



**SLOVENSKI STANDARD**  
**SIST EN 13278:2014**

**01-januar-2014**

**Nadomešča:**  
**SIST EN 13278:2004**

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**Prostostoječi plinski grelniki prostorov z odprtim kuriščem**

Open fronted gas-fired independent space heaters

Konvektions-Raumheizer für gasförmige Brennstoffe mit offener Verbrennungskammer

Appareils de chauffage indépendants à foyer ouvert utilisant les combustibles gazeux  
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**Ta slovenski standard je istoveten z: ~~SIST EN 13278:2013~~ EN 13278:2013**

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**ICS:**

97.100.20      Plinski grelniki      Gas heaters

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EUROPEAN STANDARD

EN 13278

NORME EUROPÉENNE

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October 2013

ICS 97.100.20

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## Open fronted gas-fired independent space heaters

Appareils de chauffage indépendants à foyer ouvert  
utilisant les combustibles gazeux

Konvektions-Raumheizer für gasförmige Brennstoffe mit  
offener Verbrennungskammer

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## Contents

Page

Foreword.....	6
1 Scope .....	7
2 Normative references .....	8
3 Terms and definitions .....	9
3.1 open fronted gas-fired independent space heaters .....	9
3.2 gases .....	9
3.3 appliance construction .....	11
3.3.1 the gas circuit.....	11
3.3.2 burner.....	12
3.3.3 combustion products circuit .....	12
3.3.4 auxiliary equipment .....	13
3.4 adjusters and controls .....	14
3.5 appliance performance .....	15
3.5.1 gas rates .....	15
3.5.2 gas combustion .....	15
3.6 marking of the appliance and packaging .....	17
4 Classification of appliances .....	17
4.1 Classification according to the nature of the gases used (categories) .....	17
4.1.1 Classification of gases .....	17
4.1.2 Appliance categories.....	17
4.2 Classification according to the method of evacuation of the products of combustion.....	18
5 Constructional requirements.....	18
5.1 General.....	18
5.1.1 Conversion to different gases .....	18
5.1.2 Materials and method of construction .....	19
5.1.3 Accessibility for use and maintenance .....	20
5.1.4 Connections .....	21
5.1.5 Soundness of the gas circuit.....	21
5.1.6 Soundness of the combustion circuit (Type B <sub>1</sub> appliances).....	21
5.1.7 Evacuation of combustion products .....	22
5.1.8 Electrical equipment.....	22
5.1.9 Safety in the event of interruption and restoration of the auxiliary energy .....	23
5.1.10 Guarding .....	23
5.2 Adjusting, control and safety devices .....	23
5.2.1 General.....	23
5.2.2 Gas rate adjusters.....	23
5.2.3 Shut-off valves .....	24
5.2.4 Flame supervision devices .....	25
5.2.5 Pressure regulators .....	25
5.2.6 Automatic burner control system .....	25
5.2.7 Thermostats .....	25
5.2.8 Spillage monitoring system .....	25
5.3 Ignition devices.....	26
5.3.1 General.....	26
5.3.2 Ignition burners.....	26
5.4 Evacuation of flue gases (Type B <sub>14</sub> appliances only) .....	26
5.5 Flame supervision systems (Appliances with automatic burner systems only) .....	27
5.6 Ignition burner or start-gas flame establishment.....	27
5.6.1 Appliances with non-automatic burner systems.....	27
5.6.2 Appliances with automatic burner systems .....	27
5.7 Main flame establishment .....	27
5.7.1 General.....	27

