

# Industrial valves — Face-to-face and centre-to-face dimensions of metal valves for use in flanged pipe systems —

## Part 1: PN-designated valves

The European Standard EN 558-1:1995 has the status of a British Standard

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- British Foundry Association
- British Gas plc
- British Plumbing Fittings Manufacturers' Association
- British Valve and Actuator Manufacturers' Association
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- Chartered Institution of Building Services Engineers
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- Institution of Mechanical Engineers
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# National foreword

This British Standard has been prepared by Technical Committee PSE/7 and is the English language version of EN 558-1:1995 *Industrial valves — Face-to-face and centre-to-face dimensions of metal valves for use in flanged pipe systems — Part 1: PN-designated valves*, published by the European Committee for Standardization (CEN). EN 558-1 was produced as the result of international discussions in which the United Kingdom took an active part.

Together with BS EN 558-2:1996, it partially supersedes BS 2080:1989, which has been amended.

**Cross-reference**

| Publication referred to | Corresponding British Standard                                                                      |
|-------------------------|-----------------------------------------------------------------------------------------------------|
| EN 26554:1991           | BS EN 26554:1991 <i>Specification for face-to-face dimensions for flanged automatic steam traps</i> |

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**Summary of pages**

This document comprises a front cover, an inside front cover, pages i and ii, the EN title page, pages 2 to 22, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

# Industrial valves — Face-to-face and centre-to-face dimensions of metal valves for use in flanged pipe systems Part 1: PN-designated valves

Robinetterie industrielle — Dimensions face-à-face et face-à-axe de la robinetterie métallique utilisée dans les systèmes de canalisations à brides —  
Partie 1: Appariels de robinetterie désignés PN

Industriearmaturen — Baulängen von Armaturen aus Metall zum Einbau in Rohrleitungen mit Flanschen —  
Teil 1: Nach PN bezeichnete Armaturen

This European Standard was approved by CEN on 1995-10-16. 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.

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## CEN

European Committee for Standardization  
Comité Européen de Normalisation  
Europäisches Komitee für Normung

**Central Secretariat: rue de Stassart 36, B-1050 Brussels**

## Foreword

This European Standard was 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 1996, and conflicting national standards shall be withdrawn at the latest by April 1996.

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

This standard was drawn up on the basis of the International Standard ISO/DIS 5752 and contains two Parts which can be used separately:

EN 558-1, *Industrial valves — Face-to-face and centre-to-face dimensions of metal valves for use in flanged pipe systems — Part 1: PN-designated valves.*

EN 558-2, *Industrial valves — Face-to-face and centre-to-face dimensions of metal valves for use in flanged pipe systems — Part 2: Class-designated valves.*

The progress in work in the standardization of the different products can require a revision of the standard by adding or subtracting some basic series.

In accordance with the CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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## 0 Introduction

All tables of face-to-face and centre-to-face dimensions are drafted separately for PN-designated valves in EN 558-1 and for Class designated valves in EN 558-2.

The basic series in this standard are taken from the origin series shown in Annex A (informative). Changes made to the origin series will not be automatically incorporated into this standard.

The numbers of the basic series are maintained as in ISO/DIS 5752:1993.

## 1 Scope

This Part of this standard specifies face-to-face (FTF) and centre-to-face (CTF) dimensions for PN designated metal valves used in flanged pipe systems.

This Part of this standard covers valves having the following PN and DN values:

- PN 2,5; PN 6; PN 10; PN 16; PN 25; PN 40; PN 63; PN 100.
- 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 800; DN 900; DN 1 000; DN 1 200; DN 1 400; DN 1 600; DN 1 800; DN 2 000.

Face-to-face dimensions of automatic steam traps are specified in EN 26554.

## 2 Normative references

This standard incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of the cited publication apply to this European Standard, only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies.

EN 736-1, *Valves — Terminology — Part 1: Definitions of types of valves.*

EN 26554, *Flanged automatic steam traps — Face-to-face dimensions.*

## 3 Definitions

For the purposes of this standard, prEN 736-1 and the following definitions apply:

### 3.1

**face-to-face dimension (FTF) (for straight pattern valves)**

the distance, expressed in millimetres, between the two planes perpendicular to the valve axis located at the extremities of the body end ports or as may be specified in the relevant valve product standard (see Figure 1 and Figure 2)

### 3.2

**centre-to-face dimension (CTF) (for angle pattern valves)**

the distance, expressed in millimetres, 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 (see Figure 1 and Figure 2)

## 4 Dimensions and tolerances

### 4.1 Basic series

The basic series of FTF and CTF dimensions shall be as given in Table 1.

