SLOVENSKI STANDARD
oSIST prEN 558:2020

01-november-2020

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

Ta slovenski standard je istoveten z: **prEN 558**

ICS:

23.060.01	Ventili na splošno	Valves in general

oSIST prEN 558:2020 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

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DRAFT
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Will supersede 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

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This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 69.

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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 (prEN 558:2020) has been prepared by Technical Committee CEN/TC 69 “Industrial valves”, the secretariat of which is held by AFNOR.

This document is currently submitted to the CEN Enquiry.

This document will supersede 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.

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 5752:1982.

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 1050; 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:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

3.1
face-to-face dimensions
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.

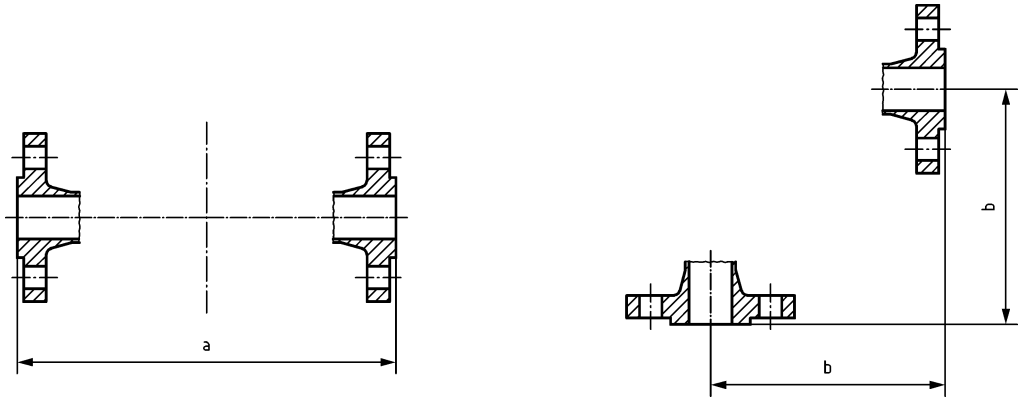
Note 3 to entry In millimetres.

3.2
centre-to-face dimensions
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.

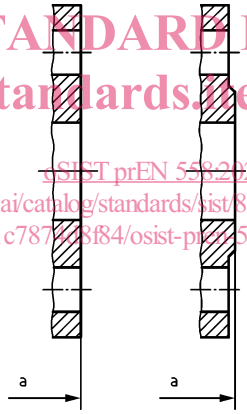


Key

a face-to-face (FTF)

b centre-to-face (CTF)

Figure 1 — Face to face and centre to face dimensions

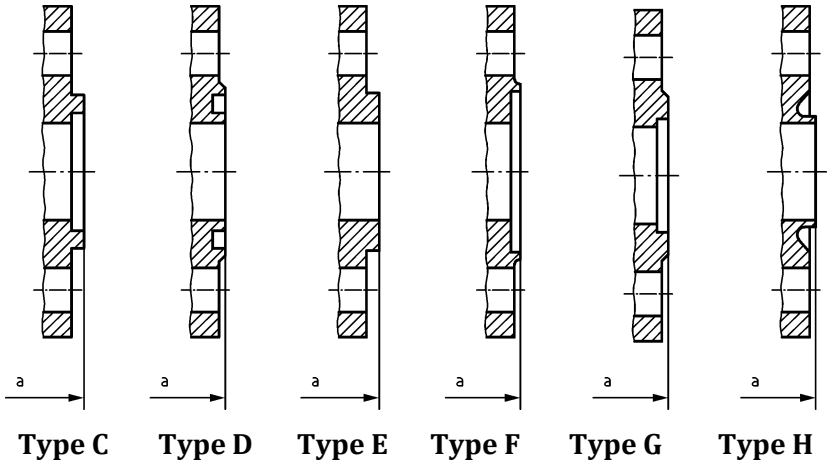


Type A Type B

Key

a face-to-face (FTF)

