MAJAPIDAMISES JA MUJAL KASUTATAVAD GAASIKÜTTEGA SUNDKONVEKTSIOONIGA ÕHUSOOJENDID RUUMIDE KÜTMISEKS, MILLE PUHAS SOOJUSSISEND EI ÜLETA 300 KW

Domestic and non-domestic gas-fired forced convection air heaters for space heating not exceeding a net heat input of 300 kW

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 17082:2019 sisaldab Euroopa standardi EN 17082:2019 ingliskeelset teksti.	This Estonian standard EVS-EN 17082:2019 consists of the English text of the European standard EN 17082:2019.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 16.10.2019.	Date of Availability of the European standard is 16.10.2019.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 97.100.20

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 17082

October 2019

ICS 97.100.20

Supersedes EN 1020:2009, EN 1196:2011, EN 1319:2009, EN 525:2009, EN 621:2009, EN 778:2009

English Version

Domestic and non-domestic gas-fired forced convection air heaters for space heating not exceeding a net heat input of 300 kW

Générateurs d'air chaud à convection forcée utilisant les combustibles gazeux pour le chauffage de locaux à usage domestique et non domestique, de débit calorifique inférieur ou égal à 300 kW, sur pouvoir calorifique inférieur (PCI)

Häusliche und nicht-häusliche gasbefeuerte Warmlufterzeuger mit erzwungener Konvektion zur Raumbeheizung deren Nennwärmebelastung 300 kW nicht übersteigt

This European Standard was approved by CEN on 5 June 2019.

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.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, 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 United Kingdom.

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

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

Ref. No. EN 17082:2019 E

Contents

Page

European foreword

This document (EN 17082:2019) has been prepared by Technical Committee CEN/TC 180 “Decentralized gas heating”, 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 April 2020, and conflicting national standards shall be withdrawn at the latest by April 2020.

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 525:2009, EN 621:2009, EN 778:2009, EN 1196:2011, EN 1020:2009 and EN 1319:2009.

This document covers the safety and energy efficiency requirements of domestic and non-domestic warm air heaters previously covered by EN 525:2009, EN 621:2009, EN 778:2009, EN 1196:2011, EN 1020:2009 and EN 1319:2009. Additional technical requirements have been made compared to the superseded documents to take account the following:

— Specific requirements on risk analysis due to differences in the Essential Requirements for the Gas Appliance Regulation compared to those of the Gas Appliance Directive;

— Additional requirements on appliance efficiency, including the need to calculate the seasonal efficiency related to the requirements of the Eco-Design Regulation.

Changes have also been made to the document structure to improve its ease of use, for example requirements and associated test methods have been moved into the same clause.

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, 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.

1 Scope

This document specifies the requirements and test methods for the safety and efficiency of gas fired air heaters with or without a fan to assist the transportation of combustion air and/or flue gases, hereafter referred to as "appliances".

This document also applies to warm air heaters having forced draught burners.

This document applies to Type A_2, A_3 appliances, with an input not exceeding 300 kW (net CV basis), intended for non-domestic use.

This document also applies to Type B_{11}, B_{11AS}, B_{11BS}, B_{12}, B_{12AS}, B_{12BS}, B_{13}, B_{13AS}, B_{13BS}, B_{14}, B_{14AS}, B_{14BS}, B_{22}, B_{23}, B_{41}, B_{41AS}, B_{41BS}, B_{42}, B_{42AS}, B_{42BS}, B_{43}, B_{43AS}, B_{43BS}, B_{44}, B_{44AS}, B_{44BS}, B_{52}, B_{53}, C_{11}, C_{12}, C_{13}, C_{21}, C_{31}, C_{32}, C_{33}, C_{41}, C_{62} and C_{63} appliances with an input not exceeding 300 kW (net CV basis), intended for domestic and non-domestic use.

Provision of the heated air may be by means of ducting.

This document does not apply to:

a) dual purpose air conditioning appliances (heating and cooling);

b) appliances where the air is heated by an intermediate fluid;

c) portable or transportable forced convection appliances;

d) appliances fitted with manual or automatic means of adjusting the combustion products evacuation by means of flue dampers;

e) appliances having multiple heating units with a single draught diverter;

f) appliances fitted with more than one flue outlet;

g) appliances fitted with gas boosters;

h) C_{21} and C_{41} appliances for 3rd family gases.

NOTE For C_{41} appliances, see all requirements and test methods that are valid for C_{21} appliances, unless otherwise stated.