For each type of valve, the basic series to be taken into consideration are given in Table 3 to Table 17.

### 4.2 Dimensions for unlined valves

For unlined valves the FTF and CTF dimensions shall be in accordance with Figure 1 and Figure 2.

### 4.3 Dimensions for lined valves

**4.3.1** 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.

The overall valve dimensions before assembly shall be provided by the manufacturer.

**4.3.2** For valves having resilient or hard linings as a regular production feature the thickness of the lining on the mating surface shall be included in the FTF and CTF dimensions given in Table 1, unless the design of the valve precludes such an inclusion.

Where the design does not permit the lining to be included in the FTF and CTF dimensions given in Table 1, then the thickness of the lining may be added to the basic dimension.

**4.3.3** For valves having resilient or hard linings which are not normally a regular production feature, the thickness of the lining on the flange faces may be added to the FTF and CTF dimensions given in Table 1.

4.4 Tolerances

Tolerances on FTF and CTF dimensions are given in Table 2.

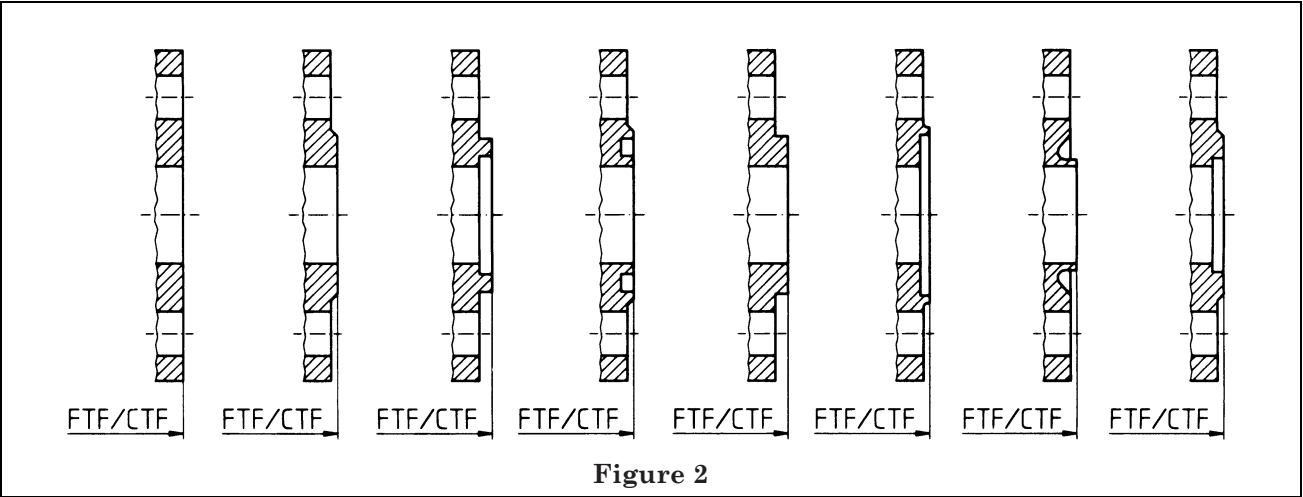
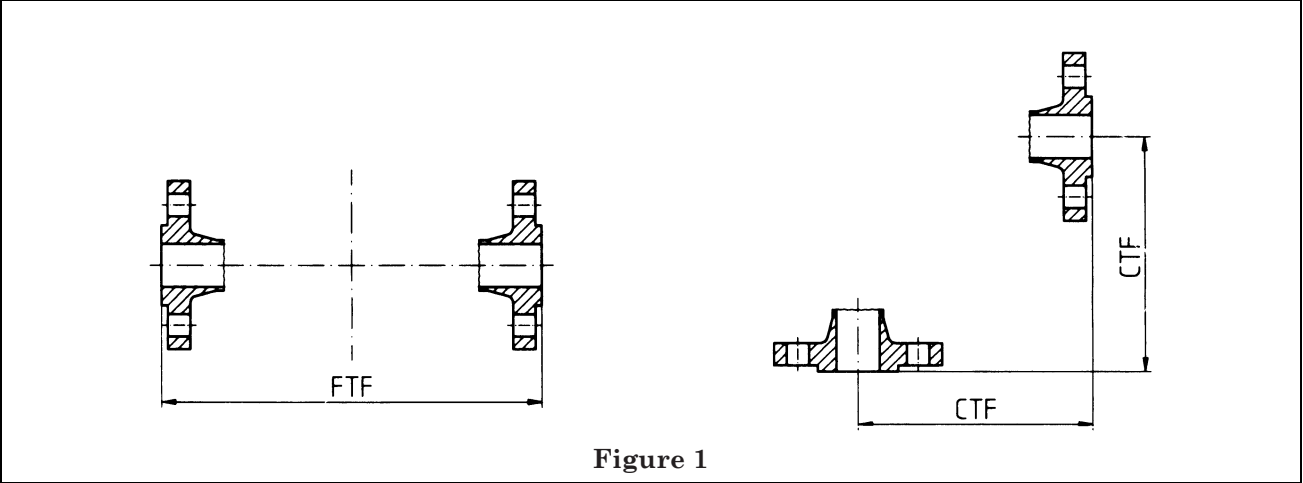