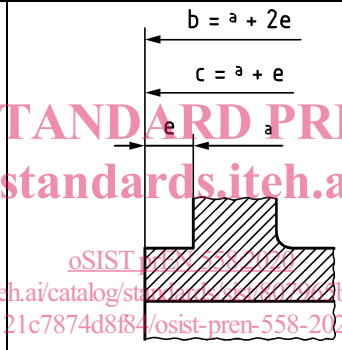
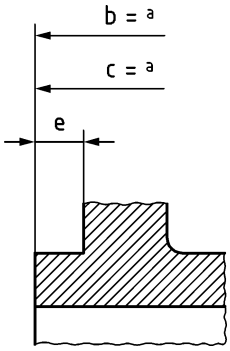
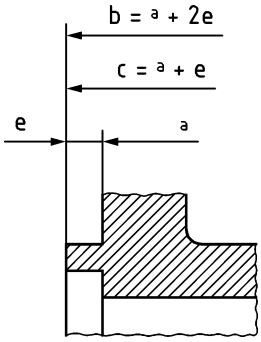
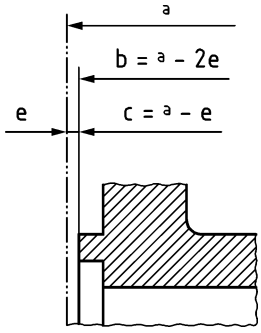
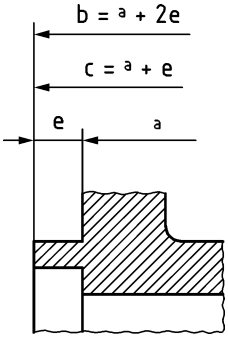
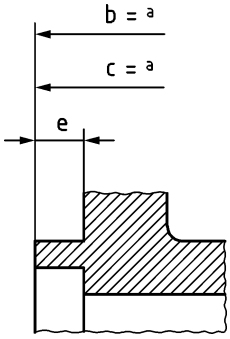
Figure 2 — Flanged valves PN and Class designated (flat and raised faces)

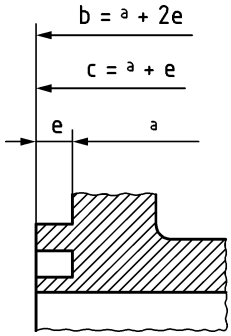
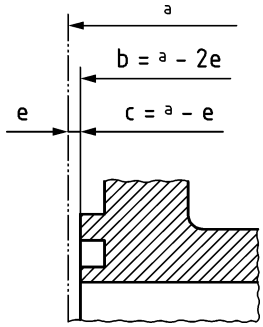


Key

a face-to-face (FTF)

Figure 3 — Flanged valves PN designated (spigot and recess)

	Class 150 and Class 300	Class 600 and above
Large or small male face		
Large or small female face		
Large or small tongue		

	Class 150 and Class 300	Class 600 and above
Large or small groove		

Key

a for dimensions see Tables 5 to 31

b face-to-face (FTF)

c centre-to-face (CTF)

e elevation

Note 1 to entry: For elevation e, see appropriate flange standard.

Figure 4 — Flanged valves Class designated

4 Dimensions and tolerances

4.1 Basic series

The basic series of FTF and CTF dimensions shall be as given 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 are marked with brackets 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.

