

**Veetorudega katlad ja abipaigaldised.  
Osa 8: Nõuded vedel- ja gaasiküttega  
katla küttesüsteemidele**

Water-tube boilers and auxiliary installations - Part 8:  
Requirements for firing systems for liquid and  
gaseous fuels for the boiler

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 12952-8:2002 sisaldab Euroopa standardi EN 12952-8:2002 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 18.10.2002 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 12952-8:2002 consists of the English text of the European standard EN 12952-8:2002.</p> <p>This document is endorsed on 18.10.2002 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p><b>Käsitlusala:</b></p> <p>This Part of this European Standard specifies requirements, for oil and gas firing systems of steam boilers and hot water generators as defined in EN 12952-1. These requirements also apply to firing systems of chemical recovery boilers (black liquor boilers) with the additions and amendments specified in Annex A of this standard.</p>	<p><b>Scope:</b></p> <p>This Part of this European Standard specifies requirements, for oil and gas firing systems of steam boilers and hot water generators as defined in EN 12952-1. These requirements also apply to firing systems of chemical recovery boilers (black liquor boilers) with the additions and amendments specified in Annex A of this standard.</p>
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**Võtmesõnad:** boilers, heat exchangers, management, policy, safety requirements, safety valves, sample surveys, specification (approval), specifications, steam boilers, steam generation, steam generators, surveillance (approval), surveys, tanks, testing, water, vessels

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English version

**Water-tube boilers and auxiliary installations - Part 8:  
Requirements for firing systems for liquid and gaseous fuels for  
the boiler**

Chaudières à tubes d'eau et installations auxiliaires - Partie  
8: Exigences pour les équipements de chauffe pour  
combustibles gazeux et liquides de la chaudière

Wasserrohrkessel und Anlagenkomponenten - Teil 8:  
Anforderungen an Feuerungsanlagen für flüssige und  
gasförmige für den Kessel

This European Standard was approved by CEN on 15 May 2002.

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 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 Management Centre 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, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



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## Foreword

This document (EN 12952-8:2002) has been prepared by Technical Committee CEN/TC 269 "Shell and water-tube boilers", the secretariat of which is held by DIN.

This European Standard 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 Annex ZA, which is an integral part of this standard.

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 November 2002, and conflicting national standards shall be withdrawn at the latest by November 2002.

The European Standard EN 12952 concerning "*Water-tube boilers and auxiliary installations*" consists of the following Parts:

- *Part 1: General.*
- *Part 2: Materials for pressure parts of boilers and accessories.*
- *Part 3: Design and calculation for pressure parts.*
- *Part 4: In-service boiler life expectancy calculations.*
- *Part 5: Workmanship and construction of pressure parts of the boiler.*
- *Part 6: Inspection during construction, documentation and marking of pressure parts of the boiler.*
- *Part 7: Requirements for equipment for the boiler.*
- *Part 8: Requirements for firing systems for liquid and gaseous fuels for the boiler.*
- *Part 9: Requirements for firing systems for pulverized solid fuels for the boiler.*
- *Part 10: Requirements for safeguards against excessive pressure.*
- *Part 11: Requirements for limiting devices of the boiler and accessories.*
- *Part 12: Requirements for boiler feedwater and boiler water quality.*
- *Part 13: Requirements for flue gas cleaning systems.*
- *Part 14: Requirements for flue gas DENOX-systems.*
- *Part 15: Acceptance tests.*
- *Part 16: Requirements for grate and fluidised bed firing systems for solid fuels for the boiler.*

CR 12952 Part 17: Guideline for the involvement of an inspection body independent of the manufacturer.

Although, these Parts can be obtained separately, it should be recognized that the Parts are interdependent. As such, the design and manufacture of water-tube boilers requires the application of more than one Part in order for the requirements of the standard to be satisfactorily fulfilled.

NOTE Parts 4 and 15 are not applicable during the design, construction and installation stages.

Annex A of this European Standard is normative and Annex B is informative.

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, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

# 1 Scope

## 1.1 Firing systems

This Part of this European Standard specifies requirements, for oil and gas firing systems of steam boilers and hot water generators as defined in EN 12952-1.

