

SLOVENSKI STANDARD

SIST EN 203-1

prva izdaja
december 1997

Plinske naprave za gostinstvo - 1. del: Varnostne zahteve (prevzet EN 203-1:1992 in EN 203-1:1992/AC:1993 z metodo platnice)

Gas heated catering equipment - Part 1: Safety requirements

Appareils de cuisine professionnelle utilisant les combustibles gazeux -
Partie 1: Règles générales de sécurité

Großküchengeräte für gasförmige Brennstoffe - Teil 1: Allgemeine
Festlegungen für die Sicherheit

Deskriptorji: gostinska oprema, plinski aparati, kuhalne naprave, varnostne zahteve, specifikacije opreme, lastnosti, zmogljivost, gorilniki, tesnost, prepustnost, preskušanje, tehnične opombe, označevanje

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SIST EN 203-1:1997 ((sl),en)

Nadaljevanje na straneh od II do III, od 1 do 73 in od 1 do 2

UVOD

Standard SIST EN 203-1, Plinske naprave za gostinstvo - 1. del: Varnostne zahteve, prva izdaja, 1997, ima status slovenskega standarda in je z metodo platnice prevzet evropski standard EN 203-1, Gas heated catering equipment - Part 1: Safety requirements, 1992-08, skupaj s popravkom EN 203-1:1992/AC:1993, v angleškem jeziku.

NACIONALNI PREDGOVOR

Evropski standard EN 203-1:1992 in popravek EN 203-1:1992/AC:1993 sta pripravila tehnični odbor Evropske organizacije za standardizacijo CEN/TC 106 Large kitchen appliances using gaseous fuels (Plinski aparati za gostinstvo).

Evropski standard EN 203 obsega dva dela: prvi del vsebuje varnostne zahteve plinskih naprav za gostinstvo, drugi pa učinkovito rabo energije plinskih naprav za gostinstvo.

Drugi del standarda SIST EN 203-2:1995 je bil prevzet 1996-10.

Deli besedila standarda EN 203-1:1992, ki govore o definicijah, preskusnih plinih in kategorijah aparatov, bodo nadomeščeni z besedili novih standardov - dopolnili, ki bodo sledila.

Dopolnilo EN 203-1:1992/A1:1995, ki je sestavni del tega standarda, je bilo prevzeto 1997-11 in vključuje dodatek za uporabo v Sloveniji.

Odločitev za prevzem evropskega standarda EN 203-1:1992 in popravka EN 203-1:1992/AC po metodi platnice je dne 1996-09-25 sprejel tehnični odbor USM/TC PLN Plinske naprave za dom.

[SIST EN 203-1:1997](https://standards.itech.ai/catalog/standards/sist/f1fb381-e478-4860-8bbc-19ac95a2e211-1992-08)

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V delih, ki vsebujejo značilnosti posameznih držav, se standard dopolni s podatki oziroma parametri, ki veljajo v Sloveniji.

Ta slovenski standard je dne 1997-12-05 odobril direktor USM.

NACIONALNI DODATEK

Navedene tabele se dopolnijo s parametri, ki veljajo v Sloveniji:

Stran 61 - tabela 5: Kategorije aparatov, ki se prodajajo v posameznih državah

V Sloveniji se uporabljajo kategorije aparatov: I_{2H}, I₃, II_{2H3}.

Stran 64 - tabela 6: Vrste priključkov, ki se uporabljajo v posameznih državah

Za vse kategorije aparatov se uporabljajo navojni priključki, definirani v mednarodnih standardih ISO 7-1 in ISO 228-1.

Stran 66 - tabela 8: Priključni tlaki za aparate

V Sloveniji se uporabljajo G20/20 mbar, G30/30 mbar in G31/30 mbar.

Opomba: Navedeni parametri so z dopolnilom SIST EN 203-1:1992/A1:1995 spremenjeni.

ZVEZE S STANDARDI

S prevzemom tega evropskega standarda veljajo poleg standardov, navedenih v izvorniku, še naslednje zveze:

SIST EN 203-1:1992/A1:1997	Plinske naprave za gostinstvo - 1. del: Varnostne zahteve - Dopolnilo A1
SIST ISO 7-1:1995	Cevni navoji, pri katerih je tesnjenje izvedeno z navojem - 1. del: Mere, tolerance in označevanje
SIST ISO 228-1:1995	Cevni navoji, pri katerih tesnjenje ni izvedeno z navojem - 1. del: Mere, tolerance in označevanje

OSNOVA ZA IZDAJO STANDARDARDA

- Prevzem standarda EN 203-1:1992 in popravka EN 203-1:1992/AC:1993.

OPOMBI

- Povsod, kjer se v besedilu standarda uporablja izraz "evropski standard", v SIST EN 203-1:1997 to pomeni "slovenski standard".
- Uvod in nacionalni predgovor nista sestavni del standarda.

