



BSI Standards Publication

Safety and control devices for gas burners and gas-burning appliances — Particular requirements

Part 10: Vent valves

National foreword

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The UK participation in its preparation was entrusted to Technical Committee GSE/22, Safety and control devices for gas and oil burners and gas burning appliances.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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

**Part 10:
Vent valves**

*Dispositifs de commande et de sécurité pour brûleurs à gaz et
appareils à gaz — Exigences particulières —*

Partie 10: Robinets d'évent

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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 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).

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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.

This document was prepared by Technical Committee ISO/TC 161, *Control and protective devices for gaseous and liquid fuels*.

The second edition cancels and replaces the first edition (ISO 23551-10:2016), which has been technically revised.

The main changes compared to the previous edition are as follows:

- the endurance test has been restructured and the test cycles changed;
- the hydrostatic withstand pressure test has been added;
- specific regional requirements that were previously contained in regional Annexes have been relocated to the main body of the documents (and the annexes have been deleted);
- the document has been updated to align with IEC 60730-1:2022;

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.

Introduction

This document is designed to be used in combination with ISO 23550. Together with ISO 23550, this document establishes the full requirements as they apply to vent valves.

Where needed, this document adapts ISO 23550 by stating in the corresponding clause number and adding:

- “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 can contain 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 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.

Safety and control devices for gas burners and gas-burning appliances — Particular requirements —

Part 10: Vent valves

1 Scope

This document specifies safety, constructional, performance and testing requirements of normally open automatic vent valves, hereafter referred to as “valves”.

This document applies to valves with a declared maximum operating pressure up to and including 500 kPa of nominal connection sizes up to and including DN 100 (4”), for use in gas control train of gas burners or in appliances using gaseous fuels such as natural, manufactured or liquefied petroleum gas (LPG). It is not applicable to corrosive and waste gases.

This document applies to:

- electrically operated valves and to valves actuated by fluids where the control valves for these fluids are actuated electrically, but not to any external devices for switching the control signal or actuating energy;
- valves fitted with open position indicator switches.

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*

IEC 60730-1:2022, *Automatic electrical controls — Part 1: General requirements*

IEC 60529:2018, *Degrees of protection provided by enclosures (IP Code)*

IEC 61058-1, *Switches for appliances — Part 1: 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 databases for use in standardization at the following addresses:

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

3.1

automatic vent valve

device which closes when energized and opens automatically when de-energized

Note 1 to entry: These valves are typically used as bleed valves in a block and bleed application.

3.2

actuating mechanism

part of the valve which moves the closure member to the closed position

3.3

open position indicator switch

switch fitted to a valve which indicates when the closure member is in the open position

3.4

actuating energy

required energy for the actuating mechanism to move the closure member to the closed position

Note 1 to entry: The actuating energy may have an external source (electrical, hydraulic or pneumatic) and can be transformed inside the valve.

3.5

opening force

force required to open the valve, independent of any force provided by fuel gas pressure

3.6

frictional force

largest force required to move the actuating mechanism and the closure member from the closed position to the open position with the opener spring removed, independent of any force provided by fuel gas pressure

3.7

actuating pressure

hydraulic or pneumatic pressure supplied to the actuating mechanism of the valve

3.8

opening time

time interval between de-energizing the valve and the closure member attaining the open position

3.9

closing time

time interval between energizing the valve and the closure member attaining the closed position

3.10

delay time

time interval between energizing the valve and the start of the closure member moving to the closed position

3.11

control valve

valve which controls the hydraulic or pneumatic means supplied to the actuating mechanism

3.12

rated voltage

voltage as stated in the installation and operating instructions at which the valve may be operated

3.13

rated current

current as stated in the installation and operating instructions at which the valve may be operated