5.7.2	Appliances with non-automatic burner systems .....	27
5.7.3	Appliances with automatic burner systems .....	27
5.7.4	Direct establishment of the main flame.....	28
5.8	Burners .....	28
5.8.1	General.....	28
5.8.2	Pan burners.....	28
5.9	Motors and fans .....	28
Fan to assist in the evacuation of flue gases .....		28
5.10	Pressure test points .....	28
5.11	Additional requirements for appliances where a fan is supplied for outdoor installation and is fitted to assist the evacuation of flue gases .....	29
5.11.1	General.....	29
5.11.2	Access panels and doors .....	29
5.11.3	Dimensions of openings.....	29
5.11.4	Fixing screws .....	29
6	Operational requirements .....	29
6.1	General.....	29
6.2	Soundness .....	29
6.2.1	Soundness of the gas circuit .....	29
6.2.2	Soundness of the combustion products circuit and correct evacuation of combustion products .....	29
6.2.3	Escape of unburnt gas .....	30
6.3	Heat inputs .....	30
6.3.1	Nominal heat input .....	30
6.3.2	Start gas heat input .....	30
6.3.3	Reduced rate .....	30
6.4	Temperature of various parts of the appliance .....	30
6.4.1	Temperature of external parts of the appliance .....	30
6.4.2	Temperature of components .....	30
6.4.3	Temperature of floor, shelf and walls.....	31
6.5	Ignition, cross-lighting and flame stability .....	31
6.5.1	Ignition and cross-lighting (for all appliances) .....	31
6.5.2	Flame stability.....	31
6.5.3	Fluctuation of auxiliary energy .....	32
6.6	Pressure regulators.....	32
6.7	Combustion.....	32
6.7.1	CO concentration for all appliances .....	32
6.7.2	Measurement of oxides of nitrogen, NO <sub>x</sub> , (all appliances).....	32
6.8	Sooting.....	32
6.8.1	Cold condition.....	32
6.8.2	Hot condition.....	33
6.8.3	Long cycle condition.....	33
6.9	Spillage monitoring system.....	33
6.9.1	Atmosphere sensing device (type B <sub>11AS</sub> , and, B <sub>14AS</sub> appliances only) .....	33
6.9.2	Combustion products discharge safety device (type B <sub>11BS</sub> , and B <sub>14BS</sub> appliances only) .....	33
6.10	Flame supervision device .....	34
6.10.1	Thermoelectric device.....	34
6.10.2	Automatic burner control system .....	34
6.11	Flue gas monitoring device (For Type B <sub>14</sub> appliances only).....	34
6.11.1	General.....	34
6.11.2	Voltage reduction .....	34
6.11.3	Restricted flue.....	34
6.12	Efficiency .....	34
7	Test methods .....	35
7.1	General.....	35
7.1.1	Characteristics of test gases: reference and limit gases .....	35
7.1.2	General test conditions .....	35
7.1.3	Practical application of test gases.....	36
7.1.4	Test pressures .....	37
7.2	Soundness .....	38
7.2.1	Soundness of the gas circuit .....	38

## EN 13278:2013 (E)

7.2.2	Soundness of the combustion products circuit and correct evacuation of combustion products.....	39
7.2.3	Escape of unburnt gas .....	41
7.3	Heat inputs .....	41
7.3.1	Nominal heat input.....	41
7.3.2	Calibrated injector rate of appliances without gas adjusters or where these adjusters are put out of action .....	43
7.3.3	Performance of gas rate adjusters for unregulated appliances .....	43
7.3.4	Start-gas heat input .....	43
7.3.5	Reduced rate .....	43
7.4	Temperature of various parts of the appliance .....	43
7.4.1	General.....	43
7.4.2	Temperature of external parts of the appliance .....	43
7.4.3	Temperature of components .....	44
7.4.4	Temperature of floor, shelf and walls.....	44
7.5	Ignition, cross-lighting and flame stability .....	45
7.5.1	Ignition and cross-lighting.....	45
7.5.2	Flame stability.....	46
7.6	Pressure regulators .....	47
7.6.1	Operational pressure regulator .....	47
7.6.2	Pressure regulator out of service .....	48
7.7	Combustion .....	48
7.7.1	General.....	48
7.7.2	Tests under limit conditions.....	49
7.7.3	Supplementary tests under special conditions.....	50
7.7.4	Measurement of oxides of nitrogen (all appliances).....	51
7.8	Sooting.....	52
7.8.1	General.....	52
7.8.2	Determination of the smoke number .....	52
7.8.3	Test conditions .....	52
7.9	Spillage monitoring system .....	53
7.9.1	General.....	53
7.9.2	Atmosphere sensing device (type B <sub>11AS</sub> and B <sub>14AS</sub> appliances only) .....	53
7.9.3	Combustion products discharge safety device (type B <sub>11BS</sub> and B <sub>14BS</sub> appliances).....	54
7.10	Flame supervision device .....	55
7.10.1	Thermoelectric device.....	55
7.10.2	Automatic burner control systems .....	55
7.11	Flue gas monitoring device (for Type B <sub>14</sub> appliances only) .....	55
7.11.1	General.....	55
7.11.2	Voltage reduction.....	56
7.11.3	Restricted flue .....	56
7.12	Efficiency .....	56
7.12.1	Installation and supply to appliances.....	56
7.12.2	Determination of efficiency.....	56
8	Marking and instructions .....	58
8.1	General.....	58
8.2	Marking .....	58
8.2.1	Marking of the appliance.....	58
8.2.2	Spillage test label.....	59
8.2.3	Other marking .....	59
8.2.4	Warning labels .....	59
8.2.5	Marking of the packaging .....	59
8.2.6	Utilisation of symbols on the appliance and packaging.....	60
8.3	Instructions .....	61
8.3.1	General.....	61
8.3.2	Technical instructions for installation and adjustment.....	61
8.3.3	Instructions for use and maintenance.....	63
8.3.4	Additional information .....	64
Annex A	(informative) National situations .....	77
A.1	General.....	77
A.2	Categories listed in the body of the standard marketed in the different countries .....	77

