

Kodumajapidamises kasutatavad gaasiküttel õhusoojendid sisendvõimsusega mitte üle 70 kW

Domestic gas-fired forced convection air heaters for space heating, with fan-assisted burners not exceeding a net heat input of 70 kW

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 1319:2010 sisaldab Euroopa standardi EN 1319:2009 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 28.02.2010 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 16.12.2009.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 1319:2010 consists of the English text of the European standard EN 1319:2009.

This standard is ratified with the order of Estonian Centre for Standardisation dated 28.02.2010 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

Date of Availability of the European standard text 16.12.2009.

The standard is available from Estonian standardisation organisation.

ICS 97.100.20

Standardite reprodutseerimis- ja levitamiseõigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonilisse süsteemi või edastamine ükskõik millises vormis või millisel teel on keelatud ilma Eesti Standardikeskuse poolt antud kirjaliku loata.

Kui Teil on küsimusi standardite autorikaitse kohta, palun võtke ühendust Eesti Standardikeskusega:
Aru 10 Tallinn 10317 Eesti; www.evs.ee; Telefon: 605 5050; E-post: info@evs.ee

Right to reproduce and distribute Estonian Standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without permission in writing from Estonian Centre for Standardisation.

If you have any questions about standards copyright, please contact Estonian Centre for Standardisation:
Aru str 10 Tallinn 10317 Estonia; www.evs.ee; Phone: +372 605 5050; E-mail: info@evs.ee

English Version

Domestic gas-fired forced convection air heaters for space heating, with fan-assisted burners not exceeding a net heat input of 70 kW

Générateurs d'air chaud à convection forcée utilisant les combustibles gazeux pour le chauffage de locaux à usage d'habitation, comportant des brûleurs avec ventilateur de débit calorifique inférieur ou égal à 70 kW (sur pouvoir calorifique inférieur)

Warmluftzeuger mit erzwungener Konvektion zum Beheizen von Räumen für den häuslichen Gebrauch, mit gebläseunterstützten Gasbrennern mit einer Nennwärmebelastung gleich oder kleiner als 70 kW

This European Standard was approved by CEN on 1 November 2009.

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: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Foreword.....	4
1 Scope	6
2 Normative references	6
3 Terms and definitions	8
3.1 Appliance and its constituent parts	8
3.2 Adjustment, control and safety devices.....	11
3.3 Operation of the appliance	13
3.4 Gases	16
3.5 Conditions of operation and measurement	18
3.6 Marking of the appliance and packaging	19
4 Classification of systems.....	19
4.1 Classification according to the nature of the gases used (Categories).....	19
4.2 Classification according to the gases capable of being used	19
4.3 Classification according to the mode of evacuation of the combustion products	21
5 Construction and design requirements	23
5.1 General.....	23
5.2 Adjusting, control and safety devices	30
5.3 Ignition devices	37
5.4 Flame supervision system	37
5.5 Start-gas flame establishment.....	38
5.6 Main flame establishment	41
5.7 Main burner	41
5.8 Facility for remote control	41
5.9 Thermostats and control of air temperature	42
5.10 Gas pressure test points.....	42
6 Operational requirements	43
6.1 Safety of operation	43
6.2 Efficiency	51
7 Test methods.....	52
7.1 General.....	52
7.2 Construction and design	61
7.3 Safety of operation	61
7.4 Efficiency	91
8 Marking and instructions	99
8.1 Marking of the appliance.....	99
8.2 Marking of the packaging	100
8.3 Utilization of symbols on the appliance and packaging.....	101
8.4 Instructions	103
9 Evaluation of POCED conformity and their associated terminals.....	105
9.1 General.....	105
9.2 Type testing	105
9.3 Factory production control (FPC)	106
Annex A (informative) National situations	108
A.1 General.....	108
A.2 Categories listed in the body of the standard and marketed in different countries.....	108
A.3 Appliance supply pressures corresponding to the categories given in A.2	110
A.4 Special categories marketed nationally or locally	111

