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

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the 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 23 January 2016.

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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 16668:2016) 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of an identical text or by endorsement, at the latest by October 2016, and conflicting national standards shall be withdrawn at the latest by October 2016.

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Introduction

This European Standard is to be understood as an umbrella standard referencing European harmonized Standards for industrial metallic valves as pressure accessories for industrial applications and covers the relevant minimum requirements to meet the Essential Safety Requirements of the Pressure Equipment Directive.

1 Scope

This European standard applies to metallic valves as pressure accessories for industrial applications with a maximum allowable pressure PS greater than 0,5 bar in accordance with the Pressure Equipment Directive 2014/68/EU and specifies minimum requirements applicable to design, manufacture, testing, materials and documentation.

All relevant essential safety requirements of the Pressure Equipment Directive 2014/68/EU applicable to valves have been taken into consideration and are addressed in this standard.

This standard is not applicable to:

— safety valve and bursting disc (a safety accessory),

— sight glass with its frames (component of a pressure equipment) and

— measurement chambers.

For other exclusions refer to the PED [32].

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 19:2002, *Industrial valves — Marking of metallic valves*

EN 287-1:2011,[1] *Qualification test of welders — Fusion welding — Part 1: Steels*

EN 545:2010, *Ductile iron pipes, fittings, accessories and their joints for water pipelines — Requirements and test methods*

EN 593, *Industrial valves — Metallic butterfly valves*

EN 736-1:1995, *Valves — Terminology — Part 1: Definition of types of valves*

EN 764 (all parts), *Pressure equipment*

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 1171, *Industrial valves — Cast iron gate valves*

EN 1349:2009, *Industrial process control valves*

EN 1515-4:2009, *Flanges and their joints — Bolting — Part 4: Selection of bolting for equipment subject to the Pressure Equipment Directive 97/23/EC*

1) This document was superseded with EN ISO 9606-1:2013, *Qualification testing of welders — Fusion welding — Part 1: Steels (ISO 9606-1:2012 including Cor 1:2012)*.

EN 1561:2011, *Founding — Grey cast irons*

EN 1982:2008, *Copper and copper alloys — Ingots and castings*

EN 1983, *Industrial valves — Steel ball valves*

EN 1984, *Industrial valves — Steel gate valves*

EN 10025-2:2004, *Hot rolled products of structural steels — Part 2: Technical delivery conditions for non-alloy structural steels*

EN 10222–2:1999, *Steel forgings for pressure purposes — Part 2: Ferritic and martensitic steels with specified elevated temperature properties*

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

EN 12163:2011, *Copper and copper alloys — Rod for general purposes*

EN 12164:2011, *Copper and copper alloys — Rod for free machining purposes*

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 12288, *Industrial valves — Copper alloy gate valves*

EN 12334, *Industrial valves — Cast iron check valves*

EN 12449:2012, *Copper and copper alloys — Seamless, round tubes for general purposes*

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

EN 12516-2:2014, *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, *Industrial valves — Shell design strength — Part 4: Calculation method for valve shells manufactured in metallic materials other than steel*

EN 13397, *Industrial valves — Diaphragm valves made of metallic materials*

EN 13445-2:2014, *Unfired pressure vessels — Part 2: Materials*

EN 13445-4:2014, *Unfired pressure vessels — Part 4: Fabrication*

EN 13445-5:2014, *Unfired pressure vessels — Part 5: Inspection and testing*

EN 13480-2:2012, *Metallic industrial piping — Part 2: Materials*

EN 13709, *Industrial valves — Steel globe and globe stop and check valves*

EN 13789, *Industrial valves — Cast iron globe valves*

EN 14341, *Industrial valves — Steel check valves*

EN ISO 5817:2014, *Welding — Fusion-welded joints in steel, nickel, titanium and their alloys (beam welding excluded) — Quality levels for imperfections (ISO 5817:2014)*

EN ISO 9606 (all parts), *Qualification testing of welders — Fusion welding (ISO 9606, all parts)*

EN ISO 9712:2012, *Non-destructive testing — Qualification and certification of NDT personnel (ISO 9712:2012)*

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 15609-1:2004, *Specification and qualification of welding procedures for metallic materials — Welding procedure specification — Part 1: Arc welding (ISO 15609-1:2004)*

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 15614-1:2004, *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 15614-1:2004)*

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 15614-5:2004, *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 5: Arc welding of titanium, zirconium and their alloys (ISO 15614-5:2004)*

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 17635:2010, *Non-destructive testing of welds — General rules for metallic materials (ISO 17635:2010)*