

**Tööstuslikud sulgeseadmed. Vasesulamitest
kuulkraanid**

Industrial valves - Copper alloy ball valves

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 13547:2013 sisaldab Euroopa standardi EN 13547:2013 ingliskeelset teksti.	This Estonian standard EVS-EN 13547:2013 consists of the English text of the European standard EN 13547:2013.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 02.10.2013.	Date of Availability of the European standard is 02.10.2013.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 23.060.20

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:
Aru 10, 10317 Tallinn, Eesti; www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:
Aru 10, 10317 Tallinn, Estonia; www.evs.ee; phone 605 5050; e-mail info@evs.ee

English Version

Industrial valves - Copper alloy ball valves

Robinetterie industrielle - Robinets à tournant sphérique en
alliage de cuivre

Industriearmaturen - Kugelhähne aus Kupferlegierungen

This European Standard was approved by CEN on 29 August 2013.

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

Contents

Foreword.....	3
1 Scope.....	4
2 Normative references.....	4
3 Terms and definitions	5
4 Requirements	6
4.1 Classification.....	6
4.2 Design.....	9
4.3 Functional characteristics	13
5 Test procedures	14
5.1 Production pressure testing	14
5.2 Seat leakage rates	14
6 Declaration of compliance	15
7 Designation	15
8 Marking	15
8.1 Mandatory markings	15
8.2 Supplementary markings.....	15
8.3 Omission of markings.....	16
9 Preparation for storage and transportation	16
9.1 Protection	16
9.2 Obturator position.....	16
9.3 Body ends	16
Annex A (normative) Materials	17
Annex B (normative) Pressure/temperature ratings.....	20
Annex C (normative) Method of testing for the determination of angular movement of operating element	22
C.1 General	22
C.2 Test method.....	22
C.3 Alternative test	22
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 97/23/EC (PED).....	24
Bibliography.....	25

Foreword

This document (EN 13547:2013) 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 April 2014, and conflicting national standards shall be withdrawn at the latest by April 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 supersedes CEN/TS 13547:2006.

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 97/23/EC.

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

The following elements of the standard have been updated:

- normative references in Clause 2;
- design of shaft in 4.2.1.4;
- materials for manufacture of series A and B valves in Table A.1;
- Annex ZA.

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.

1 Scope

This European Standard applies to copper alloy ball valves for general use having flanged, threaded, capillary or compression or loose nut/union body ends.

This European Standard does not apply to copper alloy ball valves for drinking water applications.

This European Standard specifies the design and performance requirements including materials, pressure/temperature ratings for the shell and body seats, dimensions, test procedures and marking.

For some specific fields of application, for example gas, valves to this European Standard can be used provided the requirements of the relevant performance standards are met. Approval by the relevant regulatory body may be required.

The range of nominal sizes is DN 6 to DN 300 and of nominal diameters 6 mm to 110 mm.

The range of pressure designations covered is PN 6 ; PN 10 ; PN 16 ; PN 20 ; PN 25 ; PN 32 ; PN 40 ; PN 63 ; Class 150 and Class 300.

For the applicability of each nominal size/diameter and each pressure designation to the different types of valve end, see 4.1.

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 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 1092-3:2003, *Flanges and their joints — Circular flanges for pipes, valves, fittings and accessories, PN designated — Part 3: Copper alloy flanges*

EN 1254-1, *Copper and copper alloys — Plumbing fittings — Part 1: Fittings with ends for capillary soldering or capillary brazing to copper tubes*

EN 1254-2, *Copper and copper alloys — Plumbing fittings — Part 2: Fittings with compression ends for use with copper tubes*

EN 1254-3, *Copper and copper alloys — Plumbing fittings — Part 3: Fittings with compression ends for use with plastics pipes*

EN 1254-4:1998, *Copper and copper alloys — Plumbing fittings — Part 4: Fittings combining other end connections with capillary or compression ends*

EN 1254-5, *Copper and copper alloys — Plumbing fittings — Part 5: Fittings with short ends for capillary brazing to copper tubes*

EN 1759-3:2003, *Flanges and their joints — Circular flanges for pipes, valves, fittings and accessories, Class designated — Part 3: Copper alloy flanges*

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

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

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

EN 12167, *Copper and copper alloys — Profiles and bars for general purposes*

EN 12168, *Copper and copper alloys — Hollow rod for free machining purposes*

EN 12266-1:2012, *Industrial valves — Testing of valves — Part 1: Pressure tests, test procedures and acceptance criteria — Mandatory requirements*

EN 12420, *Copper and copper alloys — Forgings*

EN 12516-3, *Valves — Shell design strength — Part 3: Experimental method*

EN 12570, *Industrial valves — Method for sizing the operating element*

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 6509, *Corrosion of metals and alloys — Determination of dezincification resistance of brass (ISO 6509)*

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*

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, together with the following apply.

3.1

loose nut end

body end provided with tailpiece which retains a loose internally threaded nut or ring for connection to the mating component

3.2

union end

body end provided with an external thread to which is attached a threaded nut or ring, which retains a tailpiece for connection to the mating component

3.3

NPS

alphanumeric designation of size for components of a pipework system, which is used for reference purposes, and which comprises the letters NPS followed by a dimensionless number indirectly related to the physical size of the bore or outside diameter of the end connections

Note 1 to entry: The number following the letters NPS does not represent a measurable value and therefore is not used for calculation purposes except where specified in the relevant standard.