A.3	Appliance supply pressures.....	80
A.4	Special categories marketed nationally or locally .....	81
A.5	Test gases for the special gases distributed nationally or locally .....	83
A.6	Gas connections in the various countries .....	85
A.7	Flue connections (see 5.1.7).....	87
Annex B	(normative) Equivalence rules .....	88
B.1	Conversion to categories within a restricted Wobbe Index range .....	88
B.2	Conversion to categories within an identical Wobbe Index range.....	88
B.3	Conversion of categories within a wider Wobbe Index range .....	89
Annex C	(informative) Gas valve arrangements .....	90
Annex D	(informative) Means of identification of the types of gas in force in the various countries .....	91
Annex E	(normative) Apparatus for the determination of the smoke number .....	93
E.1	Pump.....	93
E.2	Sampling tube .....	93
E.3	Filter paper .....	93
E.4	Grey scale.....	93
Annex F	(informative) Symbols and abbreviations .....	94
Annex G	(normative) Special national conditions .....	95
G.1	Belgium.....	95
Annex H	(normative) Calculation of conversions of NOx.....	96
Annex I	(normative) Dress guards .....	97
I.1	Scope .....	97
I.2	Requirements .....	97
I.3	Tests.....	97
Annex J	(informative) A-deviations .....	100
J.1	A-deviations .....	100
Annex K	(informative) Main technical changes compared to the edition of 2003 .....	101
Annex ZA	(informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2009/142/EC .....	103
Bibliography	.....	105

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**EN 13278:2013 (E)****Foreword**

This document (EN 13278:2013) has been prepared by Technical Committee CEN/TC 62 "Independent gas-fired space heaters", the secretariat of which is held by BSI.

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 April 2014, and conflicting national standards shall be withdrawn at the latest by April 2014.

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

This document supersedes EN 13278:2003.

Annex K provides details of significant technical changes between this European Standard and EN 13278:2003.

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

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

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

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## 1 Scope

This European Standard specifies the requirements and test methods for the construction, safety, marking and rational use of energy of open fronted gas-fired independent space heaters with and without a fan to assist with the transportation of flue gases, hereafter referred to as appliances. Although the fan may be mounted outdoors, this standard only covers appliances where the body of the appliance is indoors.

This standard applies to types B<sub>11AS</sub>, B<sub>11BS</sub>, B<sub>14AS</sub>, and B<sub>14BS</sub> (commonly referred to in this standard as type B<sub>1</sub> appliances) open fronted gas-fired independent space heating appliances:

- that incorporate an atmospheric burner;
- that are connected directly to an open flue (see Figure 1), or to a device to evacuate the products of combustion (open-flued appliances);
- that have a nominal heat input not exceeding 20 kW (based on the net calorific value);
- that are delivered with the gas-carrying components, burner(s), combustion chamber and heat exchanger fully assembled.

It does not apply to:

- closed-fronted appliances;
- decorative fuel effect appliances as specified in EN 509;
- catalytic combustion appliances;
- ducted-air appliances;
- appliances installed by means of a closure plate (see 3.3.3.3).

