



SLOVENSKI STANDARD

SIST EN 1983:2014

01-januar-2014

Nadomešča:
SIST EN 1983:2006

Industrijski ventili - Jekleni krogelni ventili

Industrial valves - Steel ball valves

Industriearmaturen - Kugelhähne aus Stahl

Robinetterie industrielle - Robinets à tournant sphérique en acier

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ICS:

23.060.20	Zapirni ventili (kroglasti in pipe)	Ball and plug valves
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SIST EN 1983:2014

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EUROPEAN STANDARD

EN 1983

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 2013

ICS 23.060.20

Supersedes EN 1983:2006

English Version

Industrial valves - Steel ball valves

Robinetterie industrielle - Robinets à tournant sphérique en
acier

Industriearmaturen - Kugelhähne aus Stahl

This European Standard was approved by CEN on 25 July 2013.

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

Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

This document (EN 1983:2013) 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of an identical text or by endorsement, at the latest by February 2014, and conflicting national standards shall be withdrawn at the latest by February 2014.

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 has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

This document supersedes EN 1983:2006.

The most significant changes with respect to the previous version are the following:

- the normative references have been updated in Clause 2 and throughout the text;
- a reference to EN 13445-3 was added in 4.1.1.3 (design of the body) and in 4.2.1 (shell design strength);
- the compulsory markings in 8.1 were updated.

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, 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.

EN 1983:2013 (E)**1 Scope**

This European Standard specifies requirements for industrial steel ball valves having flanged, threaded, socket welding or butt welding ends.

The DN range is:

- DN 4 ; DN 6 ; DN 8 ; DN 10 ; DN 15 ; DN 20 ; DN 25 ; DN 32 ; DN 40 ; DN 50 ; DN 65 ; DN 80 ; DN 100 ; DN 125 ; DN 150 ; DN 200 ; DN 250 ; DN 300 ; DN 350 ; DN 400 ; DN 450 ; DN 500 ; DN 550 ; DN 600 ; DN 650 ; DN 700 ; DN 750 ; DN 800 ; DN 850 ; DN 900.

The PN and Class ranges are:

- PN 6 ; PN 10 ; PN 16 ; PN 25 ; PN 40 ; PN 63 ; PN 100 ;
- Class 150 ; Class 300 ; Class 600 ; Class 900 ; Class 1 500 ; Class 2 500 ; Class 4 500.

This European Standard applies to steel ball valves mainly used for industrial and general purpose applications. However, they can be used for other applications provided the requirements of the relevant performance standard are met.

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* SIST EN 1983:2014
https://standards.iteh.ai/catalog/standards/sist/33928260-b9dc-41d3-a649-e1a820eaaf0d/sist-en-1983-2014
- EN 558, *Industrial valves — Face-to-face and centre-to-face dimensions of metal valves for use in flanged pipe systems — PN and Class designated valves*
- EN 736-1:1995, *Valves — Terminology — Part 1: Definition of types of valves*
- EN 736-2:1997, *Valves — Terminology — Part 2: Definition of components of valves*
- EN 736-3:2008, *Valves — Terminology — Part 3: Definition of terms*
- EN 1092-1, *Flanges and their joints — Circular flanges for pipes, valves, fittings and accessories, PN designated — Part 1: Steel flanges*
- EN 1503-1, *Valves — Materials for bodies, bonnets and covers — Part 1: Steels specified in European Standards*
- EN 1503-2, *Valves — Materials for bodies, bonnets and covers — Part 2: Steels other than those specified in European Standards*
- EN 1515-1, *Flanges and their joints — Bolting — Part 1: Selection of bolting*
- EN 1515-2, *Flanges and their joints — Bolting — Part 2: Classification of bolt materials for steel flanges, PN designated*
- EN 1759-1, *Flanges and their joint — Circular flanges for pipes, valves, fittings and accessories, Class designated — Part 1: Steel flanges, NPS 1/2 to 24*

EN 12266-1, *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 12516-1:2005,¹⁾ *Industrial valves — Shell design strength — Part 1: Tabulation method for steel valve shells*

EN 12516-2:2004, *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 12570, *Industrial valves — Method for sizing the operating element*

EN 12627, *Industrial valves — Butt welding ends for steel valves*

EN 12760, *Valves — Socket welding ends for steel valves*

EN 12982:2009, *Industrial valves — End-to-end and centre-to-end dimensions for butt welding end valves*

EN 13445-3:2009,²⁾ *Unfired pressure vessels — Part 3: Design*

EN ISO 228-1, *Pipe threads where pressure-tight joints are not made on the threads — Part 1: Dimensions, tolerances and designation (ISO 228-1)*

EN ISO 5211, *Industrial valves — Part-turn valve actuator attachments (ISO 5211)*

EN ISO 10497:2010, *Testing of valves — Fire type-testing requirements (ISO 10497:2010)*

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

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

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

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 736-1:1995, EN 736-2:1997 and EN 736-3:2008 and the following apply.

3.1

effective diameter

manufactured minimum diameter through the flow passage of the valve in the fully open position

1) EN 12516-1:2005 is impacted by the corrigendum EN 12516-1:2005/AC:2007.

2) EN 13445-3:2009 is impacted by the stand-alone amendment EN 13445-3:2009/A1:2012.

