



SLOVENSKI STANDARD

SIST EN 558:2022

01-april-2022

Nadomešča:
SIST EN 558:2017

Industrijski ventili - Vgradne dolžine kovinskih ventilov za cevovode s prirobnicami - Ventili, označeni po PN in Class

Industrial valves - Face-to-face and centre-to-face dimensions of metal valves for use in flanged pipe systems - PN and Class designated valves

Industriearmaturen - Baulängen von Armaturen aus Metall zum Einbau in Rohrleitungen mit Flanschen - Nach PN und Class bezeichnete Armaturen

Robinetterie industrielle - Dimensions face-à-face et face-à-axe de la robinetterie métallique utilisée dans les systèmes de canalisations à brides - Appareils de robinetterie désignés PN et Class

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Ta slovenski standard je istoveten z: EN 558:2022

ICS:

23.060.01 Ventili na splošno

Valves in general

SIST EN 558:2022

en,fr,de

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 558

February 2022

ICS 23.040.99; 23.060.01

Supersedes EN 558:2017

English Version

**Industrial valves - Face-to-face and centre-to-face
dimensions of metal valves for use in flanged pipe systems
- PN and Class designated valves**

Robinetterie industrielle - Dimensions face-à-face et face-à-axe de la robinetterie métallique utilisée dans les systèmes de canalisations à brides - Appareils de robinetterie désignés PN et Class

Industriearmaturen - Baulängen von Armaturen aus Metall zum Einbau in Rohrleitungen mit Flanschen - Nach PN und Class bezeichnete Armaturen

This European Standard was approved by CEN on 10 January 2022.

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.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN 558:2022) 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 August 2022, and conflicting national standards shall be withdrawn at the latest by August 2022.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 558:2017.

In comparison with the previous edition, the following technical modifications have been made:

- deletion of Table 2 and integration in the tables of the relevant product;
- basic series 125 added and used in Table 14;
- basic series 126, 127, 128 added and used in Table 21;
- basic series included in EN 558:2017 that are considered special transferred to Annex C.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

The basic series given in this document are taken from the original series shown in Annex A. Changes made to the original series will not be automatically incorporated into this document.

The numbers of the existing ISO basic series are maintained as in ISO 5752:2021.

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1 Scope

This document specifies the “face-to-face” (FTF) and “centre-to-face” (CTF) dimensions for PN and Class designated metal valves used in flanged pipe systems.

This document covers valves with the following PN, Class and DN values:

- PN 2,5; PN 6; PN 10; PN 16; PN 25; PN 40; PN 63; PN 100; PN 160; PN 250; PN 320; PN 400;
- Class 125; Class 150; Class 250; Class 300; Class 600; Class 900; Class 1 500; Class 2 500;
- 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 600; DN 700; DN 750; DN 800; DN 900; DN 1 000; DN 1 050; DN 1 200; DN 1 400; DN 1 600; DN 1 800; DN 2 000.

For valves in other shell materials than metal the same FTF and CTF dimensions can be used.

For relationship between DN and NPS, see Annex B.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 736-1, *Valves - Terminology - Part 1: Definition of types of valves*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 736-1 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1

face-to-face dimension

FTF

distance between the two planes perpendicular to the valve axis located at the extremities of the body end ports or as specified in the relevant valve product standard

Note 1 to entry: It is applicable to straight pattern valves.

Note 2 to entry: See Figures 1 to 4.

Note 3 to entry: In millimetres.

3.2

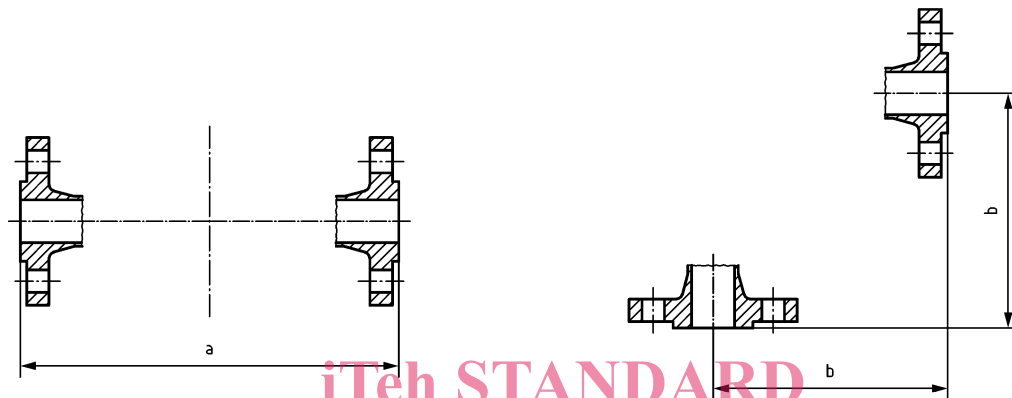
centre-to-face dimension**CTF**

distance between the plane located at the extremity of either body end port and perpendicular to its axis and the axis of the other body end port

Note 1 to entry: It is applicable to angle pattern valves.