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## EN 13278:2013 (E)

## 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.

EN 88 (all parts), *Pressure regulators and associated safety devices for gas appliances*

EN 125, *Flame supervision devices for gas burning appliances — Thermoelectric flame supervision devices*

EN 126, *Multifunctional controls for gas burning appliances*

EN 161, *Automatic shut-off valves for gas burners and gas appliances*

EN 257, *Mechanical thermostats for gas-burning appliances*

EN 298, *Automatic burner control systems for burners and appliances burning gaseous or liquid fuels*

EN 437:2003+A1:2009, *Test gases — Test pressures — Appliance categories*

EN 1057:2006+A1:2010, *Copper and copper alloys — Seamless, round copper tubes for water and gas in sanitary and heating applications*

CR 1404, *Determination of emissions from appliances burning gaseous fuels during type-testing*

CEN/TR 1749, *European scheme for the classification of gas appliances according to the method of evacuation of the combustion products (types)*

EN 60068-2-75, *Environmental testing — Part 2-75: Tests — Test Eh: Hammer tests (IEC 60068-2-75)*

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EN 60335-1:1994, *Safety of household and similar electrical appliances — Part 1: General requirements (IEC 60335-1:1991, modified)*

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

EN 60529, *Degrees of protection provided by enclosures (IP code) (IEC 60529)*

EN 60730-2-9, *Automatic electrical controls for household and similar use — Part 2-9: Particular requirements for temperature sensing controls (IEC 60730-2-9)*

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

EN ISO 3166-1, *Codes for the representation of names of countries and their subdivisions — Part 1: Country codes (ISO 3166-1)*

ISO 7-1, *Pipe threads where pressure-tight joints are made on the threads — Part 1: Dimensions, tolerances and designation*



**EN 13278:2013 (E)**

— the net calorific value in which the water produced by combustion is assumed to be in the vapour state.

Symbol:  $H_i$

Units: either

— megajoules per cubic metre ( $\text{MJ}/\text{m}^3$ ) of dry gas at reference conditions; or

— megajoules per kilogram ( $\text{MJ}/\text{kg}$ ) of dry gas.

[SOURCE: EN 437:2003+A1:2009, modified]

**3.2.3****relative density**

$d$

ratio of the masses of equal volumes of dry gas and dry air at the same conditions of temperature and pressure

**3.2.4****Wobbe index**

ratio of the calorific value of a gas per unit volume to the square root of its relative density under the same reference conditions

Note 1 to entry: The Wobbe index is said to be gross or net according to whether the calorific value used is the gross or net calorific value.

Symbols: gross Wobbe index:  $W_s$

net Wobbe index:  $W_i$

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Units: either:

— megajoules per cubic metre ( $\text{MJ}/\text{m}^3$ ) of dry gas at the reference conditions; or  
— megajoules per kilogram ( $\text{MJ}/\text{kg}$ ) of dry gas.

[SOURCE: EN 437:2003+A1:2009, modified]

**3.2.5****test pressures**

gas pressures used to verify the operational characteristics of appliances using combustible gases

Note 1 to entry: They consist of normal and limit pressures.

Note 2 to entry: They are expressed in millibar (mbar).

1 mbar = 100 Pa.

**3.2.6****normal pressure**

$p_n$

pressure under which appliances operate in nominal conditions, when they are supplied with the corresponding reference gas

**3.2.7****limit pressures**

pressures representative of the extreme variations in the appliance supply conditions

Note 1 to entry: Symbols: maximum pressure:  $p_{\max}$

minimum pressure:  $p_{\min}$

**3.2.8****pressure couple**

combination of two distinct gas distribution pressures applied by reason of the significant difference existing between the Wobbe indices within a single family or group in which

- the higher pressure corresponds only to gases of low Wobbe index; and
- the lower pressure corresponds to gases of high Wobbe index

[SOURCE: EN 437:2003+A1:2009, modified]

**3.3 appliance construction****3.3.1 the gas circuit****3.3.1.1****inlet connection**

part of the appliance intended to be connected to the gas supply

**3.3.1.2****mechanical joint**

connection device assuring soundness in an assembly of several parts, generally of metal

Note 1 to entry: For example the following:

- cone seated joints,
- torroidal sealing rings ('O' rings),
- flat joints,
- metal to metal joints.