4 Requirements

4.1 Design

4.1.1 General

4.1.1.1 Flow passage

Valves shall be full bore or reduced bore pattern (see Figure 1).

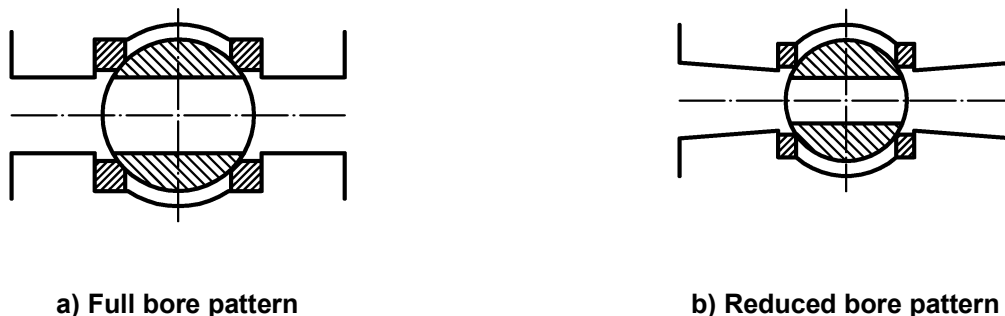


Figure 1 — Valve patterns

4.1.1.2 Size and pressure designation

The range of nominal sizes and pressure designations covered by each type of body end connection shall be as specified in Tables 1 to 3.

Table 1 — Ball valves with flanged and butt welding ends

Size	PN	Class
DN 8 to DN 900	PN 10 to PN 100	Class 150 Class 300 Class 600
DN 8 to DN 600	-	Class 900
DN 8 to DN 400	-	Class 1 500
DN 8 to DN 50	-	Class 2 500
NOTE Sizes DN 8, DN 550, DN 650, DN 750 and DN 850 are not applicable to flanged valves.		

Table 2 — Ball valves with socket weld ends

Size	PN	Class
DN 8 to DN 100	PN 10	-
DN 8 to DN 50	PN 16 to PN 100	-

Table 3 — Ball valves with threaded ends

Size	PN	Class
DN 4 to DN 100	PN 6 to PN 25	Class 150
DN 4 to DN 50	PN 40 to PN 100	Class 300 to Class 2 500
DN 4 to DN 10	-	Class 4 500

Typical ball valve construction features are illustrated in Figure 2.

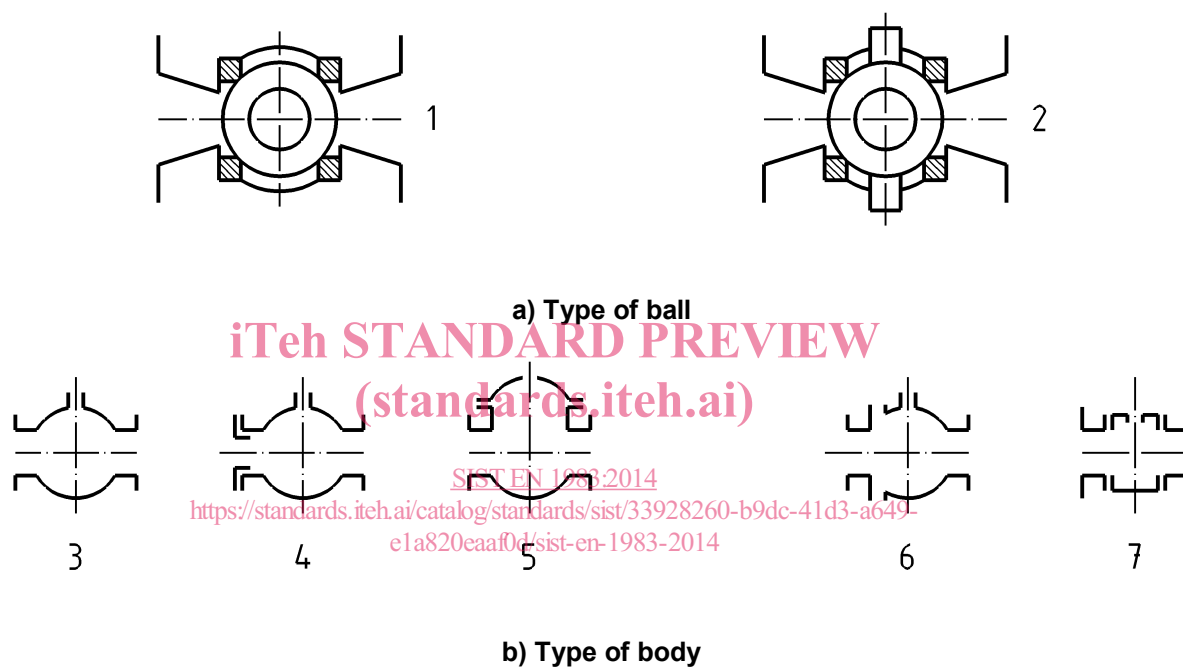


Figure 2 — Typical ball valve construction

4.1.1.3 Body

Valves shall be designed in accordance with EN 12516-1, EN 12516-2, EN 12516-3 or EN 13445-3.