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

Tables number	Product standard number	Designation
5	EN 1171	Industrial valves — Cast iron gate valves
	EN 1984	Industrial valves — Steel gate valves
	EN 12288	Industrial valves — Copper alloy gate valves
6	EN 593	Industrial valves — Metallic butterfly valves for general purposes
7	EN 1983	Industrial valves — Steel ball valves
8	EN 13397	Industrial valves — Diaphragm valves made of metallic materials
9	EN 13789	Industrial valves — Cast iron globe valves
10	EN 13709	Industrial valves — Steel globe and globe stop and check valves
	EN 16767	Industrial valves - Metallic check valves
11, 12	EN 16767	Industrial valves - Metallic check valves
9, 13, 14, 15	EN 1349	Industrial process control valves
16	EN 26704	Automatic steam traps — Classification
	EN 26948	Automatic steam traps — Production and performance characteristic tests
	ISO 6552 and Cor 1	Automatic steam traps — Definition of technical terms

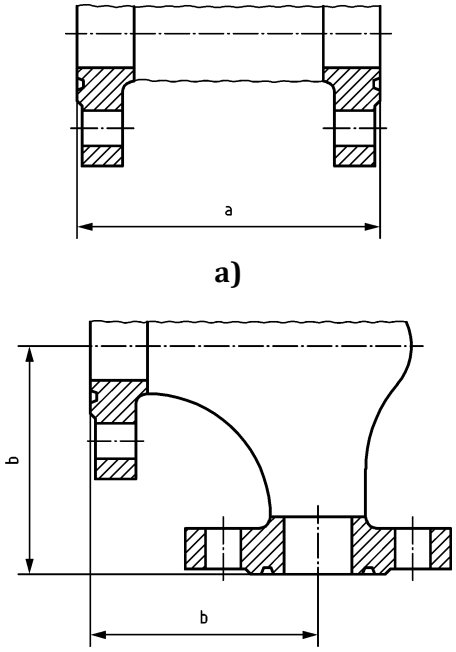
NOTE 1 Table 2 gives complete series. In Table 5 to Table 31, the columns of series may be incomplete.

NOTE 2 For certain sizes/types of valves, alternative dimensions are permitted and these are specified in Table 5 to Table 31 as appropriate.

NOTE 3 The origin of the basic series is shown in Annex A (informative).

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 Table 2 shall be increased by *x* as defined in Table 1 and Figure 5.



a)

b)

Key

a FTF = Dimension of Table 2 + x

b CTF = Dimension of Table 2 + 0,5 x

Figure 5 — FTF and CTF dimensions for Class designated valves with ring joint flanges

Table 2 — Additional length x for ring joint flanges

Dimensions in millimetres

<table>
<tr><th>Nominal size</th><th colspan="6">Additional length x for ring joint flanges</th></tr>
<tr><th>DN</th><th>Class 150</th><th>Class 300</th><th>Class 600</th><th>Class 900</th><th>Class 1 500</th><th>Class 2 500</th></tr>
<tr><td>15</td><td>11,1</td><td>11,1</td><td>−1,6</td><td rowspan="4">0</td><td rowspan="4">0</td><td rowspan="3">0</td></tr>
<tr><td>20</td><td rowspan="15">12,7</td><td rowspan="4">12,7</td><td rowspan="4">0</td></tr>
<tr><td>25</td></tr>
<tr><td>32</td><td rowspan="4">3,2</td></tr>
<tr><td>40</td></tr>
<tr><td>50</td><td rowspan="9"></td><td rowspan="9"></td><td rowspan="9">3,2</td><td rowspan="5">3,2</td><td rowspan="2">6,4</td></tr>
<tr><td>65</td></tr>
<tr><td>80</td><td>9,5</td></tr>
<tr><td>100</td><td rowspan="3">3,2</td><td rowspan="3">12,7</td></tr>
<tr><td>125</td></tr>
<tr><td>150</td><td>6,4</td></tr>
<tr><td>200</td><td>15,9</td><td>3,2</td><td rowspan="2">9,5</td><td>15,9</td></tr>
<tr><td>250</td><td rowspan="2">22,2</td></tr>
<tr><td>300</td><td rowspan="2"></td><td rowspan="2"></td><td rowspan="2"></td><td>15,9</td></tr>
<tr><td>350</td><td rowspan="3">9,5</td><td>19,1</td><td rowspan="11">—</td></tr>
<tr><td>400</td><td rowspan="3">22,2</td></tr>
<tr><td>450</td><td rowspan="2">12,7</td></tr>
<tr><td>500</td><td>19,1</td><td>6,4</td></tr>
<tr><td>600</td><td>22,2</td><td>9,5</td><td>19,1</td><td>28,6</td></tr>
<tr><td>700</td><td rowspan="5">—</td><td rowspan="2">25,4</td><td rowspan="2">12,7</td><td rowspan="5">—</td><td rowspan="5">—</td></tr>
<tr><td>750</td></tr>
<tr><td>800</td><td rowspan="3">28,6</td><td rowspan="3">15,9</td></tr>
<tr><td>900</td></tr>
<tr><td>1 000</td></tr>
</table>

