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**BS EN ISO 17292:2015**



**BSI Standards Publication**

# **Metal ball valves for petroleum, petrochemical and allied industries**

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This British Standard is the UK implementation of EN ISO 17292:2015. It supersedes BS EN ISO 17292:2004 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PSE/18/3, Industrial valves, steam traps, actuators and safety devices against excessive pressure - Part turn valves (Ball, plug and butterfly).

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

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2015. Published by BSI Standards Limited 2015

ISBN 978 0 580 86316 5

ICS 23.060.20; 75.200

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

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 December 2015.

#### **Amendments issued since publication**

Date	Text affected
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EUROPÄISCHE NORM

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.

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

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

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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.

According to the CEN-CENELEC Internal Regulations, the national standards organizations 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.

### Endorsement notice

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

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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](http://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](http://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;

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- 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.

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## 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.

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# 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:

—  $\frac{1}{4}$ ,  $\frac{3}{8}$ ,  $\frac{1}{2}$ ,  $\frac{3}{4}$ , 1, 1  $\frac{1}{4}$ , 1  $\frac{1}{2}$ , 2, 2  $\frac{1}{2}$ , 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  $15 \leq DN \leq 600$  ( $\frac{1}{2} \leq NPS \leq 24$ );

— socket welding and threaded ends, in sizes  $8 \leq DN \leq 50$  ( $\frac{1}{4} \leq NPS \leq 2$ );

— 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*