TECHNICAL SPECIFICATION

ISO/TS 21364-21

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Domestic gas cooking appliances — Safety —

Part 21: Particular requirements for gas hobs, gas grills and gas griddles

Appareils de cuisson domestiques utilisant les combustibles gazeux — Sécurité —
Partie 21: Exigences particulières pour les tables de cuisson à gaz, grils à gaz et grils par contact à gaz

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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 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 the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 291, *Domestic gas cooking appliances*.

A list of all parts in the ISO 21364 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 provides general requirements for safety of domestic gas cooking appliances.

This document can also be applied, so far as is reasonable, to appliances not mentioned in this specific document and to appliances designed on the basis of new principles, in which case additional requirements may be necessary.

Where no specific International Standard for an appliance exists, the appliance can be tested according to this document and further tests which take into account the intended use.

Gas burning appliances using fuel gases need to withstand the type of gas which is specified. Other ISO technical committees, e.g. ISO/TC 193, Natural gas, deal with the testing and properties of fuel gases.

Note that, due to the differing properties of fuel gas depending on its source/region of origin, certain differences in regulations exist at present in different regions; some of these differences are presented in Annex A.

This document covers type testing.

This document series is structured as follows:

ISO 21364 Domestic gas cooking appliances – Safety

— Part 1: General requirements

— Part 21: Particular requirements for hobs, surface grills and griddles

— Part 22: Particular requirements for ovens and compartment grills

This document of ISO 21364 is designed to be used in combination with ISO/TS 21364-1. Together, they establish the full requirements as they apply to the product covered by this document. Where needed, this document adapts ISO/TS 21364-1 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/TS 21364-1, this document may contain clauses or subclauses that are additional to the structure of ISO/TS 21364-1.

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 appliances have also been recognized, some of which are addressed in ISO/TS 21364-1:2021, Annex E and ISO/TS 21364-1:2021, Annex A. This document intends to provide a basic framework of requirements that recognize these differences.

Domestic gas cooking appliances — Safety —

Part 21:
Particular requirements for gas hobs, gas grills and gas griddles

1 Scope

This document specifies particular requirements for safety, construction and materials of household gas surface cooking appliances. For general requirements for safety, construction and materials of gas hobs, see ISO/TS 21364-1:2021.

This document covers the following:

— surface cooking appliances:

  — hobs;

  — surface grills;

  — griddles;

  being built-in, part of a cooking appliance or table top;

— hobs accessories.

It does not cover surface cooking appliances intended for outdoor use and/or commercial use as well as electrical heated elements as part of the appliance. It also does not cover appliances with automatic burner control systems.

NOTE 1 For requirements of electrical safety refer to the IEC 60335 standard series.

NOTE 2 Attention is drawn to the fact that

— for appliances intended to be used in vehicles or on board of ships or aircrafts, additional requirements could be necessary;

— in many countries additional requirements are specified by the national health authorities, the national water supply authorities and similar authorities.

This document does not cover requirements relating to gas cylinders, their pressure regulators and their connections.

This document does not cover requirements for gas installation.

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/TS 21364-1:2021, *Domestic gas cooking appliances – Safety- Part 1: General requirements*

ISO 23551-8:2016+A1:2019, *Safety and control devices for gas burners and gas-burning appliances — Particular requirements — Part 8: Multifunctional controls*

IEC 60730-2-9:2015+A1:2018, *Automatic electrical controls for household and similar use — Part 2-9: Particular requirements for temperature sensing controls*

3 Terms and definitions

For the purposes of this document, the terms and definitions of ISO/TS 21364-1:2021 apply with the following additions.

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

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1 Definitions relating to components

3.1.1
open burner
hob burner with the flame in direct contact with the pan

3.1.2
multi-ring burner
hob burner assembly having two or more rings of burner ports

Note 1 to entry: The term ring includes any distribution of burner ports around the central axis of the burner.

Note 2 to entry: A detailed description of the different types of multi-ring burners and their operating modes is given in Table 1.

3.1.3
multi-ring burner with sectional control

multi-ring burner (3.1.2) that is so designed that one or more of its rings of burner ports can be utilised independently

3.1.4
multi-ring burner with simple control
multi-ring burner (3.1.2) that is so designed that its rings of burner ports cannot be utilised independently

3.1.5
overheating safety device
temperature sensing device which is intended to keep temperature below one particular value during abnormal operating conditions of the appliance and which has no provision for setting by the end user

Note 1 to entry: These devices usually use a thermistor or a bimetal sensing part (element).

[SOURCE: ISO 23551 8:2016+A1:2019, Annex B]

4 Components in gas cooking appliances

Clause 4 of ISO/TS 21364-1:2021 applies, with the following additions.

4.1 General

Clause 4.1 of ISO/TS 21364-1:2021 applies.

4.2 Manual gas shut-off valves (Taps)

ISO/TS 21364-1:2021, 4.2 applies with the following additions.

4.2.1 Taps for multi-ring burners

The "off" position of a single sectional control with two closing directions for multi-ring hob burners shall be designed to make it impossible for the tap knob to be inadvertently moved from one adjustment range to another. However, if each ring of such multi-sectional hob burner is supervised by a flame supervision device, the single sectional control shall stop in its "off" position.

