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

**Part 1:
Automatic and semi-automatic valves**

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

Partie 1: Robinets automatiques et semi-automatiques



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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).

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).

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

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 161, *Control and protective devices for gas and/or oil burners and appliances*.

This second edition cancels and replaces the first edition (ISO 23553-1:2007), which has been technically revised. It also incorporates the Technical Corrigendum ISO 23553-1:2007/Cor1:2009).

ISO 23553 consists of the following parts, under the general title *Safety and control devices for oil burners and oil-burning appliances — Particular requirements*:

— *Part 1: Automatic and semi-automatic valves.*

It should be noted that the following significant technical changes compared to the previous edition have been incorporated in this part of ISO 23553:

- a) change of the title from shut-off valves to automatic and semi-automatic valves;
- b) extension of the scope to automatic and semi-automatic valves;
- c) introduction of further classifications for valves;
- d) inclusion of references to the general electrical requirements of IEC 60730-1:2010;
- e) integration of non electrical requirements from IEC 60730-2-19;
- f) integration of electrical requirements from IEC 60730-2-19 which are unalterable for valves;
- g) inclusion of the subclause [7.7.103](#) "Test of endurance of electrically operated valves";
- h) change of endurance cycles for valves up to DN 15;
- i) extended limits of internal leakage for valves \leq DN 50;
- j) test of closing function updated.

Introduction

This part of ISO 23553 is designed to be used in combination with ISO 23550. This part together with ISO 23550 establishes the full requirements as they apply to the product covered by this part of ISO 23553. This part of ISO 23553 adapts ISO 23550, where needed, by stating “with the following modification”, “with the following addition”, “is replaced by the following” or “is not applicable,” in the corresponding clause.

In order to identify specific requirements that are particular to this part of ISO 23553, 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 clauses are numbered starting from 101 or, in the case of an Annex, are designated AA, BB, CC etc.

In an attempt to develop a fully International Standard, it has been necessary to take into consideration the differing requirements resulting from practical experience and installation practices in various regions of the world and to recognize the variation in basic infrastructure associated with oil controls and appliances, some of which are addressed in [Annexes E, F and G](#). This part of ISO 23553 intends to provide a basic framework of requirements that recognizes these differences.

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

Part 1: Automatic and semi-automatic valves

IMPORTANT — When reference is made in this part of — ISO 23553 to ISO 23550, the word “gas” shall be replaced by “oil” as appropriate. The current base standard, ISO 23550:2011, focuses on gas controls only. It is, however, the intention to revise the base standard in such a fashion that both, gas and oil product standards can be used in conjunction with the base standard. Attention is drawn especially to the following subclauses: [6.4](#), [7.4](#) and [7.5](#).

1 Scope

This part of ISO 23553 specifies safety, constructional and performance requirements and testing of automatic and semi-automatic valves for oil.

It applies to automatic and semi-automatic valves which are:

- normally closed;
- used in combustion plants to interrupt the oil flow with or without delay on closing;
- for use with oil types (e.g. middle distillate fuel oil, crude oil, heavy fuel oil or kerosene) without gasoline;

NOTE 1 For other oil types (e.g. oil emulsions), additional test methods can be agreed between the manufacturer and the test authority.

NOTE 2 Oil types from petroleum refining processes are classified ISO-F-D in ISO 8216-99 and form part of a device having other function(s), such as oil pumps. In this case the test methods apply to those parts or components of the device forming the automatic and semi-automatic valves, i.e. those parts which are necessary for the closing function;

- for use on burners or in appliances using oil;
- directly or indirectly operated, electrically or by mechanical or hydraulic means;
- fitted with or without closed-position indicator switches.

This part of ISO 23553 covers type testing only.

2 Normative references

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

ISO 228-1, *Pipe threads where pressure-tight joints are not made on the threads — Part 1: Dimensions, tolerances and designation*

ISO 272, *Fasteners — Hexagon products — Widths across flats*

ISO 1179-1, *Connections for general use and fluid power — Ports and stud ends with ISO 228-1 threads with elastomeric or metal-to-metal sealing — Part 1: Threaded ports*