

GAASKÜTUSEL KESKKÜTTEKATLAD. OSA 2-2:
ERINÕUDED B1 TÜÜPI KATELDELE

Gas-fired central heating boilers - Part 2-2: Specific
standard for type B1 appliances

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>See Eesti standard EVS-EN 15502-2-2:2024 sisaldab Euroopa standardi EN 15502-2-2:2024 ingliskeelset teksti.</p> <p>Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 24.07.2024.</p> <p>Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.</p>	<p>This Estonian standard EVS-EN 15502-2-2:2024 consists of the English text of the European standard EN 15502-2-2:2024.</p> <p>This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.</p> <p>Date of Availability of the European standard is 24.07.2024.</p> <p>The standard is available from the Estonian Centre for Standardisation and Accreditation.</p>
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EUROPEAN STANDARD

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NORME EUROPÉENNE

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English Version

Gas-fired central heating boilers - Part 2-2: Specific standard for type B1 appliances

Chaudières de chauffage central utilisant les combustibles gazeux - Partie 2-2: Norme spécifique pour les appareils de type B1

Heizkessel für gasförmige Brennstoffe - Teil 2-2: Heizkessel der Bauart B1

This European Standard was approved by CEN on 17 June 2024.

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European foreword

This document (EN 15502-2-2:2024) has been prepared by Technical Committee CEN/TC 109 “Central heating boilers using gaseous fuels”, the secretariat of which is held by NEN.

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of an identical text or by endorsement, at the latest by January 2025, and conflicting national standards shall be withdrawn at the latest by January 2025.

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 15502-2-2:2014.

EN 15502-2-2:2024 includes the following significant technical changes with respect to EN 15502-2-2:2014:

- I) The main technical changes resulting from the revision of EN 15502-1 into EN 15502-1:2021+A1:2023 are found in EN 15502-1:2021+A1:2023.
- II) Additional changes, not resulting from the revision of EN 15502-1 into EN 15502-1:2021+A1:2023:
 - a) new or generally reworded requirements:
 - 1) separation between requirements and test methods in to different clauses;
 - 2) changes resulting from moving additional common parts from EN 15502-2-1:2012+A1:2016 and/or EN 15502-2-2:2014 to EN 15502-1:2021+A1:2023 (for example all definitions used in the parts 2 are moved to part 1; therefore, most of the definitions in this part are now by reference to part 1);
 - 3) the definitions for instructions for installation, instructions for use and servicing, and technical documentation are now consequently applied throughout the document;
 - 4) an Annex Z referring to the GAR has been inserted;
 - 5) only “instructions for installation” and “instructions for use and servicing” are defined. therefore, these are the only instructions to be used in this document;
 - b) corrected mistakes:

9.2, 9.3 and the relevant subclauses of this document correct two errors present in EN 15502-2-2:2014 where:

 - 9.2.1 *Requirements* specifies: *Shall be according to EN 15502-1:2012, 9.2.1* but these efficiency requirements are not applicable to boiler < 400 kW.
 - 9.3 *Useful efficiency at part load* specifies: *EN 15502-1:2012, 9.3 is not applicable* but in Clause 9.3 there are the following subclauses:
 - 9.3.1 *Requirements* that are not applicable to boilers < 400 kW
 - 9.3.2 *Tests* that are applicable to boilers having any heat input value

- c) limitation of the scope compared to the standards superseded by the EN 15502 series (that were cited in the OJEU under the GAD).

This revision only covers the update from the EN 15502-1 and an addition of an Annex Z referring to the GAR. This revision aimed not to introduce any new technical content. As some specific requirements are not covered in EN 15502-2-2:2014 the scope has been modified to clarify this, stating that this document does not include:

- 1) specific requirements on surface temperatures of external parts particular to children and elderly people;
- 2) specific requirements on appliances that are intended to burn natural gases of the second family where hydrogen is added to the natural gas;
- 3) specific requirements for appliances equipped with an adaptive combustion control function.

In fact, these changes are not a change of scope, but a clarification of the scope;

EN 15502 consists of the following parts under the general title “Gas-fired heating boilers”:

- Part 1: General requirements and tests;
- Part 2-1: Specific standard for type C appliances and type B2, B3 and B5 appliances of a nominal heat input not exceeding 1 000 kW;
- Part 2-2: Specific standard for type B1 appliances.

This document (Part 2-2) is used in conjunction with Part 1.

Relationship between this document and EN 15502-1, *Gas-fired heating boilers — Part 1: General requirements and tests*:

This document is used in conjunction with EN 15502-1:2021+A1:2023 and follows the numbering structure of EN 15502-1:2021+A1:2023.

Where this document states:

- shall be according to EN 15502-1:2021+A1:2023 (clause number) with the following modification;
- shall be according to EN 15502-1:2021+A1:2023 (clause number) with the following addition;
- EN 15502-1:2021+A1:2023 (clause number) is replaced by the following;
- EN 15502-1:2021+A1:2023 (clause number) is not applicable;

the relevant text of EN 15502-1:2021+A1:2023 is intended to be adapted accordingly.

