SLOVENSKI STANDARD

SIST EN 14829:2008

01-januar-2008

Prostostoječi plinski grelniki za gretje prostorov brez priključka na dimnik z imensko močjo do vključno 6 kW

Independent gas-fired flueless space heaters for nominal heat input not exceeding 6 kW

Konvektions-Raumheizer ohne Abgasabführung für gasförmige Brennstoffe mit einer Nennwärmebelastung kleiner oder gleich 6 kW

Appareils de chauffage domestiques non raccordés indépendants utilisant les combustibles gazeux pour un débit calorifique nominal inférieur ou égal a 6 kW

Ta slovenski standard je istoveten z: **EN 14829:2007**

ICS:

97.100.20	Plinski grelniki	Gas heaters

SIST EN 14829:2008 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 14829

August 2007

ICS 97.100.20

English Version

Independent gas-fired flueless space heaters for nominal heat input not exceeding 6 kW

Appareils de chauffage domestiques non raccordés indépendants utilisant les combustibles gazeux pour un débit calorifique nominal inférieur ou égal à 6 kW

Konvektions-Raumheizer ohne Abgasabführung für gasförmige Brennstoffe mit einer Nennwärmebelastung kleiner oder gleich 6 kW

This European Standard was approved by CEN on 24 June 2007.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Ref. No. EN 14829:2007: E

Contents

Page

Foreword

This document (EN 14829:2007) 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 February 2008, and conflicting national standards shall be withdrawn at the latest by February 2008.

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 organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

1 Scope

This document specifies, for the purpose of type examination, the requirements and test methods for construction, safety, marking and rational use of energy of 2nd and 3rd family gas-fired domestic flueless space heating appliances having a nominal input not exceeding 6 kW (based on net calorific value).

It covers the following Type A_{AS} fixed flueless heaters:

NOTE These are type A appliances fitted with an atmosphere sensing device, with or without a fan.

a) heaters with or without a catalytic converter;

b) Category 1 appliances burning gases of the second family;

c) Category 2 appliances burning gases of the second and third families.

It does not cover

i. Mobile heaters.

ii. Category 1 appliances burning gases of the third family.

iii. Portable flueless heaters.

iv. Diffusive catalytic combustion heaters.

There are no specific thermal efficiency requirements appropriate to these types of appliance as:

— All the heat produced by the combustion process is released into the space to be heated.

— The requirements with regard to the combustion performance, which is a safety matter, ensure the effective burning of the fuel gas.

This standard is only applicable to appliances which are to be type tested. Matters related to quality assurance systems, tests during production and to certificates of conformity of auxiliary devices are not dealt with by this standard.

2 Normative references

The following referenced documents are indispensable for the application 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 88-1, *Pressure regulators and associated safety devices for gas appliances – Part 1: Pressure regulators for inlet pressures up to and including 500 mbar*

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 gas burner control systems for gas burners and gas burning appliances with or without fans*

EN 437:2003, *Test gases - Test pressures - Appliance categories*

EN 751-1, *Sealing materials for metallic threaded joints in contact with 1st, 2nd and 3rd family gases and hot water - Part 1: Anaerobic jointing compounds*

EN 751-2, *Sealing materials for metallic threaded joints in contact with 1st, 2nd and 3rd family gases and hot water - Part 2: Non-hardening jointing compounds*

EN 1057:2006*, 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*

EN 60068-2-75, *Environmental testing - Part 2: Tests - Test Eh: Hammer tests (IEC 60068-2-75:1997)*

EN 60335-1:2002, *Household and similar electrical appliances – Safety - Part 1: General requirements (IEC 60335- 1:2001, 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 60335-2-102:2004, modified)*

EN 60529, *Degrees of protection provided by enclosures (IP Code) (IEC 60529:1989)*

EN 60730-2-9*, Automatic electrical controls for household and similar use - Part 2-9: Particular requirements for temperature sensing controls (IEC 60730-2-9:2000, modified)*

EN ISO 228-1:2003 *Pipe threads where pressure-tight joints are not made on the threads - Part 1: Dimensions, tolerances and designation (ISO 228-1:2000)*

EN ISO 3166-1, *Codes for the representation of names of countries and their subdivisions - Part 1: Country codes (ISO 3166-1:2006)*

ISO 7-1:1994, *Pipe threads where pressure-tight joints are made on the threads - Part 1: Dimensions, tolerances and designation*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
working surfaces
parts of an appliance, which, due to the nature of the appliance, have temperatures exceeding the limits specified in 6.4.1 excluding parts that are likely to be touched during operations carried out in the normal use of the appliance, for example, the area adjacent to control knobs

Working surfaces do not include that part of any surface within 25 mm of parts that have to be touched or removed during normal operation of the appliance

3.2 Burner

3.2.1
main burner
burner that assures the thermal function of an appliance, usually called simply ‘burner’

3.2.2
ignition burner
burner intended to light the main burner

3.2.3
permanent ignition burner
ignition burner that operates continuously throughout the whole period that the appliance is in use

3.2.4
intermittent ignition burner
ignition burner that is ignited before and is extinguished at the same time as the main burner

3.3 Heat input

3.3.1
volumetric flow rate
volume of gas consumed by the appliance in unit time during continuous operation