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EUROPEAN STANDARD

EN 203-1:1992

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 1992

UDC 641.534.06:64.022/.026:620.1:614.8

Descriptors: Communal equipment, gas appliances, cooking devices, safety requirements, equipment specifications, performance evaluation, burner, gas permeability tests, performance tests, technical notices, marking

English version

Gas heated catering equipment - Part 1: safety requirements

Appareils de cuisine professionnelle utilisant les combustibles gazeux - Partie 1: Règles générales de sécurité

Großküchengeräte für gasförmige Brennstoffe - Teil 1: Allgemeine Festlegungen für die Sicherheit

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

The European Standards exist in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

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Foreword

The standard prEN 203 drawn up by the MARCOGAZ-EFC EM-CL 11 Liaison Commission "Large scale kitchen gas appliances" was directly submitted to a preliminary vote of the CEN members up until the 15th May 1983.

This document having been the subject of numerous comments, the CEN Central Secretariat and MARCOGAZ proposed, by mutual agreement, that these comments be dealt with by the CL 11 reporting group.

The latter, having been unable to solve a good number of these comments, prompted the Technical Committee CEN/TC 106 to meet in Paris on 11th June 1987. Considering the work currently in hand at the CEC, CEN/TC 106 decided to submit to a new CEN Public Enquiry a draft standard drawn up by the EFCEM which is limited to safety aspects and based on the initial draft.

National Standards identical to this European Standard shall be published, and conflicting National Standards shall be withdrawn at the latest by the end of february 1993.

This European Standard EN 203-1 was approved by CEN on 1992-07-01.

According to the common CEN/CENELEC Rules, the following countries are bound to implement this European Standard:

Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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Introduction

This standard specifies the safety of commercial catering appliances. It will be followed by a second part which deals with efficiency and fitness for purpose.

When the European Standard dealing with definitions, test gases and categories of appliances have been published, the corresponding clause of this standard will be replaced by those of these new standards.

1 General

1.1 Scope

This standard specifies the requirements for the construction and operating characteristics relating to the safety (1) of appliances for gas-heated which have atmospheric induction burners. (See TC 106 N 29). It also sets out the appropriate test conditions for the control of these characteristics.

Only type A and B₁ appliances (appliances for natural draught) are covered in this standard.

This standard applies to all gas heated catering preparation and cooking appliances, with the following exceptions :

- appliances with total pre-mix burners,
- type B₂ appliances (without draught diverter).

1.2 - Normative references

ISO 7-1:1982 Pipe threads where pressure-tight joints are made on the threads - Part 1 : Designation, dimensions and tolerances

ISO 228-1:1982 Pipe threads where pressure-tight joints are not made on the threads - Part 1 : Designation, dimensions and tolerances

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1.3 Terminology [.itech.ai/catalog/standards/sist/f11fb381-e478-4860-8bbc-994ac7db6394/sist-en-203-1-1997](#)

1.3.1 Terminology referring to combustible gases

1.3.1.1 Calorific values

The quantity of heat produced by the complete combustion of unit volume or mass of gas at a constant pressure of 1013 mbar, the constituents of the combustible mixture being taken at 0°C, 1013 mbar and the products of combustion being taken under the same conditions.

(1) The term "safety" includes not only the safety of the appliances' gas line but also that of the overall cooking appliance during its normal use in catering.

In practice, the water vapour is not usually condensed, in which case the latent heat in the products of combustion is not recovered. This leads to a distinction between two types of calorific value (at constant pressure) :

- gross calorific value : the water produced by combustion is assumed to be condensed (only net c.v is used in this standard),
- net calorific value : the water produced by combustion is assumed to remain in the vapour state.

Calorific values are expressed in units of heat :

- per unit volume of gas taken at 0°C, 1013 mbar; it is then expressed in megajoules per cubic metre (MJ/m³)
- or per unit mass of dry gas; it is then expressed in megajoules per kilogramme (MJ/kg).

1.3.1.2 Relative density

The ratio of the masses of equal volumes of gas and dry air taken at normal reference conditions.

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1.3.1.3 Wobbe number (standards.iteh.ai)

The ratio of the calorific value per unit volume of a gas to the square root of its relative density. The Wobbe Number is said to be gross or net according to whether the gross or net calorific value is used.

It is expressed in megajoules per cubic metre (MJ/m³).

1.3.1.4 Gas supply pressure - test pressure

The static pressure measured at the inlet connection of the appliance, with the appliance in operation.

It is expressed in millibars (mbar).

1.3.2 General terminology referring to appliance design

1.3.2.1 Terminology referring to the gas circuit

1.3.2.1.1 Gas circuit

The part of the appliance between the gas inlet connection and the burner(s), which conveys or contains the gas.

1.3.2.1.2 Inlet connection

The part of the appliance which is intended to be connected to the gas supply.

