

Gaasiküttel töötavad sundkonvektsiooniga õhusoojendid, mis pole ette nähtud kasutamiseks kodumajapidamises. Nende soojuse netosisendväärtus on alla 300 kW ja need õhusoojendid on varustatud põlemisõhku ja/või põlemisjääkgase teisaldava ventilaatoriga

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

EESTI STANDARDI EESSÕNA**NATIONAL FOREWORD**

<p>Käesolev Eesti standard EVS-EN 1020:2009 sisaldab Euroopa standardi EN 1020:2009 ingliskeelset teksti.</p>	<p>This Estonian standard EVS-EN 1020:2009 consists of the English text of the European standard EN 1020:2009.</p>
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English Version

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

Générateurs d'air chaud à convection forcée utilisant les combustibles gazeux pour le chauffage de locaux autres que l'habitat individuel de débit calorifique sur PCI inférieur ou égal à 300 kW, comportant un ventilateur pour aider l'alimentation en air comburant et/ou l'évacuation des produits de combustion

Gasbefeuerte Warmlufterzeuger mit verstärkter Konvektion für den nicht-häuslichen Gebrauch mit einer Nennwärmebelastung nicht über 300 kW, mit Gebläse zur Beförderung der Verbrennungsluft und/oder der Abgase

This European Standard was approved by CEN on 5 October 2009.

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Foreword

This document (EN 1020:2009) 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of an identical text or by endorsement, at the latest by May 2010, and conflicting national standards shall be withdrawn at the latest by May 2010.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 1020:1997.

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 1020:1997. 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 type 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 437:2003), the absence of specific information concerning A.3.3 and A.3.4 implies that the general requirements described in the body of the standard (see 4.1.1, 4.2.2, 4.2.3 and 4.2.5) also apply to these special categories.

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.

1 Scope

This European Standard specifies the requirements and test methods for the safety and efficiency of non-domestic gas-fired air heaters having a fan to assist the transportation of combustion air and/or flue gases, hereafter referred to as "appliances". This includes appliances having forced draught burners.

This European Standard applies to Type B₁₂, B₁₃, B₁₄, B₂₂, B₂₃, B₄₂, B₄₃, B₄₄, B₅₂, B₅₃, C₁₂, C₁₃, C₃₂, C₃₃, C₆₂ and C₆₃ appliances with a heat input not exceeding 300 kW (based on net calorific value) intended for use in other than single unit residential dwellings. It also applies to appliances intended for outdoor installation. Provision of the heated air may be by means of ducting or may be directly into the heated space.

For Type C₆₂ and C₆₃ appliances, this European Standard only applies when such appliances are intended for final installation in a similar manner to Type C₃ appliances.

This standard does not apply to:

- a) appliances intended for use in a single unit residential dwelling;
- b) appliances of the condensing type;
- c) appliances with atmospheric burners without a fan to assist the transportation of combustion air and/or flue gases;
- d) dual purpose air conditioning appliances (heating and cooling);
- e) appliances where the air is heated by an intermediate fluid;
- f) appliances fitted with manual or automatic flue dampers;
- 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) appliances that are designed for continuous condensation within the flue system under normal operating conditions;
- k) 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.

NOTE Requirements for appliances which are not type tested would need to be subject to further consideration.

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 — Thermo-electric 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 298:2003, *Automatic 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, *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, *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, *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, *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, *Thermocouples — Part 1: Reference tables (IEC 60584-1:1995)*

EN 60584-2, *Thermocouples — Part 2: Tolerances (IEC 60584- 2:1982 + A1:1989)*

EN 60730-1, *Automatic electrical controls for household and similar use — Part 1: General requirements (IEC 60730-1:1999, 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 61058-1, *Switches for appliances — Part 1: General requirements (IEC 61058-1:2000 + A1:2001, modified)*

EN ISO 228-1, *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)*

EN ISO 6976, *Natural gas — Calculation of the calorific values, density, relative density and Wobbe index from composition (ISO 6976:1995 including Corrigendum 1:1997, Corrigendum 2:1997 and Corrigendum 3:1999)*

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

ISO 228-1:1994, *Pipe threads where pressure-tight joints are not made on the threads — Part 1: Dimensions, tolerances and designation*

ISO 1182:1990, *Reaction to fire tests for building products — Non-combustibility test*

ISO 7005-1, *Metallic flanges — Part 1: Steel flanges*

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

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

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

3 Terms and definitions

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

3.1 Appliance and its constituent parts

3.1.1

non-domestic air heater

appliance designed for the heating and possibly ventilation of a building other than a single unit residential dwelling

3.1.2

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

3.1.3

gas inlet connection

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

3.1.4

mechanical joint

mechanical means of obtaining soundness

means of ensuring the soundness of an assembly of several (generally metallic) parts without the use of liquids (e.g. pastes and tapes)

EXAMPLES Metal to metal joints; conical joints; toroidal sealing rings ("O" rings); flat joints.

3.1.5

gas circuit

part of the burner unit that conveys or contains the gas between the burner unit gas inlet connection and the burners

3.1.6

restrictor

device with an orifice, 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

3.1.7

gas rate adjuster

component allowing an authorised person to set the gas rate of the burner to a predetermined value according to the supply conditions

NOTE 1 Adjustment can be progressive (screw adjuster) or in discrete steps (by changing restrictors).