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**3.3.1.3****gas circuit**

part of an appliance that conveys or contains the gas between the appliance gas inlet connection and the burner(s)

**3.3.1.4****gas restrictor**

non-adjustable device which is placed in the gas circuit 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

**3.3.1.5****gas rate adjuster**

component intended for the manufacturer or installer to set the gas rate to each burner at a predetermined value according to the supply conditions

Note 1 to entry: The adjustment can be progressive (screw adjuster) or discontinuous (changing restrictors).

Note 2 to entry: The adjuster of an adjustable regulator is regarded as a gas rate adjuster.

Note 3 to entry: The action of setting this device is called 'setting the gas rate'.

**3.3.1.6****gas rate control**

component allowing the user to open or close the gas supply to one or more burners

Note 1 to entry: It can also be used to adjust the gas rate of certain burners to a predetermined value, called the 'reduced rate'. This device can be a 'tap'.

**EN 13278:2013 (E)****3.3.1.7****injector**

component that admits the gas into a burner

**3.3.1.8****start gas**

initial quantity of gas ignited to give a flame which is used to ignite the main burner

Note 1 to entry: It can be discharged through a separate ignition burner or part of the main burner.

**3.3.2 burner****3.3.2.1****main burner**

burner that assures the thermal function of an appliance

Note 1 to entry: It is usually called simply 'burner'.

**3.3.2.2****pan burner**

main burner which utilises a particulate medium (e.g. sand) for the distribution of gas over a defined area

**3.3.2.3****ignition burner**

separate burner intended to light the main burner

**3.3.2.3.1****permanent ignition burner**

ignition burner that operates continuously throughout the whole period that the appliance is in use

**3.3.2.3.2****intermittent ignition burner**

ignition burner that is ignited before and extinguished at the same time as the main burner

**3.3.2.4****fixed primary aeration restrictor**

non-adjustable device which limits the supply of primary air to a burner

**3.3.3 combustion products circuit****3.3.3.1****flue outlet**

part of a type B appliance (see 4.2) that connects with a flue to evacuate the products of combustion

**3.3.3.2****draught diverter**

part of the combustion products circuit to reduce the influence of flue-pull and to minimise the effect of down-draught on the burner flame stability and combustion

**3.3.3.3****closure plate**

non-combustible plate used to cover and seal the front plane of a builder's opening, or fireplace opening, such that when the appliance is installed, any air flowing from the room into the flue does so in accordance with the design requirements of the appliance

Note 1 to entry: This plate contains an aperture through which the flue outlet spigot of the appliance projects into the cavity of the builder's opening, or fireplace recess, but is not connected to the flue.

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Note 2 to entry: The plate can be a separate component, or an integral part of the appliance, e.g. the back panel, but in either case it is to be considered as part of the appliance.

Note 3 to entry: See Figure 2.

#### 3.3.3.4

##### **builder's opening**

enclosure constructed by the builder to accommodate fireplace components

#### 3.3.3.5

##### **fireplace opening**

aperture formed in the face of the builder's opening, the fireplace recess or fire surround if fitted

#### 3.3.3.6

##### **fireplace recess**

recess formed by the inclusion of fireplace components in the builder's opening

#### 3.3.3.7

##### **hearth**

floor area in front of the plane of the builder's opening or fireplace opening

#### 3.3.3.8

##### **flue box**

non-combustible enclosure that provides a substitute builder's opening or fireplace recess

#### 3.3.4 auxiliary equipment

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##### 3.3.4.1

##### **pressure regulator**

device that maintains, within a fixed range, a constant downstream pressure, independent of the upstream pressure and/or the gas rate

<https://standards.iteh.ai/catalog/standards/sist/a1eaeaf4-8ea4-4067-a485-5f30006716e9/sist-en-13278-2014>

##### 3.3.4.2

##### **ignition device**

device that ignites one or more burners

##### 3.3.4.3

##### **flame supervision device**

device, including a sensing element, that causes the gas supply to a burner to be opened or closed according to the presence or absence of the flame that activates the sensing element

##### 3.3.4.4

##### **combustion products discharge safety device**

device that automatically shuts off the gas supply to the main burner, and perhaps to the ignition burner, when there is unacceptably high spillage of combustion products from the draught diverter

##### 3.3.4.5

##### **atmosphere sensing device**

device designed to shut off the gas supply before the combustion products of the surrounding atmosphere reaches a set value

##### 3.3.4.6

##### **control knob**

component designed to be moved by hand in order to operate an appliance control (tap, thermostat, etc.)