

TÖÖSTUSLIKUD VENTIILID. METALLIST VENTIILIDE
NÕUDED JA KATSETAMINE SURVETARVIKUTENA

Industrial valves - Requirements and testing for
metallic valves as pressure accessories

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>See Eesti standard EVS-EN 16668:2025 sisaldab Euroopa standardi EN 16668:2025 ingliskeelset teksti.</p> <p>Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 12.02.2025.</p> <p>Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.</p>	<p>This Estonian standard EVS-EN 16668:2025 consists of the English text of the European standard EN 16668:2025.</p> <p>This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.</p> <p>Date of Availability of the European standard is 12.02.2025.</p> <p>The standard is available from the Estonian Centre for Standardisation and Accreditation.</p>
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ICS 23.060.01

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EUROPEAN STANDARD

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English Version

Industrial valves - Requirements and testing for metallic valves as pressure accessories

Robinetterie industrielle - Exigences et essais pour appareils de robinetterie métalliques utilisés comme accessoires sous pression

Industriearmaturen - Anforderungen und Prüfungen für Metallarmaturen als drucktragende Ausrüstungsteile

This European Standard was approved by CEN on 22 December 2024.

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European foreword

This document (EN 16668:2025) has been prepared by Technical Committee CEN/TC 69 “Industrial valves”, the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by August 2025, and conflicting national standards shall be withdrawn at the latest by August 2025.

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 16668:2016+A1:2018.

This document includes the following significant technical changes with respect to EN 16668:2016+A1:2018:

- the most important changes have been made in the following clauses and subclauses: Clause 4, 5.1.2, 5.1.3, 5.2.1, 5.2.4, 5.3.1.3, 5.3.1.4, 5.3.1.5, 5.3.1.6, 5.3.3, 5.3.4, 5.8.1, 5.8.2 and Annex A;
- the following tables have been modified: Table 2 and Table E.1;
- Annex ZA has been modified;
- dated references have been updated.

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.

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.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Introduction

This document is to be understood as an umbrella standard referencing European harmonized standards for industrial metallic valves as pressure accessories for industrial applications. It covers the requirements to meet the Essential Safety Requirements of the Pressure Equipment Directive.

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1 Scope

This document is applicable to metallic valves as pressure accessories for industrial applications with a maximum allowable pressure PS greater than 0,5 bar in accordance with the European legislation for pressure equipment and specifies requirements applicable to design, manufacture, testing, materials and documentation.

All essential safety requirements of the European legislation for pressure equipment applicable to valves have been taken into consideration and are addressed in this document.

This document does not apply to:

- safety valve and bursting disc (safety accessories),
- sight glass with its frames (component of a pressure equipment), and
- measurement chambers.

For other exclusions, refer to the European legislation for pressure equipment [60].

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 19:2023, *Industrial valves — Marking of metallic valves*

EN 736-1:2018, *Valves — Terminology — Part 1: Definition of types of valves*

EN 764-1:2015+A1:2016, *Pressure equipment — Part 1: Vocabulary*

EN 764-2:2012, *Pressure equipment — Part 2: Quantities, symbols and units*

EN 764-4:2014, *Pressure equipment — Part 4: Establishment of technical delivery conditions for metallic materials*

EN 764-5:2014, *Pressure equipment — Part 5: Inspection documentation of metallic materials and compliance with the material specification*

EN 764-7:2002, *Pressure equipment — Part 7: Safety systems for unfired pressure equipment*

EN 1349:2009, *Industrial process control valves*

EN 10269:2013, *Steels and nickel alloys for fasteners with specified elevated and/or low temperature properties*

EN 12266-1:2012, *Industrial valves — Testing of metallic valves — Part 1: Pressure tests, test procedures and acceptance criteria — Mandatory requirements*

EN 12266-2:2012, *Industrial valves — Testing of metallic valves — Part 2: Tests, test procedures and acceptance criteria — Supplementary requirements*

EN 12516-1:2014+A1:2018, *Industrial valves — Shell design strength — Part 1: Tabulation method for steel valve shells*

