



# SLOVENSKI STANDARD

## SIST EN 12952-1:2016

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Nadomešča:

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**Vodocevni kotli in pomožne napeljave - 1. del: Splošno**

Water-tube boilers and auxiliary installations - Part 1: General

Wasserrohrkessel und Anlagenkomponenten - Teil 1: Allgemeines

Chaudières à tubes d'eau et installations auxiliaires - Partie 1 : Généralités

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**Ta slovenski standard je istoveten z: EN 12952-1:2015**

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**ICS:**

27.060.30      Grelniki vode in prenosniki toplote      Boilers and heat exchangers

**SIST EN 12952-1:2016**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

EN 12952-1

October 2015

ICS 27.040

Supersedes EN 12952-1:2001

English Version

Water-tube boilers and auxiliary installations - Part 1:  
General

Chaudières à tubes d'eau et installations auxiliaires -  
Partie 1: Généralités

Wasserrohrkessel und Anlagenkomponenten - Teil 1:  
Allgemeines

This European Standard was approved by CEN on 29 August 2015.

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.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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

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## European foreword

This document (EN 12952-1:2015) 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 April 2016, and conflicting national standards shall be withdrawn at the latest by April 2016.

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 12952-1:2001.

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 2014/68/EU.

For relationship with EU Directive 2014/68/EU, see informative Annex ZA which is an integral part of this document.

The informative Annex A lists the significant technical changes between this European Standard and the previous edition.

EN 12952, *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;*

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- *Part 14: Requirements for flue gas DENOX-systems using liquefied 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;*
- *Part 18: Operating instructions.*

Although these parts can 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 the standard to be satisfactorily fulfilled.

NOTE A “Boiler Helpdesk” has been established in CEN/TC 269 which may be contacted for any questions regarding the application of the 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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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## 1 Scope

### 1.1 General

This European Standard applies to water-tube boilers with volumes in excess of two litres for the generation of steam and/or hot water at a maximum allowable pressure  $PS$  greater than 0,5 bar and with a temperature in excess of 110 °C as well as auxiliary installations (other plant equipment).

The purpose of this European Standard is to ensure that the necessary essential safety requirements according to Annex I of the Pressure Equipment Directive are fulfilled in order to guarantee the safety of water tube boilers.

This aim will be achieved by:

- the proper application of the design, manufacturing, testing and inspection methods and techniques,
- the provision of protective measures against hazards, which cannot be eliminated, and
- the provision of information on residual hazards and other measures to reduce risk,

which are incorporated in the various parts of this European Standard.

The requirements of this European Standard take account of pressure-related hazards, which apply to water tube boilers, including failure of pressure-retaining components due to overheating.

This standard recognizes that it is not possible to cover all the combinations of situations that might arise.

### 1.2 Boiler assembly

For the purpose of this European Standard, the boiler assembly includes:

- the water-tube boiler including all the pressure parts from the feedwater inlet (including the inlet valve) up to and including the steam and/or hot water outlet (including the outlet valve or, if there is no valve, the first circumferential weld or flange downstream of the outlet header);
- all superheaters, reheaters, economizers, that are not capable of isolation from the main system by interposing shut-off valves, associated safety accessories and interconnecting piping;
- additionally, the piping that is connected to the boiler involved in services such as draining, venting, desuperheating, etc., up to and including the first isolating valve in the tubing line downstream of the boiler;
- reheaters which are independently fired, and are separately provided with their safety accessories including all control and safety systems.

The following equipment and components can be integrated in the assembly at the discretion of the manufacturer:

- isolatable superheaters, reheaters, economizers and related interconnecting piping;
- the heat supply or firing system;
- the means of preparing and feeding the fuel to the boiler including the control systems;
- the means of providing the boiler with feedwater including the control system;

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— the pressure expansion vessels and tanks of hot water generating plant.

**1.3 Other plant equipment**

- a) The boiler supporting structural steelwork, the thermal insulation and/or brickwork and the casing;
- b) the means of providing the boiler with air including the forced draught fans and air pre-heaters which are heated by the gases of combustion;
- c) the facilities for moving flue gases through the boiler up to the stack inlet, including the induced draught fans and the air pollution reducing equipment located in the flue gas removal path;
- d) all other equipment necessary for the operation of the boiler plant.

**1.4 Exclusions**

This European Standard does not apply to the following types of boiler plant:

- a) boilers other than stationary boilers;
- b) shell type boilers;
- c) electrical boilers;
- d) nuclear primary circuits, the failure of which can cause an emission of radioactivity.

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**2 Normative references**

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The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 764 (all parts), *Pressure equipment*

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*

**3 Terms and definitions**

For the purposes of this document, the terms and definitions given in EN 764 (all parts) and the following apply.

- 3.1 purchaser**  
individual or organization that buys the boiler or a part thereof
- 3.2 manufacturer**  
individual or organization that is responsible for the design, fabrication, testing, inspection, installation of pressure equipment and assemblies where relevant



Note 1 to entry: The manufacturer can subcontract one or more of the above-mentioned tasks under its responsibility (for example, designer, installer, etc.).

[SOURCE: EN 764-3:2015, 3.5.5, modified – Note 1 complete and Note 2 deleted.]

### 3.3 designer

individual or organization that, on behalf of the manufacturer, carries out the design of the boiler plant

Note 1 to entry: The designer determines the shape, dimensions and thicknesses of the boiler plant components, selects the materials and details the methods of construction and testing.

### 3.4 material supplier

individual or organization, that may or may not be the material manufacturer, who supplies material or parts used in the manufacture of pressure equipment and assemblies

[SOURCE: EN 764-3:2015, 3.5.7]

### 3.5 material manufacturer

individual or organization that produces material in the basic product forms used in the manufacture of pressure equipment

[SOURCE: EN 764-3:2015, 3.5.6]

### 3.6 responsible authority

competent organizations which are independent of the manufacturer

Note 1 to entry: This standard identifies responsible authorities. Such organizations may be notified bodies, recognized third-party organizations or user inspectorates. For the purpose of this standard, these organizations have been collectively termed responsible authorities (RA).

Note 2 to entry: The definition of a notified body and the criteria controlling its operation are given in Article 12 of the Pressure Equipment Directive.

Note 3 to entry: The definition of a recognized third-party organization and the criteria controlling its operation are given in Article 13 of the Pressure Equipment Directive.

Note 4 to entry: The definition of a user inspectorate and the criteria controlling its operation are given in Article 14 of the Pressure Equipment Directive.

Note 5 to entry: The responsibility of the manufacturer is described in 3.2.

## 4 Interdependency of the parts of the series

Parts 1 to 18 of EN 12952 form a consistent set of specifications which shall be followed for compliance to the Standard.

NOTE 1 Parts 4, 12, 13 and 15 of the series are published as supporting European Standards.

NOTE 2 Part 17 of the series is published as a CEN Report. It is not a European Standard.