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Second edition
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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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Contents

	Page
Foreword	v
Introduction	vii
1 Scope	1
2 Normative references	1
3 Terms and definitions	3
4 Pressure/temperature ratings	4
4.1 Valve rating.....	4
4.2 Shell rating.....	4
4.3 Seat and seal rating.....	4
5 Design	5
5.1 Flow passageway.....	5
5.2 Body.....	5
5.2.1 Body wall thickness.....	5
5.2.2 Flanged ends.....	7
5.2.3 Butt-welding ends.....	7
5.2.4 Socket welding ends.....	8
5.2.5 Threaded ends.....	10
5.2.6 Body openings.....	10
5.2.7 Anti-static design.....	11
5.2.8 Anti-blow-out stem.....	11
5.2.9 Ball-stem construction.....	11
5.2.10 Ball construction.....	11
5.2.11 Operating means.....	11
5.2.12 Glands.....	12
5.2.13 End flange facing interruptions.....	12
5.2.14 Shell joints.....	13
5.2.15 Packing gland bolting.....	14
5.2.16 Fluid thermal expansion.....	14
6 Materials	15
6.1 Shell.....	15
6.2 Shell material repair.....	15
6.3 Trim.....	15
6.4 Identification plate.....	15
6.5 Bolting.....	15
6.6 Seals.....	15
6.7 Threaded plugs.....	15
6.8 Low temperature service.....	15
6.9 Hydrogen sulfide environment.....	15
7 Marking	16
7.1 Legibility.....	16
7.2 Body marking.....	16
7.3 Ring joint marking.....	16
7.4 Identification plate.....	16
7.5 Special marking for unidirectional valves.....	17
8 Testing and inspection	17
8.1 Pressure tests.....	17
8.1.1 General.....	17
8.1.2 Shell test.....	17
8.1.3 Closure tightness test.....	18
8.2 Inspection.....	19
8.2.1 Extent of inspection.....	19

This is a preview of "ISO 17292:2015". [Click here to purchase the full version from the ANSI store.](#)

8.2.2	Site inspection.....	19
8.3	Examination.....	19
8.4	Supplementary examination.....	19
9	Preparation for despatch.....	20
Annex A (informative)	Information to be specified by the purchaser.....	21
Annex B (informative)	Identification of valve parts.....	23
Bibliography		25

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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;

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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.