ICS 23.060.20, 75.200 SLOVENSKÁ TECHNICKÁ NORMA Apríl 2016

STN	**Kovové guľové ventily pre ropný, petrochemický priemysel a príbuzné odvetvia (ISO 17292: 2015).**	**STN EN ISO 17292** 13 6823

Metal ball valves for petroleum, petrochemical and allied industries (ISO 17292:2015)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 03/16

Obsahuje: EN ISO 17292:2015, ISO 17292:2015

Oznámením tejto normy sa ruší
STN EN ISO 17292 (13 6823) z januára 2005

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 17292

December 2015

ICS 23.060.20; 75.200

Supersedes EN ISO 17292:2004

English Version

Metal ball valves for petroleum, petrochemical and allied industries (ISO 17292:2015)

Robinets à tournant sphérique métalliques pour les industries du pétrole, de la pétrochimie et les industries connexes (ISO 17292:2015)

Kugelhähne aus Metall für Erdöl-, petrochemische und verwandte Industrien (ISO 17292:2015)

This European Standard was approved by CEN on 7 November 2015.

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

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Ref. No. EN ISO 17292:2015 E

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European foreword

This document (EN ISO 17292:2015) has been prepared by Technical Committee ISO/TC 153 "Valves" in collaboration with the 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of an identical text or by endorsement, at the latest by June 2016, and conflicting national standards shall be withdrawn at the latest by June 2016.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 ISO 17292:2004.

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Endorsement notice

The text of ISO 17292:2015 has been approved by CEN as EN ISO 17292:2015 without any modification.

INTERNATIONAL STANDARD

ISO 17292

Second edition
2015-11-15

Metal ball valves for petroleum, petrochemical and allied industries

Robinets à tournant sphérique métalliques pour les industries du pétrole, de la pétrochimie et les industries connexes

Reference number
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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 153, *Valves*, Subcommittee SC 1, *Design, manufacture, marking and testing*.

This second edition cancels and replaces the first edition (ISO 17292:2004), which has been technically revised with the following changes:

— scope increased to include DN 600, NPS 24, PN 63, and PN 100;

— Clause 2 "Normative references" was updated;

— Class 800 no longer restricted to reduce bore only;

— inclusion of reference and purchaser option to request valves conforming to ISO 15156 or NACE MR0103;

— expanded seat materials to include modified PTFE and reinforced modified PTFE;

— in Table 1, inclusion of higher pressure temperature ratings that are more closely aligned with BS 5351 and account for improved performance attained from modified PTFE; separate listing for trunnion valves has been removed from Table 1;

— revised selected bore diameters in Table 2;

— purchaser needs to specify long or short pattern face-to-face dimension on ASME flanged valves;

— clarification that the strength of the stem above the packing shall be stronger than the internal portion at the maximum rated temperature;

— addition of purchaser option for requesting valve locking device;

— reduction of the permissible radial gap on end face flange interruptions to 0,8 mm;

— added provision for purchaser to request manufacturer to provide method for preventing excessive pressure when fluid is trapped in centre cavity between seats;

— expanded required information on identification tag to include separate trim and seat/seal materials. In addition, material for identification plate limited to stainless steel or nickel alloys;

— added requirement that thread sealant used on plugs for tapped auxiliary connections be capable of the fully pressure-temperature rating of the valve;

— added purchaser option to request export packaging;

— added purchaser option to request manufacturer identify recommended spare parts.

Introduction

The purpose of this International Standard is the establishment, in ISO format, of basic requirements and practices for flanged, butt-welding, socket welding, and threaded end steel ball valves having flow passageways identified as full bore, reduced bore, and double reduced bore seat openings suitable for petroleum, petrochemical, and allied industries applications.

It is not the purpose of this International Standard to replace ISO 7121 or any other International Standard that is not identified with petroleum refinery, petrochemical, or natural gas industry applications.

In this International Standard, flanged end Class-designated valves have flanges in accordance with ASME B16.5. Flanged end PN-designated valves have flanges in accordance with EN 1092-1. Valves with ends threaded may have threads to either ISO 7-1 or ASME B1.20.1.

INTERNATIONAL STANDARD **ISO 17292:2015(E)**

Metal ball valves for petroleum, petrochemical and allied industries

1 Scope

This International Standard specifies the requirements for a series of metal ball valves suitable for petroleum, petrochemical, natural gas plants, and related industrial applications.