Table 1 — Dimensions of basic series

Dimensions in millimetres

| DN    | Basic series |       |     |       |       |     |                |                |       |                 |       |     |     |       |     |     |     |     |       |                 |                 |     |
|-------|--------------|-------|-----|-------|-------|-----|----------------|----------------|-------|-----------------|-------|-----|-----|-------|-----|-----|-----|-----|-------|-----------------|-----------------|-----|
|       | 1            | 2     | 3   | 4     | 5     | 7   | 8 <sup>a</sup> | 9 <sup>a</sup> | 10    | 11 <sup>a</sup> | 12    | 13  | 14  | 15    | 16  | 18  | 19  | 20  | 21    | 22 <sup>a</sup> | 23 <sup>a</sup> | 25  |
| 10    | 130          | 210   | 102 | —     | —     | 108 | 90             | 105            | —     | —               | 130   | —   | 115 | —     | —   | 80  | —   | —   | —     | 65              | 70              | —   |
| 15    | 130          | 210   | 108 | 140   | 165   | 108 | 90             | 105            | 108   | 57              | 130   | —   | 115 | —     | —   | 80  | 140 | —   | 152   | 65              | 70              | —   |
| 20    | 150          | 230   | 117 | 152   | 190   | 117 | 95             | 115            | 117   | 64              | 130   | —   | 120 | —     | —   | 90  | 152 | —   | 178   | 70              | 75              | —   |
| 25    | 160          | 230   | 127 | 165   | 216   | 127 | 100            | 115            | 127   | 70              | 140   | —   | 125 | 120   | —   | 100 | 165 | —   | 216   | 80              | 85              | —   |
| 32    | 180          | 260   | 140 | 178   | 229   | 146 | 105            | 130            | 140   | 76              | 165   | —   | 130 | 140   | —   | 110 | 178 | —   | 229   | 90              | 95              | —   |
| 40    | 200          | 260   | 165 | 190   | 241   | 159 | 115            | 130            | 165   | 83              | 165   | 106 | 140 | 240   | 33  | 120 | 190 | 33  | 241   | 95              | 100             | —   |
| 50    | 230          | 300   | 178 | 216   | 292   | 190 | 125            | 150            | 203   | 102             | 203   | 108 | 150 | 250   | 43  | 135 | 216 | 43  | 267   | 105             | 115             | —   |
| 65    | 290          | 340   | 190 | 241   | 330   | 216 | 145            | 170            | 216   | 108             | 222   | 112 | 170 | 270   | 46  | 165 | 241 | 46  | 292   | 115             | 125             | —   |
| 80    | 310          | 380   | 203 | 283   | 356   | 254 | 155            | 190            | 241   | 121             | 241   | 114 | 180 | 280   | 64  | 185 | 283 | 46  | 318   | 125             | 135             | 49  |
| 100   | 350          | 430   | 229 | 305   | 432   | 305 | 175            | 215            | 292   | 146             | 305   | 127 | 190 | 300   | 64  | 229 | 305 | 52  | 356   | 135             | 146             | 56  |
| 125   | 400          | 500   | 254 | 381   | 508   | 356 | 200            | 250            | 330   | 178             | 356   | 140 | 200 | 325   | 70  | —   | 381 | 56  | 400   | —               | —               | 64  |
| 150   | 480          | 550   | 267 | 403   | 559   | 406 | 225            | 275            | 356   | 203             | 394   | 140 | 210 | 350   | 76  | —   | 403 | 56  | 444   | —               | —               | 70  |
| 200   | 600          | 650   | 292 | 419   | 660   | 521 | 275            | 325            | 495   | 248             | 457   | 152 | 230 | 400   | 89  | —   | 419 | 60  | 533   | —               | —               | 71  |
