



BSI Standards Publication

Shell boilers

Part 1: General

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National foreword

This British Standard is the UK implementation of EN 12953-1:2025. It supersedes BS EN 12953-1:2012, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PVE/2, Water Tube And Shell Boilers.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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Compliance with a British Standard cannot confer immunity from legal obligations.

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Amendments/corrigenda issued since publication

Date

Text affected

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EUROPÄISCHE NORM

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English Version

Shell boilers - Part 1: General

Chaudières à tubes de fumée - Partie 1: Généralités

Großwasserraumkessel - Teil 1: Allgemeines

This European Standard was approved by CEN on 15 September 2025.

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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.

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European foreword

This document (EN 12953-1:2025) 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of an identical text or by endorsement, at the latest by May 2026, and conflicting national standards shall be withdrawn at the latest by May 2026.

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

This document supersedes EN 12953-1:2012.

Annex E provides details of the significant technical changes between this document and EN 12953-1:2012.

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

For the relationship with EU Legislation, see informative Annex ZA, which is an integral part of this document.

The series concerning shell boilers 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: Workmanship and construction of pressure parts of the boiler*
- *Part 5: Inspection during construction, documentation and marking of pressure parts of the boiler*
- *Part 6: Requirements for equipment for the boiler*
- *Part 7: Requirements for firing systems for liquid and gaseous fuels for the boiler*
- *Part 8: Requirements for safeguards against excessive pressure*
- *Part 9: Requirements for limiting devices of the boiler and accessories*
- *Part 10: Requirements for boiler feed water and boiler water quality*
- *Part 11: Acceptance tests*
- *Part 12: Requirements for firing systems for solid fuels for the boiler*
- *Part 13: Operating instructions*

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Although these parts can be obtained separately, it is recognized that the parts are inter-dependent. As such, the design and manufacture of shell boilers requires the application of more than one part in order for the requirements of the standard to be satisfactorily fulfilled.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

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1 Scope

This document is applicable to shell boilers with volumes in excess of 2 l for the generation of steam and/or hot water at a maximum allowable pressure greater than 0,5 bar and with a temperature in excess of 110 °C.

For the purpose of this document the following pressurized parts are included:

- the shell boiler as one entity of pressure equipment including all the pressure parts from the feedwater/hot water inlet (including the inlet valve) up to and including the steam/hot water outlet (including the outlet valve or, if there is no valve, the first circumferential weld or flange downstream of the shell boiler or if applicable the outlet header);
- all superheaters, economizers and interconnecting piping;
- additionally, the piping that is connected to the boiler involved in services such as draining, venting, desuperheating, etc., up to the first isolating valve or, if there is no valve, the first circumferential weld or flange downstream of the shell boiler or if applicable the outlet header/piping.

This document does not apply to the following types of boilers and equipments:

- a) water-tube boilers;
- b) non-stationary boilers, e.g. locomotive boilers;
- c) thermal oil boilers;
- d) boilers where the main pressure housing is made of cast material;
- e) pumps, gaskets, etc;
- f) brickwork setting and insulation, etc.

NOTE 1 Further information on shell boilers is given in Annex A.

NOTE 2 Stainless steel boilers are covered by EN 14222:2021.