It covers valves of the nominal sizes DN:

— 8, 10, 15, 20, 25, 32, 40, 50, 65, 80, 100, 150, 200, 250, 300, 350, 400, 450, 500, 600;

corresponding to nominal pipe sizes NPS:

— ¼, ⅜, ½, ¾, 1, 1 ¼, 1 ½, 2, 2 ½, 3, 4, 6, 8, 10, 12, 14, 16, 18, 20, 24;

and applies for pressure designations:

— Class 150; 300; 600; 800 (Class 800 applies only for valves with threaded and socket welding end);

— PN 16, 25, 40, 63, 100.

It includes provisions for testing and inspection and for valve characteristics as follows:

— flanged and butt-welded ends, in sizes 15 ≤ DN ≤ 600 (½ ≤ NPS ≤ 24);

— socket welding and threaded ends, in sizes 8 ≤ DN ≤ 50 (¼ ≤ NPS ≤ 2);

— body seat openings designated as full bore, reduced bore, and double reduced bore;

— materials.

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.

ISO 7-1, *Pipe threads where pressure-tight joints are made on the threads — Part 1: Dimensions, tolerances and designation*

ISO 7-2, *Pipe threads where pressure-tight joints are made on the threads — Part 2: Verification by means of limit gauges*

ISO 261, *ISO general purpose metric screw threads — General plan*

ISO 965-2, *ISO general purpose metric screw threads — Tolerances — Part 2: Limits of sizes for general purpose external and internal screw threads — Medium quality*

ISO 4032, *Hexagon regular nuts (style 1) — Product grades A and B*

ISO 4033, *Hexagon high nuts (style 2) — Product grades A and B*

ISO 4034, *Hexagon regular nuts (style 1) — Product grade C*

ISO 5208, *Industrial valves — Pressure testing of metallic valves*

ISO 5209, *General purpose industrial valves — Marking*

ISO 5752, *Metal valves for use in flanged pipe systems — Face-to-face and centre-to-face dimensions*

ISO 9606-1, *Qualification testing of welders — Fusion welding — Part 1: Steels*

ISO 15156-1, *Petroleum and natural gas industries — Materials for use in H2S-containing environments in oil and gas production — Part 1: General principles for selection of cracking-resistant materials*

ISO 15156-2, *Petroleum and natural gas industries — Materials for use in H2S-containing environments in oil and gas production — Part 2: Cracking-resistant carbon and low-alloy steels, and the use of cast irons*

ISO 15156-3, *Petroleum and natural gas industries — Materials for use in H2S-containing environments in oil and gas production — Part 3: Cracking-resistant CRAs (corrosion resistant alloys) and other alloys*

ISO 15607, *Specification and qualification of welding procedures for metallic materials — General rules*

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

ISO 15610, *Specification and qualification of welding procedures for metallic materials — Qualification based on tested welding consumables*

ISO 15614-1, *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 15614-2, *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 2: Arc welding of aluminium and its alloys*

EN 1092-1, *Flanges and their joints — Circular flanges for pipes, valves, fittings and accessories, PN designated — Part 1: Steel flanges*

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

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

EN 12982, *Industrial valves — End-to-end and centre-to-end dimensions for butt welding end valves*

ASME B1.1, *Unified Inch Screw Threads (UN and UNR Thread Form)*

ASME B1.20.1, *Pipe Threads, General Purpose, Inch*

ASME B16.5, *Pipe Flanges and Flanged Fittings: NPS 1/2 through NPS 24 Metric/Inch Standard*

ASME B16.10, *Face-to Face and End-to-End Dimensions of Valves*

ASME B16.34:2013, *Valves Flanged, Threaded and Welding End*

ASME B18.2.2, *Nuts for General Applications: Machine Screw Nuts, Hex, Square, Hex Flange, and Coupling Nuts (Inch Series)*

ASME BPVC-IX, *Boiler and Pressure Vessel Code — Section IX — Welding, Brazing, and fusing Qualifications*

ASTM A307, *Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength*

MSS-SP-55, *Quality Standard for Steel Castings for Valves, Flanges and Fittings, and Other Piping Components — Visual Method for Evaluation of Surface Irregularities*

NACE MR0103, *Materials Resistant to Sulfide Stress Cracking in Corrosive Petroleum Refining Environments*