

ICS 27.060.30; 91.140.10; 27.075

English Version

## Gas-fired central heating boilers - Part 3-1: H<sub>2</sub>NG and ACCF - Expansion of EN 15502-2-1:2022

Chaudières de chauffage central utilisant les  
combustibles gazeux - Partie 3-1: H<sub>2</sub>/GN et fonction  
adaptative de contrôle de la combustion -  
Élargissement de l'EN 15502-2-1:2022

Gasbefeuerte Zentralheizkessel - Teil 3-1:  
Wasserstoffbeimischung und adaptive  
Verbrennungsregelung - Ergänzung zur DIN EN 15502-  
2-1:2022

This Technical Specification (CEN/TS) was approved by CEN on 8 April 2024 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

CEN members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
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## European foreword

This document (CEN/TS 15502-3-1:2024) has been prepared by Technical Committee CEN/TC 109 “Central heating boilers using gaseous fuels”, the secretariat of which is held by NEN.

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 contains an expansion of the scope of EN 15502-2-1:2022 and provides requirements needed for this expansion.

The only technical change compared to EN 15502-2-1:2022 is this expansion of the scope compared to EN 15502-2-1:2022.

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;*
- *Part 3-1: H2NG and ACCF — Expansion of EN 15502-2-1:2022.*

Relationship between this document, EN 15502-2-1:2022 and EN 15502-1:2021

The reader needs to be aware of the following information:

- a) This document (CEN/TS 15502-3-1) is to be used in conjunction with EN 15502-2-1:2022, while EN 15502-2-1:2022 is to be used in conjunction with EN 15502-1:2021. This means that this TS is to be used in conjunction with both EN 15502-2-1:2022 and EN 15502-1:2021 and that all information in EN 15502-2-1:2022 and EN 15502-1:2021 applies as well, unless stated otherwise (see under b)).

NOTE 1 To find the actual requirements or information in the (sub)clauses of EN 15502-2-1:2022 referred to in this TS, one might need to check EN 15502-1:2021 (as EN 15502-2-1:2022 is to be used in conjunction with EN 15502-1:2021).

- b) The numbering structure of this TS is using the numbering structure of EN 15502-2-1:2022 and expanding on it. Where this TS states: Shall be according to EN 15502-2-1:2022, [clause number], The numbering, title and text of that clause is to be used (incl. sub clauses, tables, equations, figures, lists and corresponding numbering).

NOTE 2 The TS and its annexes can refer to (sub)clause numbers that are to be found either in this TS, or EN 15502-2-1:2022, or EN 15502-1:2021

- c) The relevant text of EN 15502-2-1:2022 is to be adapted accordingly in all cases where this TS states:
- shall be according to EN 15502-2-1:2022, [clause number] with the following modification;
  - shall be according to EN 15502-2-1:2022, [clause number] with the following modification of [sub clause number(s)];
  - shall be according to EN 15502-2-1:2022, [clause number] with the following addition;

- shall be according to EN 15502-2-1:2022, [clause number] with the addition of [sub clause number(s)] at the end;
  - EN 15502-2-1:2022, [clause number] is replaced by the following;
    - the title of EN 15502-2-1:2022 [clause number] is replaced by the following;
    - EN 15502-2-1:2022, [clause number] is not applicable.
- d) Clauses or subclauses in this TS that are additional to the structure of EN 15502-2-1:2022 are numbered “20x” (e.g. 3.1.201, 8.4.201, Table 201, Formula 201, Figure 201) or designated as Annex “Y” (e.g Annex YA, YB, YC, etc.). These additional (sub)clauses provide requirements and information that is specific for the appliances that are covered in the scope of this TS.

NOTE 3 The additional (sub)clauses in this TS are not indicated as an addition to EN 15502-2-1:2022.

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 announce this Technical Specification: 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

EN 15502-2-1:2022, introduction applies.

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## 1 Scope

Shall be according to EN 15502-2-1:2022, Clause 1 with the following modifications:

Add at the end of the list, after k), following:

“This document covers gas-fired central heating boilers from the types C<sub>1</sub> up to C<sub>(11)</sub> and the types B<sub>2</sub>, B<sub>3</sub> and B<sub>5</sub>”:

l) which are fully premixed appliances equipped with an Adaptive Combustion Control Function (ACCF) 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 including gas grids for natural gases of the second family where up to 20 mol% H<sub>2</sub> is added to the natural gas (H2NG-Y20).

m) which are fully premixed appliances equipped with a Pneumatic Gas/Air Ratio controller (PGAR) that are intended to be connected to gas grids for natural gases of the second family where up to 20 mol% H<sub>2</sub> is added to the natural gas (H2NG-Y20), where the quality of the distributed gas without adding the hydrogen is not likely to vary to a large extent over the lifetime of the appliance.

Replace in the list following

“This document does not cover all the requirements for”:

ab) and ak) and al) by:

ab) 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 of EN 15502-1:2021), except for fully premixed appliances with an ACCF, as ACCF appliances are designed to adapt to variations in gas quality.

ak) appliances that are intended to burn natural gases of the second family where hydrogen is added to the natural gas, except for fully premixed appliances with an ACCF or PGAR (which are covered by this document);

al) Partially premixed appliances equipped with an adaptive combustion control function (ACCF).

## 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.

The normative references of EN 15502-2-1:2022 apply with the following additions:

EN 15502-2-1:2022, *Gas-fired central heating boilers - 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*

EN 12067-2:2022, *Safety and control devices for burners and appliances burning gaseous or liquid fuels - Control functions in electronic systems - Part 2: Fuel/air ratio control/supervision of the electronic type*