

**Veetoru-dega katlad ja abipaigaldised. Osa 3: Katla
survedetailide projekteerimine ja arvutamine**

**Water-tube boilers and auxiliary installations - Part 3:
Design and calculation for pressure parts of the boiler**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 12952-3:2011 sisaldab Euroopa standardi EN 12952-3:2011 ingliskeelset teksti.	This Estonian standard EVS-EN 12952-3:2011 consists of the English text of the European standard EN 12952-3:2011.
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ICS 27.040

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English Version

Water-tube boilers and auxiliary installations - Part 3: Design and calculation for pressure parts of the boiler

Chaudières à tubes d'eau et installations auxiliaires - Partie 3: Conception et calcul des parties sous pression de la chaudière

Wasserrohrkessel und Anlagenkomponenten - Teil 3: Konstruktion und Berechnung für drucktragende Kesselteile

This European Standard was approved by CEN on 26 November 2011.

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Foreword

This document (EN 12952-3:2011) 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 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2012, and conflicting national standards shall be withdrawn at the latest by June 2012.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 12952-3:2001.

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 97/23/EC, see informative Annex ZA, which is an integral part of this document.

Annex E provides details of significant technical changes between this European Standard and the previous edition.

The European Standard series 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 of the boiler;*
- *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 using liquified pressurized ammonia and ammonia water solution;*
- *Part 15: Acceptance tests;*
- *Part 16: Requirements for grate and fluidized-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.*

NOTE 1 A Part 18 on operating instructions is currently in preparation.

Although these parts may be obtained separately, it should be recognized that the parts are inter-dependent. As such, the design and manufacture of water-tube boilers requires the application of more than one part in order for the requirements of this European Standard to be satisfactorily fulfilled.

NOTE 2 Part 4 and Part 15 are not applicable during the design, construction and installation stages.

NOTE 3 A "Boiler Helpdesk" has been established in CEN/TC 269 which may be contacted for any questions regarding the application of European Standards series EN 12952 and EN 12953, see the following website: <http://www.boiler-helpdesk.din.de>

According to the CEN/CENELEC Internal Regulations, the national standards organizations 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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard specifies the requirements for the design and calculation of water-tube boilers as defined in EN 12952-1.

The purpose of this European Standard is to ensure that the hazards associated with water-tube boilers are reduced to a minimum by the proper application of the design according to this part of EN 12952.

2 Normative references

The following referenced documents are indispensable for the application 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 1092-1:2007, *Flanges and their joints — Circular flanges for pipes, valves, fittings and accessories, PN designated — Part 1: Steel flanges*

EN 1759-1:2004, *Flanges and their joints — Circular flanges for pipes, valves, fittings and accessories, Class designated — Part 1: Steel flanges NPS ½ to 24*

EN 10028-1:2007+A1:2009, *Flat products made of steels for pressure purposes — Part 1: General requirements*

EN 10164:2004, *Steel products with improved deformation properties perpendicular to the surface of the product — Technical delivery conditions*

EN 10266:2003, *Steel tubes, fittings and structural hollow sections — Symbols and definitions of terms for use in product standards*

EN 12952-1:2001, *Water-tube boilers and auxiliary installations — Part 1: General*

EN 12952-2:2011, *Water-tube boilers and auxiliary installations — Part 2: Materials for pressure parts of boilers and accessories*

EN 12952-5:2011, *Water-tube boilers and auxiliary installations — Part 5: Workmanship and construction of pressure parts of the boiler*

EN 12952-6:2011, *Water-tube boilers and auxiliary installations — Part 6: Inspection during construction; documentation and marking of pressure parts of the boiler*

EN 12952-12:2003, *Water-tube boilers and auxiliary installations — Part 12: Requirements for boiler feedwater and boiler water quality*

EN 12953-3:2002, *Shell boilers — Part 3: Design and calculation for pressure parts*

EN 13445-3:2009, *Unfired pressure vessels — Part 3: Design*

EN 13480-3:2002, *Metallic industrial piping — Part 3: Design and calculation*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 12952-1:2001 apply.