.1 to Figure I.5.

### **3.2**

#### **delta C valve**

manual gas valve suitable for use on food service equipment (commercial cooking equipment)

~~Note 1 to entry: These valves are identified by a “ $\triangle$ ” marking.~~

Note 1 to entry: These valves are identified by a  $\triangle_C$  marking.

### **3.3**

#### **gas burner valve**

manual gas valve that requires user initiation of each usage cycle

Note 1 to entry: This type of manual gas valve is intended to be used between the gas supply piping and the gas burner.

Note 2 to entry: The valve is turned on when the burner operating cycle is initiated and turned off when the burner operating cycle is completed.

### **3.4**

#### **appliance connector valve**

manual gas valve having a *non-displaceable valve member* (3.7), a minimum specified *capacity* (3.9) and an internal taper pipe thread inlet and an outlet for flared tubing connection

Note 1 to entry: This type of manual gas valve is intended to be used between the gas supply piping and the appliance connector attached to the appliance.

Note 2 to entry: For minimum capacity ~~(3.9)~~, see Table-2, and for inlet and outlet connection, see 6.7.

### **3.5**

#### **bearing seal**

shortest distance between gas-carrying parts and the atmosphere measured along the length of the sealing surfaces

### **3.6**

#### **plug**

tapered valve member of a manual gas valve containing one or more gas flow openings

### **3.7**

#### **non-displaceable valve member**

valve member that cannot be moved from its seat by a force applied to the handle, or force applied by a plane surface to any exterior portion of the valve

### **3.8**

#### **safety lock**

means in a manual valve that requires a separate action of the user before ~~being able to open~~ the valve can be opened

EXAMPLE Pushing on the valve handle to “unlatch” the valve before the valve handle can be rotated to turn on the gas.

### **3.9**

#### **capacity**

amount of a specified gas that flows through a control at a specified pressure drop in a fixed period of time