Note 2 to entry: See Figures 1 to 4.

Note 3 to entry: In millimetres.

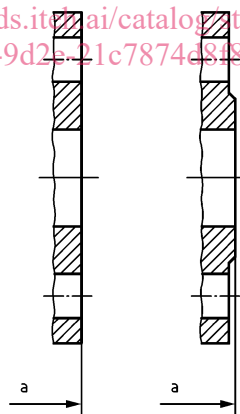
**Key**

- a face-to-face (FTF)
- b centre-to-face (CTF)

Figure 1 — Face to face and centre to face dimensions

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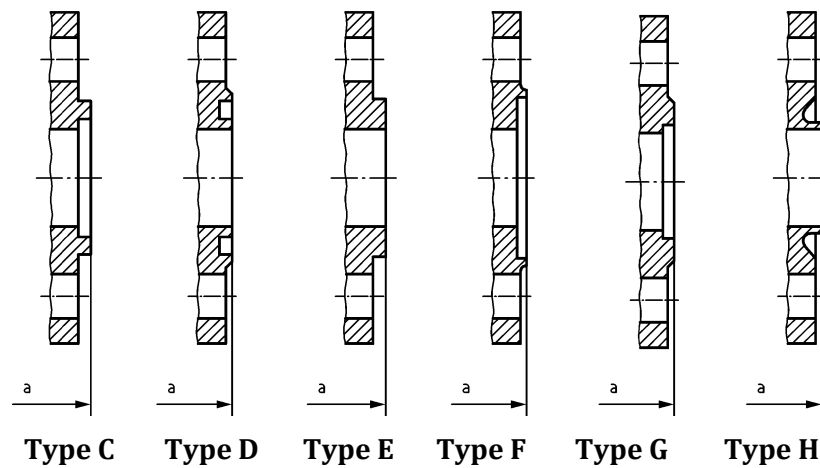


Type A Type B

Key

- a face-to-face (FTF)

Figure 2 — Flanged valves PN and Class designated (flat and raised faces)

**Key**

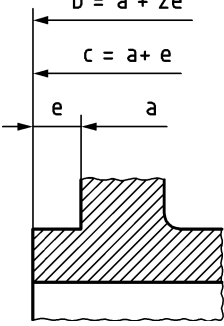
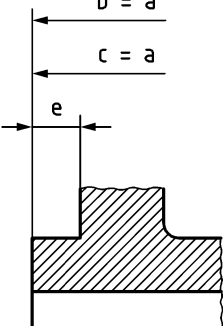
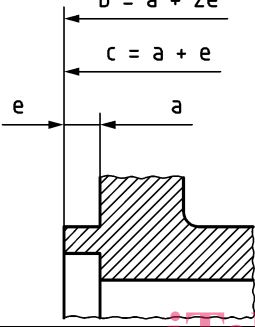
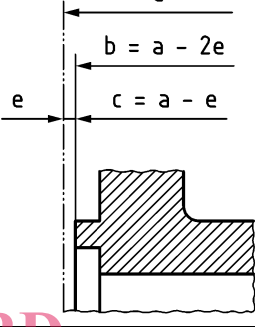
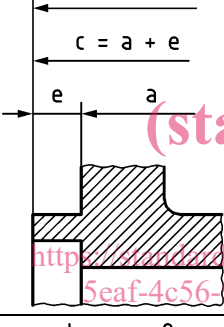
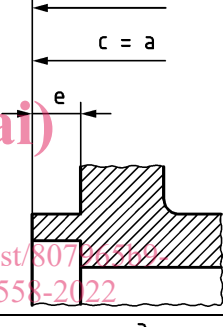
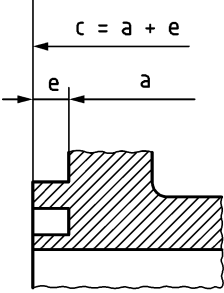
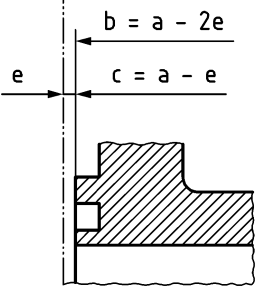
a face-to-face (FTF)