| 250   | 730          | 775   | 330 | 457   | 787   | 635 | 325            | —              | 622   | 311             | 533   | 165 | 250 | 450   | 114 | —   | 457 | 68  | 622   | —               | —               | 76  |
| 300   | 850          | 900   | 356 | 502   | 838   | 749 | 375            | —              | 698   | 349             | 610   | 178 | 270 | 500   | 114 | —   | 502 | 78  | 711   | —               | —               | 83  |
| 350   | 980          | 1 025 | 381 | 762   | 889   | —   | 425            | —              | 787   | 394             | 686   | 190 | 290 | 550   | 127 | —   | 572 | 78  | 838   | —               | —               | 92  |
| 400   | 1 100        | 1 150 | 406 | 838   | 991   | —   | 475            | —              | 914   | 457             | 762   | 216 | 310 | 600   | 140 | —   | 610 | 102 | 864   | —               | —               | 102 |
| 450   | 1 200        | 1 275 | 432 | 914   | 1 092 | —   | 500            | —              | 978   | 483             | 864   | 222 | 330 | 650   | 152 | —   | 660 | 114 | 978   | —               | —               | 114 |
| 500   | 1 250        | 1 400 | 457 | 991   | 1 194 | —   | —              | —              | 978   | —               | 914   | 229 | 350 | 700   | 152 | —   | 711 | 127 | 1 016 | —               | —               | 127 |
| 600   | 1 450        | 1 600 | 508 | 1 143 | 1 397 | —   | —              | —              | 1 295 | —               | 1 067 | 267 | 390 | 800   | 178 | —   | 787 | 154 | 1 346 | —               | —               | 154 |
| 700   | 1 650        | —     | 610 | —     | —     | —   | —              | —              | 1 448 | —               | —     | 292 | 430 | 900   | 229 | —   | —   | 165 | 1 499 | —               | —               | —   |
| 800   | 1 850        | —     | 660 | —     | —     | —   | —              | —              | 1 676 | —               | —     | 318 | 470 | 1 000 | 241 | —   | —   | 190 | 1 778 | —               | —               | —   |
| 900   | 2 050        | —     | 711 | —     | —     | —   | —              | —              | 1 956 | —               | —     | 330 | 510 | 1 100 | 241 | —   | —   | 203 | 2 083 | —               | —               | —   |
| 1 000 | 2 250        | —     | 813 | —     | —     | —   | —              | —              | —     | —               | —     | 410 | 550 | 1 200 | 300 | —   | —   | 216 | —     | —               | —               | —   |
| 1 200 | —            | —     | —   | —     | —     | —   | —              | —              | —     | —               | —     | 470 | 630 | —     | 350 | —   | —   | 254 | —     | —               | —               | —   |
| 1 400 | —            | —     | —   | —     | —     | —   | —              | —              | —     | —               | —     | 530 | 710 | —     | 390 | —   | —   | 279 | —     | —               | —               | —   |
| 1 600 | —            | —     | —   | —     | —     | —   | —              | —              | —     | —               | —     | 600 | 790 | —     | 440 | —   | —   | 318 | —     | —               | —               | —   |
| 1 800 | —            | —     | —   | —     | —     | —   | —              | —              | —     | —               | —     | 670 | 870 | —     | 490 | —   | —   | 356 | —     | —               | —               | —   |
| 2 000 | —            | —     | —   | —     | —     | —   | —              | —              | —     | —               | —     | 760 | 950 | —     | 540 | —   | —   | 406 | —     | —               | —               | —   |