

**Küttekatlad. Osa 2: Võimendatud põletitega  
köetavad boilerid. Spetsiaalsed ohutusnõuded  
automaatõlikütte kateldele**

Heating boilers - Part 2: Heating boilers with forced draught burners - Special requirements for boilers with atomizing oil burners.



## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 303-2:2000 sisaldab Euroopa standardi EN 303-2:1998 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 11.01.2000 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Standard on kättesaadav Eesti standardiorganisatsioonist.

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ICS

Supersedes EN 303-2:1992

Descriptors: central heating, boilers, atomizing burners, liquid fuel appliances, specifications, thermal properties, thermal tests

English version

Heating boilers - Part 2: Heating boilers with forced draught  
burners - Special requirements for boilers with atomizing oil  
burners

Chaudières de chauffage - Partie 2: Chaudières avec  
brûleurs à air soufflé - Prescriptions spéciales pour  
chaudières avec brûleurs fioul à pulvérisation

Heizkessel - Teil 2: Heizkessel mit Gebläsebrenner -  
Spezielle Anforderungen an Heizkessel mit  
Ölzerstäubungsbrennern

This European Standard was approved by CEN on 6 June 1998.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels



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## Foreword

This European Standard has been prepared by Technical Committee CEN/TC 57 "Central heating boilers", the secretariat of which is held by DIN.

This European Standard supersedes EN 303-2:1992.

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 1999, and conflicting national standards shall be withdrawn at the latest by April 1999.

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this standard.

The following structure is intended for the standards for heating boilers:

**prEN 303-1**

Heating boilers – Part 1: Heating boilers with forced draught burners – Terminology, general requirements, testing and marking

**prEN 303-2**

Heating boilers – Part 2: Heating boilers with forced draught burners – Special requirements for boilers with atomizing oil burners

**prEN 303-3**

Heating boilers – Part 3: Gas-fired central heating boilers – Assembly comprising a boiler body and a forced draught burner

**prEN 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

**prEN 303-5**

Heating boilers – Part 5: Heating boilers for solid fuels, hand and automatically fired, with a 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

The following requirements were taken into account and/or amended:

- a) limitation of the emissions;
- b) energy economy;
- c) prevention of burning;
- d) minimal boiler efficiency for full-load (100 %) and part-load (30 %) in figure 1;
- e) taking-over of the formulas for calculation for boiler efficiency at full/part-load;
- f) declaration of tolerances for the air ratio in figure 1;
- g) Extension of the heat output from 300 kW up to 1000 kW.

If the boiler was already tested with a forced draught burner for gaseous fuels in accordance with EN 303-1 and EN 303-3, the tests described in 3.2 and 3.6 need not be performed.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.



## 1 Scope

This standard is applicable to heating boilers in accordance with prEN 303-1 up to a nominal heat output of 1000 kW and prEN 303-4 up to a nominal heat output of 70 kW with atomizing oil burners in accordance with EN 267 which are designed for operating with liquid fuels.

The requirements of this standard apply to type testing to heating boilers which are tested on a test rig in accordance with the test code given in EN 304.

This standard specifies the necessary heating technical requirements for heating boilers with liquid fuels.

NOTE: This Standard can also be used as the basis for evaluation of package boiler-/burner units.

## 2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 267

Atomizing oil burners of monobloc type – testing

prEN 303-1

Heating boilers – heating boilers with forced draught burners – Part 1: Terminology, general requirements, testing and marking

prEN 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 304

Heating boilers – test code for heating boilers for atomizing oil burners

## 3 Performance requirements

### 3.1 General

All the following performance tests are carried out using an oil atomizing burner in accordance with EN 267.

The boiler shall meet the requirements shown in figures 1 to 5 for the nominal heat output or heat output range. Multi-stage or modulating burners shall operate within the output range of the boiler. If the manufacturer states that the boiler also heats the room in which the boiler is installed, the output to the room shall be stated separately and can be taken into account when calculating the overall efficiency.

For assembly criteria see annex C.

### 3.2 Boiler efficiency

3.2.1 The boiler efficiency shall not be less than the appropriate values in figure 1 for the nominal heat output and/or range of outputs.

When comparing test results with the values in figure 2, the following tolerances for the excess air  $\lambda$  shall apply:

$$< 300 \text{ kW: } \pm 10 \%$$

$$\geq 300 \text{ kW up to } 1000 \text{ kW: } \lambda = 1,18 \text{ up to } 1,22$$

3.2.2 For heat output range  $\leq 400$  kW the boiler efficiency shall be (see figure 1):

a) efficiency at full-load (nominal heat output) ( $P_n$ ):

$$\geq 84 + 2 \cdot \log P_n;$$

b) efficiency at part-load ( $0,3 \cdot P_n$ ):

$$\geq 80 + 3 \cdot \log P_n.$$