Figure 3 — Flanged valves PN designated (other types)

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	Class 150 and Class 300	Class 600 and above
Large or small male face	$b = a + 2e$ $c = a + e$ 	$b = a$ $c = a$ 
Large or small female face	$b = a + 2e$ $c = a + e$ 	$b = a - 2e$ $c = a - e$ 
Large or small tongue	$b = a + 2e$ $c = a + e$ 	$b = a$ $c = a$ 
Large or small groove	$b = a + 2e$ $c = a + e$ 	$b = a - 2e$ $c = a - e$ 

Key

- a for dimensions see Tables 5 to 31
- b face-to-face (FTF)
- c centre-to-face (CTF)
- e height

NOTE For height e, see EN 1759 series.

Figure 4 — Flanged valves Class designated (other types)

4 Dimensions and tolerances

4.1 Basic series

The basic series of FTF and CTF dimensions shall be as given in Tables 5 to 31.

In those tables, there are several series which are non-preferred, but represent history and commercial decisions made by manufacturers utilizing only one pattern for PN and Class designated valves. Those series are identified in the relevant tables.

4.2 Face-to-face and centre-to-face dimensions

4.2.1 General

The FTF and CTF dimensions shall be in accordance with Figures 1 to 4.

For each type of valve, the basic series to be taken into consideration are given in Tables 5 to 31.

Table 1 associates the Tables 5 to 31 of the present document with the product standards of industrial valves. In Table 5 to Table 31, the dimensions may not be given for all values of DN. For certain sizes/types of valves, alternative dimensions are permitted and these are specified in Table 5 to Table 31 as appropriate. The origin of the basic series is shown in Annex A.

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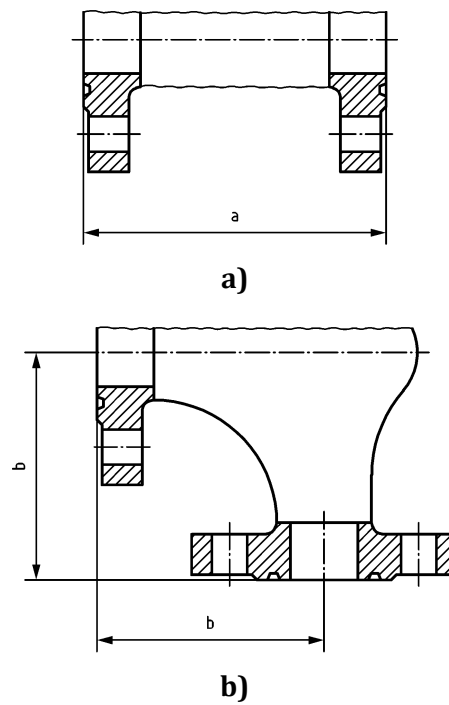
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Table 1 — Correspondence between the FTF series tables of valve types and the product standards

Table numbers	Product standard number	Designation
5, 6	EN 1171	Industrial valves — Cast iron gate valves
	EN 1984	Industrial valves — Steel gate valves
	EN 12288	Industrial valves — Copper alloy gate valves
7, 8, 9, 10	EN 593	Industrial valves — Metallic butterfly valves for general purposes
11, 12	EN 1983	Industrial valves — Steel ball valves
13	EN 13397	Industrial valves — Diaphragm valves made of metallic materials
14, 15, 16, 17	EN 13789	Industrial valves — Cast iron globe valves
	EN 13709	Industrial valves — Steel globe and globe stop and check valves
18, 19, 20, 21	EN 16767	Industrial valves — Metallic check valves
22, 23, 24, 25, 26, 27, 28, 29	EN 1349	Industrial process control valves
30, 31	EN 26704	Automatic steam traps — Classification

4.2.2 Class designated valves with ring joint flanges

For Class designated valves with ring joint flanges, the FTF or CTF dimensions given in Tables 6, 8, 10, 12, 15, 17, 19, 21, 23, 25, 27, 29 shall be increased by x as defined in Table 2 and Figure 5.