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 resilient or 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.

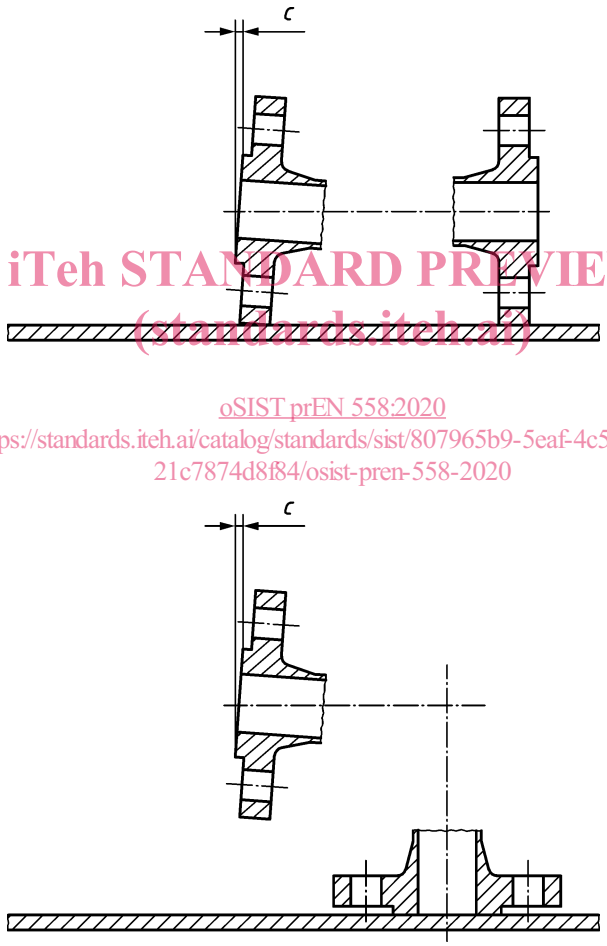


Figure 6 — Tolerances on parallelism and perpendicularity

Table 3 — Tolerances of the FTF or CTF dimensions

Dimensions in millimetres

Above	Up to and including	Tolerances on dimension
0	250	±2
250	500	±3
500	800	±4
800	1 000	±5
1 000	1 600	±6
1 600	2 250	±8

Table 4 — Tolerances of parallelism or perpendicularity

Dimensions in millimetres

DN	Tolerances
10 to 25	0,4
32 to 150	0,6
200 to 300	0,8
350 to 500	1,0
600 to 800	2,0
1 000 and higher	3,0

Table 5 — Gate valves FTF series — PN rating

Dimensions in millimetres

PN		PN 6-10-16			PN 25-40		PN 63-100	PN 160, PN 250	PN 250 -400
	FTF Series	(3)	14	15	15	26	26	99	91
	10	102	115	—	—	—	—	—	—
	15	108	115	—	—	—	—	—	—
	20	117	120	—	—	—	—	—	—
	25	127	125	120	—	—	—	—	—
	32	140	130	140	—	—	—	—	—
	40	165	140	240	—	—	240	270	310
	50	178	150	250	—	—	250	300	350
	65	190	170	270	—	—	290	360	425
	80	203	180	280	—	—	310	390	470
	100	229	190	300	—	—	350	450	550