



Institut luxembourgeois de la normalisation
de l'accréditation, de la sécurité et qualité
des produits et services

ILNAS-EN 303-6:2019

Heating boilers - Part 6: Heating boilers with forced draught burners - Specific requirements for the domestic hot water operation and energy

Chaudières de chauffage - Partie 6 :
Chaudières avec brûleurs à air soufflé -
Exigences spécifiques à la fonction eau
chaude sanitaire et à la performance

Heizkessel - Teil 6: Heizkessel mit
Gebläsebrennern - Spezielle
Anforderungen an die trinkwasserseitige
Funktion und energetische Bewertung

08/2019



National Foreword

This European Standard EN 303-6:2019 was adopted as Luxembourgish Standard ILNAS-EN 303-6:2019.

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EUROPEAN STANDARD ILNAS-EN 303-6:2019 **EN 303-6**
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Supersedes EN 303-6:2000

English Version

Heating boilers - Part 6: Heating boilers with forced draught burners - Specific requirements for the domestic hot water operation and energy performance of water heaters and combination boilers with atomizing oil burners of nominal heat input not exceeding 70 kW

Chaudières de chauffage - Partie 6 : Chaudières avec brûleurs à air soufflé - Exigences spécifiques à la fonction eau chaude sanitaire et à la performance énergétique des préparateurs d'eau chaude et des chaudières à deux services avec brûleurs fioul à pulvérisation dont le débit calorifique nominal est inférieur ou égal à 70 kW

Heizkessel - Teil 6: Heizkessel mit Gebläsebrennern - Spezielle Anforderungen an die trinkwasserseitige Funktion und energetische Bewertung von Wassererwärmern und von Kombi-Kesseln mit Ölzerstäubungsbrennern mit einer Nennwärmeleistung kleiner als oder gleich 70 kW

This European Standard was approved by CEN on 10 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.

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European foreword

This document (EN 303-6:2019) has been prepared by Technical Committee CEN/TC 57 “Central heating boilers”, the secretariat of which is held by DIN.

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 February 2020, and conflicting national standards shall be withdrawn at the latest by February 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 303-6:2000.

EN 303-6 is revised to update it for:

- EN 13203-1 for the specific flow rate where a new method replaced the method used in EN 625 which was deleted (replaced partially by EN 15502-1 and EN 13203-1);
- ERP requirements for water heating appliances based on the work done by CEN/TC 109 WG4 in the revision of EN 13203-2.

The following structure is intended for the European Standards for heating boilers:

- EN 303-1, *Heating boilers — Part 1: Heating boilers with forced draught burners — Terminology, general requirements, testing and marking*
- EN 303-2, *Heating boilers — Part 2: Heating boilers with forced draught burners — Special requirements for boilers with atomizing oil burners*
- EN 303-3, *Heating boilers — Part 3: Gas fired central heating boilers — Assembly comprising a boiler body and a forced draught burner*
- EN 303-4, *Heating boilers — Part 4: Heating boilers with forced draught burners — Special requirements for boilers with forced draught oil burners with outputs up to 70 kW and a maximum operating pressure of 3 bar — Terminology, special requirements, testing and marking*
- EN 303-5, *Heating boilers — Part 5: Special heating boilers for solid fuels, hand and automatically stoked, nominal heat output of up to 300 kW — Terminology, requirements, testing and marking*
- EN 304, *Heating boilers — Test code for heating boilers for atomizing oil burners*

Annexes A and B of this European Standard are informative.

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 Annexes ZA, ZB, ZC and ZD, which are 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 is composed of two parts.

The first part supplements EN 303-1, EN 303-2, EN 303-4 and EN 304, hereafter called boiler standards. It specifies the supplementary requirements and tests for the construction, safety, rational use of energy, fitness for purpose, classification and marking related to the domestic hot water operation of oil-fired water heaters and combination boilers.

The domestic hot water is produced on either the instantaneous or storage principle. The domestic hot water production is integrated or coupled, the whole being marketed as a single unit.

The second part covers the energy performance of domestic hot water production of the appliances covered by the first part.

This second part sets out a method for assessing the energy performance of the appliances. It defines a number of daily tapping cycles for each domestic hot water use such as kitchen, shower, bath and a combination of these, together with corresponding test procedures, enabling the energy performances of combination boilers and water heaters to be compared and matched to the needs of the user.

The heat output of the appliances covered by this standard does not exceed 400 kW.

In the case of combination boilers, with or without storage tank, domestic hot water production is integrated or coupled, the whole being marketed as a single unit.

This standard only covers type testing.

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 303-1:2017, *Heating boilers — Part 1: Heating boilers with forced draught burners — Terminology, general requirements, testing and marking*

EN 303-2, *Heating boiler — Part 2: Heating boilers with forced draught burners — Special requirements for boilers with atomizing oil burners*

EN 304, *Heating boilers — Test code for heating boilers for atomizing oil burners*

EN 1057, *Copper and copper alloys — Seamless, round copper tubes for water and gas in sanitary and heating applications*

EN 13203-2, *Gas-fired domestic appliances producing hot water — Part 2: Assessment of energy consumption*

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

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

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 13203-2 and the following 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

combination boiler

boiler designed both for central heating and for the production of domestic hot water

Note 1 to entry: Depending on its type of domestic hot water production, the combination boiler is classed as follows, in accordance with the manufacturer's declaration.

3.1.1

instantaneous type

combination boiler which can continuously supply the specific domestic hot water rate "D" stated by the manufacturer

3.1.2

storage type

combination boiler which can intermittently supply the specific domestic hot water rate "D" stated by the manufacturer

3.2

"summer" operating mode

operating mode in which the boiler only provides heating of the domestic water

3.3

specific rate

D

domestic hot water rate declared by the manufacturer, corresponding to a mean temperature rise of 30 K, that the boiler can supply in two successive delivery periods (in l/min)

3.4

nominal domestic hot water heat input

Q_{nw}

value of the heat input in the domestic hot water mode indicated by the manufacturer (in kW)

3.5

maximum water service pressure

PMS

maximum pressure permitted in the domestic water circuit, as declared by the manufacturer (in bar)

3.6

tank

reservoir of domestic water

3.7

thermal store

heat reservoir sited mainly in heating water, as opposed to the domestic hot water storage in the tank