- EN 12516-2:2014+A1:2021, *Industrial valves — Shell design strength — Part 2: Calculation method for steel valve shells*
- EN 12516-3:2002, *Valves — Shell design strength — Part 3: Experimental method*
- EN 12516-4:2014+A1:2018, *Industrial valves — Shell design strength — Part 4: Calculation method for valve shells manufactured in metallic materials other than steel*
- EN 13445-2:2021+A1:2023, *Unfired pressure vessels — Part 2: Materials*
- EN 13445-4:2021+A1:2023, *Unfired pressure vessels — Part 4: Fabrication*
- EN 13445-5:2021+A1:2024, *Unfired pressure vessels — Part 5: Inspection and testing*
- EN 13480-2:2024, *Metallic industrial piping — Part 2: Materials*
- EN ISO 5817:2023, *Welding — Fusion-welded joints in steel, nickel, titanium and their alloys (beam welding excluded) — Quality levels for imperfections (ISO 5817:2023)*
- EN ISO 9606-1:2017, *Qualification testing of welders — Fusion welding — Part 1: Steels (ISO 9606-1:2012 including Cor 1:2012 and Cor 2:2013)*
- EN ISO 9606-2:2004, *Qualification test of welders — Fusion welding — Part 2: Aluminium and aluminium alloys (ISO 9606-2:2004)*
- EN ISO 9606-3:1999, *Approval testing of welders — Fusion welding — Part 3: Copper and copper alloys (ISO 9606-3:1999)*
- EN ISO 9606-4:1999, *Approval testing of welders — Fusion welding — Part 4: Nickel and nickel alloys (ISO 9606-4:1999)*
- EN ISO 9606-5:2000, *Approval testing of welders — Fusion welding — Part 5: Titanium and titanium alloys, zirconium and zirconium alloys (ISO 9606-5:2000)*
- EN ISO 9712:2022, *Non-destructive testing — Qualification and certification of NDT personnel (ISO 9712:2021)*
- EN ISO 11970:2016, *Specification and qualification of welding procedures for production welding of steel castings (ISO 11970:2016)*
- EN ISO 14732:2013, *Welding personnel — Qualification testing of welding operators and weld setters for mechanized and automatic welding of metallic materials (ISO 14732:2013)*
- EN ISO 15609-1:2019, *Specification and qualification of welding procedures for metallic materials — Welding procedure specification — Part 1: Arc welding (ISO 15609-1:2019)*
- EN ISO 15613:2004, *Specification and qualification of welding procedures for metallic materials — Qualification based on pre-production welding test (ISO 15613:2004)*

EN ISO 15614-1:2017,¹ *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 1: Arc and gas welding of steels and arc welding of nickel and nickel alloys (ISO 15614-1:2017, Corrected version 2017-10-01)*

EN ISO 15614-2:2005, *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 2: Arc welding of aluminium and its alloys (ISO 15614-2:2005)*

EN ISO 15614-5:2024, *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 5: Arc welding of titanium, zirconium and their alloys (ISO 15614-5:2024)*

EN ISO 15614-6:2006, *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 6: Arc and gas welding of copper and its alloys (ISO 15614-6:2006)*

EN ISO 17635:2016, *Non-destructive testing of welds — General rules for metallic materials (ISO 17635:2016)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 736-1:2018, EN 764-1:2015+A1:2016, EN 764-2:2012, EN 764-4:2014, EN 764-5:2014, EN 764-7:2002 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

3.1

valve

pipng component which influences the fluid flow by opening, closing or partially obstructing the passage of the fluid flow or by diverting or mixing the fluid flow

Note 1 to entry: Typical valves are gate valves, globe valves, control valves, check valves, diaphragm valves, butterfly valves, plug and ball valves as well as non-standard valves either manual or actuator operated and steam traps, usually covered by a product standard.

[SOURCE: EN 736-1:2018, 3.1, modified — The Note 1 to entry was added here.]

3.2

production welding

welding carried out during manufacturing before final delivery to the purchaser including joint welding and finishing welding

3.2.1

joint welding

welding used to weld components in order to obtain an integral unit

¹ As impacted by EN ISO 15614-1:2017/A1:2019.