# SLOVENSKI STANDARD
# SIST EN 12952-18:2012

**01-december-2012**

---

**Vodocevni kotli in pomožne napeljave - 18. del: Navodila za obratovanje**

Water-tube boilers and auxiliary installations - Part 18: Operating instructions

Wasserrohrkessel und Anlagenkomponenten - Teil 18: Betriebsanleitungen

Chaudières à tubes d'eau et installations auxiliaires - Partie 18 : Instructions de service



**Ta slovenski standard je istoveten z:** **EN 12952-18:2012**

---



**ICS:**

| | | |
|---|---|---|
| 27.040 | Plinske in parne turbine. Parni stroji | Gas and steam turbines. Steam engines |

**SIST EN 12952-18:2012** **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

**EN 12952-18**

October 2012

ICS 27.040

English Version

# Water-tube boilers and auxiliary installations - Part 18: Operating instructions

Chaudières à tubes d'eau et installations auxiliaires - Partie 18 : Instructions de service

Wasserrohrkessel und Anlagenkomponenten - Teil 18: Betriebsanleitungen

This European Standard was approved by CEN on 8 September 2012.

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.



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

**Management Centre: Avenue Marnix 17, B-1000 Brussels**

# Contents

Page

# Foreword

This document (EN 12952-18:2012) 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 2013, and conflicting national standards shall be withdrawn at the latest by April 2013.

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 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.

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;*
- 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 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 recognised 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 organisations 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.

# 1 Scope

This part of this European Standard specifies the organisation and content of operating instructions for water-tube boilers and auxiliary installations as defined in EN 12952-1 when placed on the market.

To what extent the following aspects are used for the establishment of an operating instruction depends on the stipulated scope of delivery and of the requirements by contract regarding plant operation and maintenance.

NOTE The manufacturer's scope of supply may be either pressure equipment, or pressure equipment and "auxiliary" plant such as motors, pumps and fans.

# 2 Normative references

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

EN 12952-3:2011, *Water-tube boilers and auxiliary installations — Part 3: Design and calculation for 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*



# 3 Terms and definitions

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

**3.1**
**Piping and Instrument Diagram (P & ID)**
drawing including pressure equipment, piping and instrumentation to indicate fluids flows and control or safety devices

**3.2**
**operating instructions**
written procedure provided by the manufacturer which include all information regarding installation, operation and maintenance of the equipment within the manufacturer's scope of supply

# 4 Objective of operating instructions

The operating instructions shall enable the user to safely put into service and use the product during its intended operational lifetime. Therefore, the operating instructions shall consider:

— the product's intended use;

— reasonably foreseeable misuse; and

— residual hazards that may exist.

The aspects given in Clause 5 are to be considered the minimum requirements, where applicable, in the establishment of the operating instructions and do not claim to be complete.

# 5 Content and organisation of operating instructions

## 5.1 General aspects

The operating instructions shall contain the following:

a) manufacturer's data (company name, complete address, further contact data, where required, e.g. of the authorised representative established within the European Union);

b) information on product identification;

c) the year of manufacture;

d) reference to copyright protection as regards the operating instructions;

e) information on the use of the operating instructions (group of users, availability, explanation of symbols);

f) where required, EC conformity declarations, and declarations of incorporation;

g) information on the required qualifications of the operating personnel;

h) information affixed to the pressure equipment in accordance with EN 12952-6:2011, Clause 12, with the exception of serial identification.



It is recommended that the operating instructions include a declaration of exemption from liability (in the case of non-observance of the operating instructions, change of operating instructions, unauthorised changes of the plant).

## 5.2 Organisation of the operating instructions

As regards unmistakable communication of the information contained in the operating instructions care shall be taken to ensure that:

a) the limits of the intended use can be identified without doubt;

b) instructions for use have been clearly and unambiguously formulated;

c) the sequence of activities to be performed is clearly represented;

d) warning and safety notices regarding misuse and inadequate use are contained;

e) residual hazards as well as prohibitions have been clearly formulated and represented;

f) graphic symbols, terminology and abbreviations are explained at suitable locations;

g) figures and tables have been clearly structured and arranged;

h) data on process parameters and set values regarding units of measure and order of magnitude are consistent with the related data on plant parts, displays and screens.

As regards the required language of the operating instructions agreements under both public and private law should be considered.

### 5.3 Plant and process-related aspects

The operating instructions shall be established with due consideration of plant and process-related aspects:

a) description of the plant (extent of plant; plant concept; functional mode of the plant/plant sections/components; process characteristics, operational characteristics, technical data) including related representations (drawings, P & ID, schematic flow diagrams);

b) design rules, design data e.g. number of stress cycles, wall thickness allowance due to oxidation, corrosion, erosion, abrasion;

c) data on hydrostatic test pressure according to EN 12952-3:2011, 5.7.4;

d) data on process parameters, performance data (design values, allowable operational parameters, limit values);



e) guaranteed properties requirements (parameters to be proven, properties to be observed);



f) description of operational modes, e.g. automatic, manual, operation without permanent intervention (without permanent supervision);



g) description of functional groups, control circuits;

h) interaction of interfaces/system boundaries with upstream/ downstream systems;

i) description of safety and protective devices, emergency shut-offs;

j) description of signals and annunciations (optical and acoustical signals, warning signals, alarm annunciations);

k) indication of set values, e.g. of items of equipment, position of valves;

l) data on loadings (additional loads), moments exerted by connected equipment, and dimensions;

m) indication of location/operation of fire alarms/fire protection possibilities;

n) indication of operating supplies, consumables, residual matter (properties, storage, use, disposal);

o) data on surrounding atmosphere (temperature, air humidity, sound propagation, contaminations, explosive gases/dust);

p) lists (spare parts, wear parts, items of equipment, consumers);

q) system-overlapping remarks on safety and environmental protection;

r) description of residual hazards subject to the hazard analysis on account of pressure;