This document adds clauses or subclauses to the structure of EN 15502-1:2021+A1:2023 which are particular to this Part 2 standard. It should be noted that these clauses and subclauses are not indicated as an addition. Clauses, subclauses and annexes which are additional to those in EN 15502-1:2021+A1:2023 are numbered starting from 101, or designated as Annex XA, XB, XC, etc.

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

For the relationship with EU Legislation, see informative Annex ZE, which is an integral part of this document.

NOTE For applications within the scope of the PED further requirements can be necessary (e.g. situations where the maximum allowable temperature exceeds 110 °C, or where volume times maximum allowable pressure is over 50 bar x litres).

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

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, Türkiye and the United Kingdom.

Introduction

The basic function of gas-fired heating boiler is to generate heat by direct heat transfer in a heat exchanger, from the combustion gasses to the water.

The boiler can include in one design more than one function. It can include for example:

- a sanitary hot water function;
- a function to supply the combustion air from the outside/open air;
- a function to dispose the combustion products to the outside/open air.

The boiler design can be supplied to the market in more than one part. If the boiler is supplied to the market in multiple parts, the boiler is the assembly of various parts according to the instructions for installation.

Boilers can be designed to be connected to specific parts of a building. Connection to a chimney and the means of combustion air supply is particularly relevant.

Matters related to quality assurance systems, tests during production, and certificates of conformity of auxiliary devices are not dealt with in this series of European standards.

1 Scope

This document specifies, the requirements and test methods concerning the classification and marking of gas-fired central heating boilers that are fitted with atmospheric burners, fan assisted atmospheric burners and are hereafter referred to as “boilers”.

Where the word boiler is used, this is intended to be read as the boiler including its connecting ducts, ducts and terminals, if any.

This document covers gas-fired central heating boilers type B₁₁, B_{11BS}, B₁₂, B_{12BS}, B₁₃, B_{13BS}:

NOTE 1 For further background information on appliance types see EN 1749:2020.

- a) that have a nominal heat input (on the basis of net calorific value) not exceeding 70 kW;
- b) that use one or more combustible gases of the three gas families at the pressures stated in EN 437:2021;
- c) where the temperature of the heat transfer fluid does not exceed 105 °C during normal operation;
- d) where the maximum operating pressure in the water circuit does not exceed 6 bar;
- e) which are declared in the technical instructions to be either a “low temperature boiler” or a “standard boiler”. If no declaration is given the boiler is to be considered a “standard boiler”;
- f) which are intended to be installed inside a building or in a partially protected place;
- g) which are intended to produce also hot water either by the instantaneous or storage principle, as a single unit;
- h) which are designed for either sealed water systems or for open water systems.

NOTE 2 This document provides requirements for boilers with known constructions. For boilers with any alternative constructions, which might not fully be covered by this document, the risk associated with this alternative construction needs to be assessed.

An example of an assessment methodology, based upon risk assessment, is given in Clause 11.

This document does not cover all the requirements for:

- aa) appliances that are intended to be connected to gas grids where the quality of the distributed gas is likely to vary to a large extent over the lifetime of the appliance (see Annex AB);
- ab) appliances using flue dampers;
- ac) appliances that have a nominal heat input (on the basis of net calorific value) exceeding 70 kW;
- ad) appliances of the types A, B₁₄, B₂, B₃, B₄, B₅ and C;
- ae) appliances intended to be connected to a (common) flue having mechanical extraction;
- af) appliances with gas/air ratio control;
- ag) modular boilers;
- ah) boilers which can give rise to condensation under certain circumstances;

- ai) boilers intended to be installed in a room with a foreseeable negative pressure relative to the pressure in the flue system;
- aj) surface temperatures of external parts particular to children and elderly people;
- ak) appliances that are intended to burn natural gases of the second family where hydrogen is added to the natural gas;
- al) boilers intended to be installed in areas accessible to elderly people and children;
- am) boilers equipped with an adaptive combustion control function (ACCF).

NOTE Negative pressure relative to the pressure in the flue system can for example be caused by mechanical or thermal ventilation in airtight buildings.

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.

In this document the normative references of EN 15502-1:2021+A1:2023 are valid. Furthermore, the following normative reference is valid.

EN 15502-1:2021+A1:2023, *Gas-fired heating boilers - Part 1: General requirements and tests*

3 Terms, definitions and symbols

3.1 Terms and definitions

Shall be according to EN 15502-1:2021+A1:2023, 3.1.

3.2 Symbols

Shall be according to EN 15502-1:2021+A1:2023, 3.2.

4 Classification

Shall be according to EN 15502-1:2021+A1:2023, Clause 4.

5 Construction

5.1 General

Shall be according to EN 15502-1:2021+A1:2023, 5.1.

5.2 Conversion to different gases

Shall be according to EN 15502-1:2021+A1:2023, 5.2.