A.5	Test gases corresponding to the special categories given in A.4	117
A.6	Gas connections in the various countries	120
A.7	Flue connections in the various countries	122
Annex B	(informative) Equivalence rules	123
B.1	Conversion to categories within a restricted Wobbe index range	123
B.2	Conversion to categories within an identical Wobbe index range	123
B.3	Conversion to categories within a wider Wobbe index range	124
Annex C	(normative) Classification according to the evacuation of the combustion	125
C.1	Type B₁	125
C.2	Type B₂	126
C.3	Type B₄	127
C.4	Type B₅	129
C.5	Type C₁	130
C.6	Type C₃	131
Annex D	(normative) Requirements and tests for the ducting of C₆ appliances	132
D.1	Requirements	132
D.2	Test methods	132
Annex E	(informative) A-deviations	136
E.1	General	136
E.2	Switzerland	136
Annex F	(normative) Special national conditions	137
F.1	General	137
F.2	Belgium	137
F.3	Italy	137
F.4	Poland	137
Annex G	(informative) Identification of gas types in use in various countries	138
Annex H	(informative) National solutions for countries whose national bodies are Affiliate Members of CEN	139
H.1	Categories listed in the body of the standard and marketed in different countries	139
H.2	Appliance supply pressures corresponding to the categories given in H.1	139
H.3	Special categories marketed nationally or locally	139
H.4	Gases and test pressures corresponding to the special categories given in H.3	139
Annex I	(informative) Calculation of conversions of NO_x	140
Annex J	(informative) An example of sampling plans	141
J.1	Sampling plans	141
J.2	Inspection levels and procedures	142
Annex ZA	(informative) Relationship between this European Standard and the Essential Requirements of EU Directive 90/396/EEC	143
Annex ZB	(informative) Clauses of this European Standard addressing the provisions of the EU Construction Products Directive	145
ZB.1	Scope and relevant characteristics	145
ZB.2	Procedure(s) for attestation of conformity of [construction products]	147
ZB.3	CE marking and labelling	150
	Bibliography	152

Foreword

This document (EN 1319:2009) has been prepared by Technical Committee CEN/TC 180 "Domestic and non-domestic gas-fired air heaters and non-domestic gas-fired overhead radiant heaters", 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 2010, and conflicting national standards shall be withdrawn at the latest by June 2010.

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 1319:1998.

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 EC Directive(s).

For relationship with EU Directive(s), see informative Annexes ZA and ZB, which are integral parts of this document.

This revision modifies EN 1319:1998. It has been prepared to incorporate requirements for combustion products evacuation ducts, POCEDs, supplied as an integral part of the system to support the EU Directive 89/106/EEC on construction products under mandate M105. To this end it extends the scope of the standard to cover type B₄ and B₅ appliances.

Furthermore, the opportunity presented by this revision has been taken to update the standard in respect to EN 437:2003.

NOTE For countries requesting special categories (specified in EN 437), the absence of specific information concerning A.4.3 and A.4.4 implies that the general requirements described in the body of the standard (see 5.1.1, 5.2.2, 5.2.3 and 5.2.5) also apply to these special categories.

Other European Standards covering gas-fired air heaters are:

EN 525, *Non-domestic direct gas-fired forced convection air heaters for space heating not exceeding a net heat input of 300 kW*

EN 621, *Non-domestic gas-fired forced convection air heaters for space heating not exceeding a net heat input of 300 kW, without a fan to assist transportation of combustion air and/or combustion products*

EN 778, *Domestic gas-fired forced convection air heaters for space heating not exceeding a net heat input of 70 kW, without a fan to assist transportation of combustion air and/or combustion products*

EN 1020, *Non-domestic forced convection gas-fired air heaters for space heating not exceeding a net heat input of 300 kW incorporating a fan to assist transportation of combustion air or combustion products*

EN 1196, *Domestic and non-domestic gas-fired air heaters — Supplementary requirements for condensing air heaters*

EN 12669, *Direct gas-fired hot air blowers for use in greenhouses and supplementary non-domestic space heating*

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 the United Kingdom.

