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

**Part 2:  
Pressure regulators**

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

*Partie 2: Régulateurs de pression*



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ISO copyright office  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Fax: +41 22 749 09 47  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

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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 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 to the possibility that some of the elements of this document may be the subject of patent rights. 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, *Controls and protective devices for gas and/or oil*.

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).

This second edition cancels and replaces the first edition (ISO 23551-2:2006), which has been technically revised. The main changes compared to the previous edition are as follows:

- a) this document has been aligned with the structure of ISO 23550:2018;
- b) the following have been merged into one document:
  - pressure regulators (ISO 23551-2),
  - zero pressure regulators (new functions), and
  - gas/air ratio controls, pneumatic types (ISO 23551-3);
- c) the Introduction has been rewritten;
- d) [Clause 1](#) now extends to pressure regulators and pneumatic gas/air ratio pressure regulators at inlet pressures up to and including 500 kPa; auxiliary energy may be used to change the set point;
- e) [Clause 2](#) has been updated;
- f) [Clause 3](#) has been updated and new definitions have been updated;
- g) in [Clause 4](#), new regulator class D has been added for supply situations with low fluctuations;
- h) [Clause 5](#) now refers to Annexes including the new [Annex L](#) for gas/air ratio pressure regulators;
- i) requirements for breather holes have been moved from Clause 6 to ISO 23550:2018;

- k) [Clause 7](#) has been structured into “General”, “Requirements” and “Test”;
- l) [Clause 8](#) has been added without reflecting structure and requirements as in ISO 23550:2018;
- m) [Clause 9](#) has been renumbered;
- n) [Clause 10](#) has been renumbered and amended to cover the additional regulator types;
- o) new [Annex I](#) has been added;
- p) former [Annex B](#) has been updated and renumbered into [Annex J](#);
- q) former [Annex C](#) has been updated and renumbered into [Annex K](#);
- r) new [Annex L](#) has been added;
- s) former [Annex E](#) has been updated and renumbered into [Annex M](#);
- t) new [Annexes F, G and H](#) have been added for regional requirements.

A list of all the 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. Together with ISO 23550, this document 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 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 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.





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

## Part 2: Pressure regulators

### 1 Scope

This document specifies safety, construction, performance and testing requirements for pressure regulators and pneumatic gas/air ratio pressure regulators intended for use with gas burners and gas-burning appliances.

This document applies to pressure regulators and pneumatic gas/air ratio pressure regulators of nominal connection size up to and including DN 250 at inlet pressures up to and including 500 kPa, for use with natural gas, manufactured gas or liquefied petroleum gas (LPG). It is not applicable to corrosive and waste gases.

This document is specifically applicable to:

- positive, zero and negative pressure regulators which can use auxiliary energy to change the outlet pressure setting;
- pneumatic gas/air ratio pressure regulators, which function by controlling a gas outlet pressure in response to an air signal pressure, air signal differential pressure, and/or to a combustion chamber pressure signal;
- gas/air ratio pressure regulators, which function by controlling an air outlet pressure in response to a gas signal pressure or a gas signal differential pressure.

This document does not cover:

- pressure regulators connected directly to gas distribution network or to a container that maintains a standard distribution pressure;
- pressure regulators intended to be installed in the open air and exposed to the environment;
- mechanically linked gas/air ratio controls;
- electronic pressure regulators and gas/air ratio regulators, which are contained in ISO 23552-1.

This document covers type testing only.

NOTE [Annexes A](#) to [H](#) reference the relevant annexes of ISO 23550, general requirements and are applicable where required.

### 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, *Safety and control devices for gas burners and gas-burning appliances — General requirements*