These requirements also apply to firing systems of chemical recovery boilers (black liquor boilers) with the additions and amendments specified in Annex A of this standard.

NOTE 1 This standard is not applicable to coil type boilers (flash boilers/small boilers) that use burners in accordance with EN 12953-7 apply for single burner installations.

## 1.2 NOTE 2 This standard is not applicable to the storage of liquid fuels and to transfer stations of long-distance gas pipelines. Fuels

This Part of this European Standard specifies requirements, which cover the use of liquid and gaseous fuels as defined in this standard. Fuels deviating from standardized commercially available types may require additional or alternative safety measures. For black liquor these safety measures are given in Annex A.

## 1.3 Operation

This Part of this European Standard specifies requirements for operational equipment in clauses 4 to 8 which apply to steam boilers and hot water generators with permanent supervision by properly trained personnel familiar with the special conditions of the firing system and the type of fuel being fired.

# 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 (including amendments).

EN 161, *Automatic shut-off valves for gas burners and gas appliances.*

EN 264, *Safety shut-off devices for combustion plants using liquid fuels — Safety requirements and testing.*

EN 287-1, *Approval testing of welders — Fusion welding — Part 1: Steels.*

EN 751-1, *Sealing materials for metallic threaded joints in contact with 1st, 2nd and 3rd family gases and hot water — Part 1: Anaerobic jointing compounds.*

EN 751-2, *Sealing materials for metallic threaded joints in contact with 1st, 2nd and 3rd family gases and hot water — Part 2: Non-hardening jointing compounds.*

EN 751-3, *Sealing materials for metallic threaded joints in contact with 1st, 2nd and 3rd family gases and hot water — Part 3: Unsintered PTFE tapes.*

EN 1044, *Brazing — Filler metals.*

EN 12952-1, *Water-tube boilers and auxiliary installations — Part 1: General.*

EN 12952-5:2001, *Water-tube boilers and auxiliary installations — Part 5: Workmanship and construction of pressure parts of the boiler.*

EN 13480-2, *Metallic industrial piping — Part 2: Materials.*

prEN 50156-1, *Electrical equipment for furnaces and ancillary equipment — Part 1: Requirements for application design and installation.*

EN ISO 3677, *Filler metal for soft soldering, brazing and braze welding — Designation (ISO 3677:1992).*

ISO 7-1, *Pipe threads where pressure-tight joints are made on the threads — Part 1: Dimensions, tolerances and designation. (ISO 7-1:1994)*

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).*

### 3 Terms and definitions

For the purposes of this Part of this European Standard and the following terms and definitions apply.

#### 3.1

##### **black liquor**

spent liquor from the pulp cook

#### 3.2

##### **black liquor gun**

device for the introduction of the black liquor as a spray of droplets into the furnace. The black liquor gun is not a burner

#### 3.3

##### **high volume low concentration odorous gas**

mixtures of air and a low concentration of odorous gases collected from the pulp mill processes, where the concentration of the combustible odorous gas is always kept below the lower explosion limit

#### 3.4

##### **burners**

devices (including main or igniter burners) for the introduction of fuel and air into a combustion chamber at required velocities, turbulence and local fuel concentration to establish and maintain proper ignition and stable combustion of the fuel. Burners are differentiated by their mode of operation

##### 3.4.1

##### **automatic burners**

burners equipped with automatic ignition, flame monitoring and safety control devices that control the firing rate without the intervention by operating personnel

##### 3.4.2

##### **semi-automatic burners**

burners equipped with automatic ignition, flame monitoring and safety control devices which are started and stopped by the intervention of operating personnel

##### 3.4.3

##### **chemical recovery boiler start up burner**

oil- or gasfired burner mainly intended for the initiation of the black liquor combustion process. The chemical recovery boiler start up burners are located in and integrated with a combustion air register, like the primary or the secondary air register of the furnace. Thus they have no individual air supply and no individual combustion air control

##### 3.4.4

##### **multi-fuel burners**

burners in which more than one fuel is burned either simultaneously or alternately

##### 3.4.5

##### **pilot burner**

burner which maintains a proper permanent ignition source for one or a group of other non-monitored burners