Symbol: *V*, Units: cubic metres per hour (m^3/h), litres per minute (l/min), cubic decimetres per hour (dm^3/h), or cubic decimetres per second (dm^3/s)

3.3.2
mass flow rate
mass of gas consumed by the appliance in unit time during continuous operation

Symbol: *M,* Units: kilograms per hour (kg/h), or grams per hour (g/h)

3.3.3
heat input
quantity of energy used divided by time corresponding to the volumetric or mass flow rates, the calorific value used being either the net or gross calorific value

Symbol: *Q,* Unit: kilowatt (kW)

3.3.4
nominal heat input
value of the heat input declared by the manufacturer

Symbol: *Q*n, Unit: kilowatt (kW)

3.4
flame lift
phenomenon characterized by the partial or total movement of the base of the flame away from the burner port or the flame contact area provided by the design

3.5
relative density (*d*)
ratio of a mass of dry gas to the mass of an equal volume of dry air under the same temperature and pressure conditions

3.6
ignition device
device to ignite one or more burners

3.7
flame supervision device
device including a sensing element which causes the gas supply to a burner to be opened or closed according to the presence or absence of the flame which activates the sensing element

3.8
Wobbe index
ratio of the calorific value of a gas per unit volume and the square root of its relative density under the same reference conditions, the Wobbe index is said to be gross or net according to whether the calorific value used is the gross or net calorific value

Symbol: gross Wobbe index: W_s, net Wobbe index: W_i

Units: either – megajoules per cubic metre (MJ/m^3) of dry gas at the reference conditions; or – megajoules per kilogram (MJ/kg) of dry gas

3.9
injector
component part that admits the gas into a burner. There are two types of injector:

— calibrated injector; where the section of the outlet orifice is fixed.

— adjustable injector; where the section of the outlet orifice is variable. (NB: this is not allowed in this standard, see 5.2.2.1).

3.10
sound mechanical joint
connection device assuring soundness in an assembly made up of several parts, generally of metal

It may be:

— a conical joint;

— an O-ring joint;

— a flat-faced joint;

— metal to metal joints.

3.11
tap handle
manually operated component used to open, partially open or close a tap

3.12
dress guard
integral part of the appliance designed to prevent objects accidentally coming into contact with flames or incandescent surfaces

3.13
putting a control out of service
putting a control (of temperature, pressure etc.) out of action and sealing it in this position, the appliance then functions as if this device had been removed

3.14
aeration adjuster
device allowing the primary aeration of a burner to be set at a predetermined value according to the supply conditions, the operation of changing the setting of this device is termed the ‘adjustment of primary air’

3.15
fixed primary aeration restrictor
non-adjustable device which limits the supply of primary air to a burner

3.16
gas rate adjuster
component intended for the manufacturer or installer to set the gas rate to each burner at a predetermined value, according to supply conditions

The adjustment may be progressive (screw adjuster) or discontinuous (changing restrictors)

The adjuster of an adjustable regulator is regarded as a gas rate adjuster

The action of setting this device is called 'setting the gas rate'

3.17
calorific value
quantity of heat produced by the complete combustion, at constant pressure of 1013,25 mbar, of unit volume or mass of gas, the constituents of the combustible mixture being taken at reference conditions and the products of combustion being brought back to the same conditions

A distinction is made between:

— the gross calorific value in which the water produced by combustion is assumed to be condensed. Symbol H_s

— 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 (MJ/m^3) of dry gas at the reference conditions; or

— megajoules per kilogram (MJ/kg) of dry gas.

3.18 reference conditions

— for calorific values, temperature: 15 °C;

— for gas and air volumes dry, brought to 15 °C and an absolute pressure of 1 013,25 mbar.

3.19 Gas supply pressure

3.19.1
test pressure
gas pressure used to verify the operational characteristics of appliances using combustible gases, consisting of normal and limit pressures

They are expressed in millibar (mbar).

NOTE 1 mbar = 100 Pa.

3.19.2
normal pressure
pressure under which appliances operate in nominal conditions, when supplied with the corresponding reference gas

Symbol: p_n

3.19.3
limit pressures
pressures representative of the extreme variations in appliance supply condition

Symbols: maximum pressure: p_{max}: minimum pressure: $p_{min.}$

3.19.4
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.

3.20
light back
phenomenon characterized by the return of the flame inside the body of the burner

3.21
tap
device to adjust the heat input during use and/or isolate the gas supply to the various burners

3.22
sealing of an adjuster
action whereby the locking of an adjuster is achieved by a means such that any attempt to change the adjustment makes the interference with the adjuster apparent (e.g. breaking of a sealing material)

3.23
soft solder
solder for which the lowest temperature of the melting range, after application, is less than 450 °C

3.24
stability of flames
condition of the flames at the burner ports or the flame contact area provided by the design when the phenomena of flame lift or light back do not occur

3.25
thermostat
device to maintain automatically a selected constant temperature, it may include a graduated scale for the selection of the temperature

3.26
close-fronted appliance
appliance which has no exposed flames or exposed incandescent areas

3.27
open-fronted appliance
appliance which has exposed flames or exposed incandescent areas

3.28
cold condition
condition of the appliance required for some tests and obtained by allowing the unit appliance to attain equilibrium at room temperature

3.29
hot condition
condition of the appliance required for some tests and obtained by heating for one hour at the normal test pressure