This document is a preview generated by EVS

1 Scope

This European Standard specifies the requirements and test methods for the safety and efficiency of domestic gas-fired air heaters with a fan to assist the transportation of combustion air and/or combustion products, hereafter referred to as appliances.

This European Standard applies to Type B₁₂, B_{12AS}, B_{12BS}, B₁₃, B_{13AS}, B_{13BS}, B₁₄, B_{14AS}, B_{14BS}, B₂₂, B₂₃, B₄₂, B_{42AS}, B_{42BS}, B₄₃, B_{43AS}, B_{43BS}, B₄₄, B_{44AS}, B_{44BS}, B₅₂, B₅₃, C₁₂, C₁₃, C₃₂, C₃₃, C₆₂ and C₆₃ appliances with an input not exceeding 70 kW (net cv basis), intended primarily for use in single unit residential dwellings. Provision of the heated air may be by means of ducting.

This standard does not apply to:

- a) appliances of the condensing type;
- b) appliances for outdoor installation;
- c) dual purpose air conditioning appliances (heating and cooling);
- d) appliances where the air is heated by an intermediate fluid;
- e) appliances with forced draught package burners or fully premixed burners;
- f) appliances fitted with a manual means of adjusting the combustion air supply or the evacuation of the combustion products;
- g) portable or transportable forced convection appliances;
- h) appliances having multiple heating units with a single draught diverter;
- i) appliances fitted with more than one flue outlet;
- j) Type C₂₂, C₂₃, C₄₂, C₄₃, C₅₂ and C₅₃ appliances;
- k) appliances that are designed for continuous condensation within the flue system under normal operating conditions;
- l) appliances having combustion products evacuation ducts, POCEDs, that are non-metallic.

This standard is applicable to appliances which are intended to be type tested. It also includes requirements concerning the evaluation of conformity, including factory production control, but these requirements only apply to POCEDs and their associated terminals.

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 88-1:2007, *Pressure regulators and associated safety devices for gas appliances — Part 1: Pressure regulators for inlet pressures up to and including 500 mbar*

EN 125:1991, *Flame supervision devices for gas burning appliances — Thermo-electric flame supervision devices*

EN 126:2004, *Multifunctional controls for gas burning appliances*

- EN 161:2007, *Automatic shut-off valves for gas burners and gas appliances*
- EN 257:1992, *Mechanical thermostats for gas-burning appliances*
- EN 298:2003, *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 1859:2000, *Chimneys— Metal chimneys — Test methods*
- EN 10226-1:2004, *Pipe threads where pressure tight joints are made on the threads — Part 1: Taper external threads and parallel internal threads — Dimensions, tolerances and designation*
- EN 10226-2:2005, *Pipe threads where pressure tight joints are made on the threads — Part 2: Taper external threads and taper internal threads — Dimensions, tolerances and designation*
- EN 12067-1:1998, *Gas/air ratio controls for gas burners and gas burning appliances — Part 1: Pneumatic types*
- EN 60335-1:2002, *Household and similar electrical appliances — Safety — Part 1: General requirements (IEC 60335-1:2001, modified)*
- EN 60335-2-102:2006, *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 60529:1991, *Degrees of protection provided by enclosures (IP code) (IEC 60529:1989)*
- EN 60584-1:1995, *Thermocouples — Part 1: Reference tables (IEC 60584-1:1995)*
- EN 60584-2:1993, *Thermocouples; part 2: Tolerances (IEC 60584-2:1982 + A1:1989)*
- EN 60730-2-1:1997, *Automatic electrical controls for household and similar use — Part 2: Particular requirements for electrical controls for electrical household appliances (IEC 60730-2-1:1989, modified)*
- EN 60730-2-9:2002, *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 1182:2002, *Reaction to fire tests for building products — Non-combustibility test (ISO 1182:2002)*
- ISO 7005-1:1992, *Metallic flanges — Part 1: Steel flanges*
- ISO 7005-2:1988, *Metallic flanges — Part 2: Cast iron flanges*
- ISO 7005-3:1988, *Metallic flanges — Part 3: Copper alloy and composite flanges*
- CR 1404, *Determination of emissions from appliances burning gaseous fuels during type testing*