



# SLOVENSKI STANDARD SIST EN 203-2-4:2022

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Nadomešča:  
SIST EN 203-2-4:2005

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## Plinske naprave za gostinstvo - 2-4. del: Posebne zahteve - Cvrtniki

Gas heated catering equipment - Part 2-4: Specific requirements - Fryers

Großküchengeräte für gasförmige Brennstoffe - Teil 2-4: Spezielle Anforderungen - Friteusen

Appareils de cuisson professionnelle utilisant les combustibles gazeux - Partie 2-4: Exigences particulières - Friteuses

Ta slovenski standard je istoveten z: **EN 203-2-4:2021**

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### ICS:

97.040.20	Štedilniki, delovni pulti, pečice in podobni aparati	Cooking ranges, working tables, ovens and similar appliances
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**SIST EN 203-2-4:2022**

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EUROPEAN STANDARD

EN 203-2-4

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English Version

## Gas heated catering equipment - Part 2-4: Specific requirements - Fryers

Appareils de cuisson professionnelle utilisant les combustibles gazeux - Partie 2-4: Exigences particulières - Friteuses

Großküchengeräte für gasförmige Brennstoffe - Teil 2-4: Spezifische Anforderungen - Fritteusen

This European Standard was approved by CEN on 3 October 2021.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists 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 CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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## European foreword

This document (EN 203-2-4:2021) has been prepared by Technical Committee CEN/TC 106 "Large kitchen appliances using gaseous fuels", the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2022, and conflicting national standards shall be withdrawn at the latest by June 2022.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 203-2-4:2005.

The technical changes in comparison to the previous edition are:

- alignment with EN 203-1:2021,
- updating of the requirements for pump drainage system (5.1.2.102),
- clarification of the requirement for the safety from fire risk (5.3.3),
- clarification of the requirement for pressurized fryers (5.3.5.101),
- updating of the performance requirement for overheat limit device (6.3.2.1.102),
- addition of the test on risk of fire of oil in pump drainage system (7.8.101),
- updating of the test for rational use of energy (7.10),
- deletion of the adjustment of the sequential function control (moved to EN 203-1:2021).

This document is used in conjunction with EN 203-1:2021 "Gas heated catering equipment – Part 1: General safety requirements". This document specifies particular requirements for fryers.

Where a particular subclause of EN 203-1:2021 is not mentioned in this part 2-4, the subclause of EN 203-1:2021 applies as far as is reasonable. Where this document states "addition", "modification" or "replacement", the relevant text of EN 203-1:2021 is to be adapted accordingly.

Subclauses, Figures and Tables which are additional to those in EN 203-1:2021 are numbered starting with 101.

This document has been prepared under a Standardization Request given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s) / Regulation(s).

For relationship with EU Directive(s) / Regulation(s), see informative Annex ZA, which is an integral part of this document.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus,

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Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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## 1 Scope

The scope of EN 203-1:2021 applies, with the following addition and modification of the 3rd paragraph.

This document applies to catering fryers.

## 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.

EN 203-1:2021, *Gas heated catering equipment - Part 1: General safety requirements*

EN 60335-1:2012,<sup>1</sup> *Household and similar electrical appliances - Safety - Part 1: General requirements*

EN 60335-2-102:2016, *Household and similar electrical appliances - Safety - Part 2-102: Particular requirements for gas, oil and solid-fuel burning appliances having electrical connections*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 203-1:2021 and the following apply.

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 <https://www.electropedia.org/>

Clause 3 of EN 203-1:2021 applies with the following additions:

### 3.101 Terminology referring to type of appliances

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#### 3.101.1

##### **fryer**

single or multi-pan appliance for frying foodstuff in oil or fat at a high temperature in which the foodstuff is submerged

#### 3.101.2

##### **pressurized fryer**

fryer in which the pressure within the pan exceeds atmospheric pressure

Note 1 to entry: This type of appliance is also named “pressure fryer”.

#### 3.101.3

##### **maximum oil level**

mark to indicate the maximum oil level for safe operation

#### 3.101.4

##### **minimum oil level**

mark to indicate the minimum oil level for safe operation

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<sup>1</sup> As impacted by EN 60335-1:2012/AC:2014, EN 60335-1:2012/A11:2014, EN 60335-1:2012/A13:2017, EN 60335-1:2012/A1:2019, EN 60335-1:2012/A2:2019 and EN 60335-1:2012/A14:2019.

**EN 203-2-4:2021 (E)****3.101.5****draining device**

device for draining the oil or fat.

Note 1 to entry: It can be a valve or tap, or an access to a filtering pump system for emptying and/or refilling.

**3.101.6****drainage container**

container to receive the contents of the pan during the drainage operation

Note 1 to entry: It can be fitted with filters to clean the oil or fat.

**4 Classification**

Clause 4 of EN 203-1:2021 applies.

**5 Constructional requirements****5.1 General****5.1.2 Materials and methods of construction**

Shall be according to EN 203-1:2021 5.1.2 with the following addition:

The appliance shall be so designed that it shall be impossible for bubbling oil or fat to reach or penetrate the burner(s) and/or insulation.

**5.1.2.101 Drainage device**

The drainage device shall be located in a place which enables the oil or fat to be drained completely.

The open and closed positions of the device shall be readily recognizable, and it shall not be possible to open the device accidentally.

After drainage it shall be possible to easily remove any cooking crumbs from the pan.

**5.1.2.102 Pump drainage system**

When a pump drainage system is integrated into the fryer, it shall not be possible to operate the pump accidentally. The switching device shall be recessed, operated by double action, key switch, etc.