This document is not intended to cover appliances projected for connection to gas grids where the quality of the distributed gas is likely to vary to a large extent over the lifetime of the appliance.

This document is applicable to appliances which are intended to be type tested.

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 88-1:2011+A1 2016, *Pressure regulators and associated safety devices for gas appliances — Part 1: Pressure regulators for inlet pressures up to and including 50 kPa*

EN 125:2010+A1 2015, *Flame supervision devices for gas burning appliances — Thermoelectric flame supervision devices*

EN 126:2012, *Multifunctional controls for gas burning appliances*

EN 161:2011+A3:2013, *Automatic shut-off valves for gas burners and gas appliances*

EN 257:2010, *Mechanical thermostats for gas-burning appliances*

EN 298:2012, *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 676:2003+A2:2008, *Automatic forced draught burners for gaseous fuels*

EN 682:2002, *Elastomeric seals — Materials requirements for seals used in pipes and fittings carrying gas and hydrocarbon fluids*

EN 1859:2009+A1:2013, *Chimneys— Metal chimneys — Test methods*

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 12067-2:2004, *Gas/air ratio controls for gas burners and gas burning appliances — Part 2: Electronic types*

EN 50090 *(all parts), Home and Building Electronic Systems (HBES)*

EN 60335-1:2012, *Household and similar electrical appliances — Safety — Part 1: General requirements (IEC 60335-1:2010, modified)*

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 (IEC 60335-2-102:2004, modified)*

EN 60529:1991, *Degrees of protection provided by enclosures (IP code) (IEC 60529:1989)*

EN 60584-1:2013, *Thermocouples — Part 1: EMF specifications and tolerances (IEC 60584-1:2013)*

EN 60730-1:2016, *Automatic electrical controls — Part 1: General requirements (IEC 60730-1:2013, modified)*

EN 60730-2-9:2010, *Automatic electrical controls for household and similar use — Part 2-9: Particular requirements for temperature sensing controls (IEC 60730-2-9:2008, modified)*

EN 61058-1:2002, *Switches for appliances — Part 1: General requirements (IEC 61058-1:2000, modified)*

EN 61558-2-6:2009, *Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V — Part 2-6: Particular requirements and tests for safety isolating transformers and power supply units incorporating safety isolating transformers (IEC 61558-2-6:2009)*

EN 61558-2-16:2009, *Safety of transformers, reactors, power supply units and similar products for supply voltages up to 1 100 V — Part 2-16: Particular requirements and tests for switch mode power supply units and transformers for switch mode power supply units (IEC 61558-2-16:2009)*

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 1182:2010, *Reaction to fire tests for products — Non-combustibility test (ISO 1182:2010)*

EN ISO 3166-1:2014, *Codes for the representation of names of countries and their subdivisions — Part 1: Country codes (ISO 3166-1:2013)*

EN ISO 5167-1:2003, *Measurement of fluid flow by means of pressure differential devices inserted in circular cross-section conduits running full — Part 1: General principles and requirements (ISO 5167-1:2003)*

EN ISO 5167-2:2003, *Measurement of fluid flow by means of pressure differential devices inserted in circular cross-section conduits running full — Part 2: Orifice plates (ISO 5167-2:2003)*

ISO 3966:2008, *Measurement of fluid flow in closed conduits – Velocity area method using Pitot static tubes*

ISO 7005-1:2011, *Pipe flanges — Part 1: Steel flanges for industrial and general service piping systems*

ISO 7005-2:1988, *Metallic flanges — Part 2: Cast iron flanges*

ISO 7005-3:1988, *Metallic flanges — Part 3: Copper alloy and composite flanges*

3 Terms and definitions

3.1 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

3.1.1 Appliance and its constituent components

3.1.1.1
air heater
appliance designed for the heating by means of warm air and possibly ventilation of a building

3.1.1.2
forced convection air heater
appliance designed to provide space heating from a central source by distributing heated air, by means of an air moving device, either through ducting or directly into the heated space

3.1.1.3
direct fired forced convection air heater
forced convection air heater in which the products of combustion mix with the heated air being supplied to the space

3.1.1.4
high temperature direct fired forced convection air heater
direct fired forced convection air heater designed to operate with an air temperature rise through the appliance greater than 60 K

3.1.1.5
low temperature direct fired forced convection air heater
direct fired forced convection air heater designed to operate with a maximum air temperature rise through the appliance of 60 K or less