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

**Part 9:  
Mechanical gas thermostats**

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

*Partie 9: Thermostats mécaniques*



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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 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*.

ISO 23551 consists of the following parts, under the general title *Safety and control devices for gas burners and gas-burning appliances — Particular requirements*:

- *Part 1: Automatic and semi-automatic valves*
- *Part 2: Pressure regulators*
- *Part 3: Gas/air ratio controls, pneumatic type*
- *Part 4: Valve-proving systems for automatic shut-off valves*
- *Part 5: Manual gas valves*
- *Part 6: Thermoelectric flame supervision controls*
- *Part 8: Multifunctional controls*
- *Part 9: Mechanical gas thermostats*

An additional part dealing with vent valves is planned.

## Introduction

This part of ISO 23551 is designed to be used in combination with ISO 23550. This part of ISO 23551, together with ISO 23550, establishes the full requirements as they apply to the product covered by this International Standard. This part of ISO 23551 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 23551 that are not already covered by ISO 23550, this part of ISO 23551 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 an 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 gas and/or oil controls and appliances, some of which are addressed in [Annex E](#) to [Annex G](#). This part of ISO 23551 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 9: Mechanical gas thermostats

### 1 Scope

This part of ISO 23551 specifies safety, constructional, and performance requirements and testing of mechanical gas thermostat for gas burners, gas appliances, and similar use hereafter referred to as “thermostats”.

This part of ISO 23551 covers type testing only.

This part of ISO 23551 applies to mechanical gas thermostats of nominal connection sizes up to and including DN 50 with declared maximum inlet pressures up to and including 50 kPa for burners and gas-burning appliances using fuel gases as natural gas, manufactured gas, and liquefied petroleum gas (LPG).

This part of ISO 23551 applies to mechanical thermostats controlling the gas flow directly or indirectly through an integral gas valve and which do not require external electrical energy for their operation.

This part of ISO 23551 only applies to mechanical thermostats used on gas appliances where the thermostat is not directly exposed to the outdoor environment.

This part of ISO 23551 only applies to mechanical thermostats which are intended for operating control functions.

### 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 23550:2011, *Safety and control devices for gas burners and gas-burning appliances — General requirements*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 23550:2011 and the following apply.

#### 3.101

##### **mechanical thermostat**

thermostat which controls the temperature by adjusting the flow rate accordingly to the temperature of the *thermal sensing element* (3.111) without any external energy such that the temperature remains within defined limits

#### 3.102

##### **adjustable thermostat**

*mechanical thermostat* (3.101) in which the *temperature set-point* (3.115) can be adjusted by the user to anywhere between minimum and maximum values