1.3.2.1.3 Mechanical soundness joint (or mechanical means of obtaining soundness)

An assembly of several parts, generally metallic, which achieves soundness by the use of mechanical means such as metal-to-metal joints, toroidal sealing rings ('O' rings) or flat joints.

1.3.2.1.4 Restrictor or calibrated orifice

A device with one or more orifices that is placed in the path of the gas flow between the appliance inlet connection and the burner, so as to create a pressure drop and thus reduce the gas pressure at the burner to a predetermined value for a given supply pressure and rate.

1.3.2.1.5 Gas rate adjuster

A component which allows the gas input to each burner to be set at a predetermined value according to the supply conditions.

Adjustment may be continuous (screw adjuster) or discontinuous (changing restrictors).

The adjusting screw of an adjustable governor is regarded as a gas rate adjuster.

The operation of setting this device is called "setting the gas rate".

1.3.2.1.6 Gas rate control

A tap or equivalent component which allows the gas supply to one or more burners to be opened or closed, and, possibly, the burner or burners to be adjusted to gas inputs lower than the nominal rate.

1.3.2.1.7 Aeration adjuster

A device which allows the aeration of a burner to be set at a desired value, according to the supply conditions.

The operation of changing the setting of the device is called "adjusting the primary aeration".

1.3.2.1.8 Injector

A component which admits the gas into an atmospheric burner.

1.3.2.2 Terminology referring to the burner

1.3.2.2.1 Atmospheric induction burner

A burner in which part of the air necessary for combustion, called primary air, is entrained by the gas flow and is mixed upstream of the burner. The remainder of the air, called secondary air, is taken up downstream of the burner.

1.3.2.2.2 Main burner

A burner which effects the heating function of the appliance and is often called simply a "burner".

1.3.2.2.3 Ignition burner or pilot

A burner of low rate which lights the main burner. If a burner operates independently of the main burners, it is called a 'pilot'.

1.3.2.3 Terminology referring to the combustion products circuit

1.3.2.3.1 Combustion chamber

An enclosure in which the air/gas mixture burns.

1.3.2.3.2 Flue outlet

The part of the appliance intended to be connected to the flue.

1.3.2.3.3 Draught diverter

A device placed in the combustion product circuit, which is intended to reduce the influence of down-draught on the burner performance and combustion.

1.3.2.3.4 Combustion products outlet or flueway extension

The part of an appliance not connected to a flue, through which products of combustion are discharged into the room.

1.3.2.4 Auxiliary equipment

All the accessory devices of an appliance which act directly or indirectly on the gas rate : gas rate control, flame supervision device, governor, thermostat etc.

1.3.2.4.1 Ignition device

Any means used to light gas admitted to the ignition burner or main burner.

This device can be intermittent or permanent.

1.3.2.4.1.1 Intermittent ignition device

Any means, fixed to the appliance or not, which assures ignition of the initial flow of gas only to the ignition burner or main burner.

1.3.2.4.1.2 Permanent ignition device

Any means which, at any time when the gas rate controls are open, assures ignition or reignition of the gas admitted to the ignition burner or main burner.

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1.3.2.4.2 Flame supervision device

A device which, on the disappearance of the supervised flame, shuts off the gas supply.

It is described as having "simple control" if it shuts off the gas supply to the main burner only.

It is described as having "complete control" if it shuts off the gas supply to the main burner and to the ignition burner.

1.3.2.4.2.1 Opening time

The time interval between the ignition of the supervised flame and the moment when the force thus produced is sufficient to keep the valve open.

1.3.2.4.2.2 Ignition safety time

The time interval between the signal to open the valve admitting the gas and the shut off of the gas supply to the burner if ignition does not take place.

1.3.2.4.2.3 Extinction safety time (extinction delay time)

The time interval between the extinction of the supervised flame and the shut off of the gas supply :

- to the main burner (simple control)
- and possibly to the ignition burner and/or the pilot (complete control).

1.3.2.4.2.4 Flame supervision burner

A burner which acts on a flame detector.

1.3.2.4.2.5 Flame detector

The part of the flame supervision device sensing element on which the supervised flame acts directly and transforms the flame effect into a signal which is transmitted directly or indirectly to a shut off valve.

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1.3.2.4.3 Pressure governor

A pressure governor is a device which maintains a constant downstream pressure within a fixed range, independent of the upstream pressure and/or gas rate.

1.3.2.4.4 Temperature regulator (thermostat)

A device which controls the performance of the appliance (by on/off, on/low or modulating control), maintaining a predetermined temperature within the given limits of operation.

1.3.2.4.5 Overheat limit device

A manually reset device which enables a temperature to be limited to a predetermined safe value.

1.3.2.4.6 - Control knob

A component which is moved by hand and operates an appliance control (for example : tap, thermostat, etc.).