**Key**

- a FTF = Dimension of Tables 6, 8, 10, 12, 15, 19, 21, 23, 27, 29 + x
- b CTF = Dimension of Tables 17, 25 + 0.5x

Figure 5 — FTF and CTF dimensions for Class designated valves with ring joint flanges
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Table 2 — Additional length x for ring joint flanges

Dimensions in millimetres

Nominal size	Additional length x for ring joint flanges											
DN	Class 150	Class 300	Class 600	Class 900	Class 1 500	Class 2 500						
15	11,1	11,1	-1,6	0	0	0						
20	12,7	12,7	0									
25												
32												
40						3,2						
50		15,9	3,2	3,2	3,2							
65					6,4							
80												
100					9,5							
125												
150					6,4	12,7						
200												
250					9,5	15,9						
300					15,9							
350					22,2							
400						19,1						
450						22,2						
500												
600		19,1	6,4	12,7	28,6	—						
700	—	22,2	9,5	19,1	—							
750		25,4	12,7	—								
800		28,6	15,9									
900												
1 000												

4.2.3 Valves with lining

For valves having a resilient lining which forms the gasket joint with the mating flanges, the FTF and CTF dimensions shall be the distance between the extremities of the valve in the installed condition. If the dimensions for CTF and FTF differ from the standard dimensions, they shall be given by the manufacturer.

For valves having a hard lining, the thickness of the lining on the mating surface shall be included in the FTF and CTF dimensions given in Tables 5 to 31, unless the design of the valve precludes such an inclusion.

If this is the case, the manufacturer shall indicate the deviation from the standardized FTF or CTF dimensions in his documentation.

4.2.4 Raised face flanges

The raised face dimensions shall be in accordance with the applicable flange standard.

4.3 Tolerances

Tolerances on FTF and CTF dimensions are given in Table 3. Both tolerances shall be fulfilled.

End flange seating surfaces shall be parallel or perpendicular. Tolerances “*c*” on the parallelism or perpendicularity as shown in Figure 6 are given in Table 4.

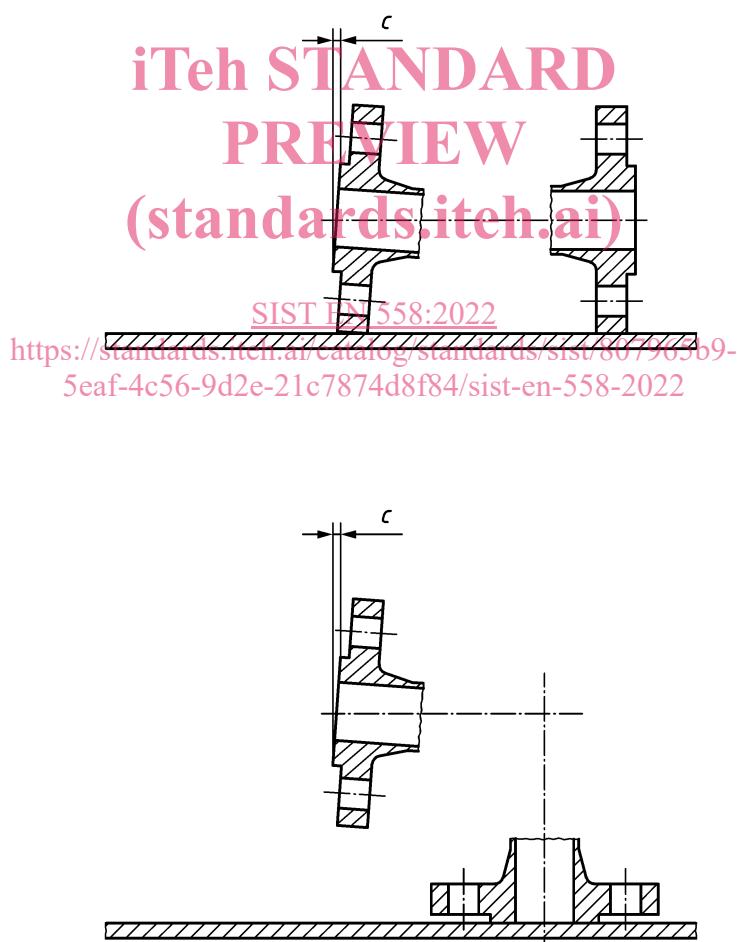


Figure 6 — Tolerances on parallelism and perpendicularity