4.3 Knobs

ISO/TS 21364-1:2021, 4.3 applies with the following additions.

4.3.1 Design of knobs

ISO/TS 21364-1:2021, 4.3.1 applies with the following additions.

4.3.1.1 Multi-ring burner knobs

If the control knob operates by turning, the closing direction shall only be clockwise. This does not apply to multi-ring hob burners with a single sectional control and two closing directions.

4.4 Multifunctional controls

ISO/TS 21364-1:2021, 4.4 applies.

4.5 Thermoelectric flame supervision controls

ISO/TS 21364-1:2021, 4.5 applies.

4.6 Thermostats

ISO/TS 21364-1:2021, 4.6 applies.

4.7 Pressure regulators

ISO/TS 21364-1:2021, 4.7 applies.

4.8 Automatic shut-off valves

ISO/TS 21364-1:2021, 4.8 applies.

4.9 Injectors and adjusters

ISO/TS 21364-1:2021, 4.9 applies.

4.10 Ignition systems

ISO/TS 21364-1:2021, 4.10 applies.

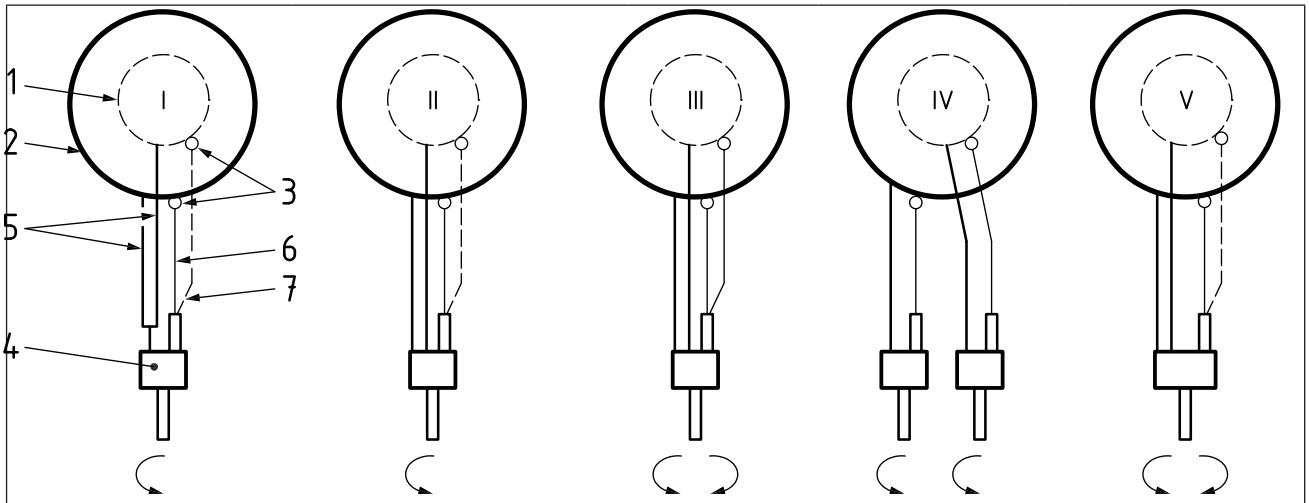
4.11 Thermal cut-outs

ISO/TS 21364-1:2021, 4.11 applies.

4.12 Multi-ring burners

Table 1 shows examples of multi-ring burners and their operating modes.

Table 1 — Examples of types of multi-ring burners and their operating modes



Key

1 Inner Burner-ring
2 Outer Burner-ring
3 Flame supervision sensor
4 Burner control (tap)
5 Gas supply
6 Connection to FSD
7 Alternative connection to FSD

FSD at inner **or** outer burner ring	FSD at inner **or** outer burner ring	FSD at inner **and** outer burner ring	FSD at inner **and** outer burner ring	FSD at inner **or** outer burner ring
Type I Simple control	**Type II** Sectional control	**Type III** Sectional control with two turning directions	**Type IV** Two single burners	**Type V** Sectional control with two turning directions
Multi-ring burner that is so designed that its rings of burner ports cannot be utilized independently, controlled by a tap with one outlet for common supply of all burner rings with one turning direction.	Multi-ring burner that is so designed that one or more of its rings of burner ports can be utilized independently, controlled by a tap with two or more outlets for separate supply of the burner rings with one turning direction.	Multi-ring burner that is so designed that one or more of its rings of burner ports can be utilized independently, controlled by a tap with two or more outlets for separate supply of the burner rings with two turning directions. The two rings cannot be operated together.	Multi-ring burner that is so designed that it has two or more taps each with one outlet for separate supply of the burner rings and same turning direction.	Multi-ring burner that is designed so that it has two turning directions. One direction is for utilizing one burner ring. The other direction is to utilize both burner rings.

4.13 Overheating safety devices

4.13.1 Requirement

An overheating safety device, if any, shall conform with the requirements in ISO 23551-8:2016+A1:2019, Annex B.

Electrical safety requirements for the overheating safety device shall be according to IEC 60730-2-9:2015+A1:2018+A2:2020.