**5.3 Particular requirements****5.3.3 Safety from fire risk**

Shall be according to EN 203-1:2021, 5.3.3 with the following addition:

The fryer shall be marked indelibly with the maximum and minimum levels of cold fat or oil as required in 8.2.2.

Appliances shall have adequate surge allowance above the maximum indicated oil level such that the total surge volume of the pan, including any container designed to collect surging oil, shall have a ratio in litres to the load of chips recommended by the instructions in kilograms of not less than 4. Compliance is checked by measurement.

Appliances supplied with containers intended to drain and/or to collect fat or oil shall be so designed and placed that spillage and overflow cannot reach areas where there is a risk of catching fire.



Appliances equipped with pump drainage system shall be so designed that when the pump is blocked the temperature of the oil circuit at the hottest point of the pump with which oil is in contact shall not exceed 230 °C in the test conditions of 7.8.101. This requirement is deemed to be satisfied if the maximum winding temperature of the motor is of class (A), (E) or (B) as indicated in Table 8 of EN 60335-1:2012<sup>2</sup>.

It shall not be possible for crumbs blocked in the pump to cause leakage either in the pump or its suction and discharge tubes. Compliance is verified during the test described in 7.8.101.

### 5.3.101 Parts put in motion by an electrical energy source

For electric motorized parts compliance is checked by applying the relevant parts of EN 60335-2-102:2016.

### 5.3.102 Covers

Hinged covers shall be constructed in such a way so as to ensure that uncontrolled closure does not cause injury to the operator.

The peripheral speed of a motorised cover shall not exceed 80 mm/s. The appliance having a motorised cover shall be provided with a switch or a similar device that can be activated by the operator to stop the movement of the lid in case of a dangerous situation.

### 5.3.5 Pressurized parts

Shall be according to EN 203-1:2021, 5.3.5 with the following additions.

#### 5.3.5.101 Pressurized fryers

Pressurized appliances shall be fitted with pressure safety device(s) setting safety pressure and relief neither of which can be modified.

The pressure safety device(s) shall be located in such a way to not be a risk in case of opening. The lockout mechanism(s) of the cover shall be designed to prevent any unintended opening when the appliance is working under pressure.

For appliances that operate with a pressure higher than the atmospheric, it shall not be possible to open the cover until the pressure has reached a value near the atmospheric pressure. Any de-pressurizing shall be safe and under control.

Pressurized appliances shall incorporate a vacuum release device to prevent a partial vacuum forming, unless they are designed for vacuum operation.

Pressurized appliances shall satisfy the pressure tests of EN 203-1:2021, 7.8.2.

A pressurized appliance shall be fitted with a pressure gauge or indicator device.

## 6 Performance requirements

### 6.3 Safety of operation

#### 6.3.2.1 Protection against risk of fire

Shall be according to EN 203-1:2021, 6.3.2.1 with the following additions:

##### 6.3.2.1.101 Temperature regulation

<sup>2</sup> As impacted by EN 60335-1:2012/AC:2014, EN 60335-1:2012/A11:2014, EN 60335-1:2012/A13:2017, EN 60335-1:2012/A1:2019, EN 60335-1:2012/A2:2019 and EN 60335-1:2012/A14:2019.

**EN 203-2-4:2021 (E)**

A temperature regulator shall be fitted to each pan and under the conditions of 7.4.2.5.101, it is verified that the temperature shall not exceed 200 °C.

**6.3.2.1.102 Overheat limit device**

An overheat limit device shall be fitted to each pan and under the conditions of 7.4.2.5.102, it is verified that the temperature shall not exceed 230 °C when the temperature regulator is put out of action.

**6.3.2.2 Protection against risks of burns**

*Shall be according to EN 203-1:2021, 6.3.2.2 with the following addition:*

The whole of the pan (bottom, sides and hob) is considered as working surfaces as well as the drain tap.

**6.3.2.2.101 Front of fryers accessible to the users**

When the non-working side of a fryer is designed to form part of a serving counter which can be touched by the user, the requirements of EN 203-1:2021, 6.3.2.2.1 shall be met under the conditions described in EN 203-1:2021, 7.4.2.

**6.9 Rational use of energy**

The rational use of energy measurement is carried out according to 7.10.

When tested in accordance with 7.10, the RUI of the fryer shall be not less than 50 %.

**7 Test conditions****7.4 Operational safety****7.4.2.1 General**

*Shall be according to EN 203-1:2021, 7.4.2.1 with the following addition:*

The tests are carried out with the pan filled with oil.

**7.4.2.5 Abnormal operation**

*Shall be according to EN 203-1:2021, 7.4.2.5 with the following additions:*

**7.4.2.5.101 Checking of the temperature regulation**

The pan is filled to its minimum indicated level with oil at  $20 \pm 5$  °C.

The temperature is measured at the geometric centre of the oil, 25 mm below the surface.

The test is started with the appliance at ambient temperature and operating at its nominal heat input with a reference gas corresponding to its category at normal pressure. The thermostat is set to its highest setting.

After the thermostat has cut out three times in succession, it is checked that the requirement of 6.3.2.1.101 is met.

**7.4.2.5.102 Checking of the overheat limit device**

After the test described in 7.4.2.5.101 the regulation thermostat is put out of action.

The maximum temperature is measured after the overheat limit device has operated, and it is checked that the requirement of 6.3.2.1.102 is met.

**7.8 Special tests**