

Industrial valves — Metallic butterfly valves

The European Standard EN 593:1998 has the status of a
British Standard

ICS 23.060.30

National foreword

This British Standard is the English language version of EN 593:1998. It supersedes BS 5155:1984 (1991) which is withdrawn.

Class 125 cast iron valves are not included in EN 593:1998 and, in order to assist customers and manufacturers, recommendations for this type of valve are provided in National annex NA.

The UK participation in its preparation was entrusted by Technical Committee PSE/7, Valves, to Subcommittee PSE/7/4, Butterfly valves, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

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Summary of pages

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English version

Industrial valves — Metallic butterfly valves

Robinetterie industrielle — Robinets métalliques à papillon Industriearmaturen — Metallische Klappen

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CEN

European Committee for Standardization
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Foreword

This European Standard 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of an identical text or by endorsement, at the latest by July 1998, and conflicting national standards shall be withdrawn at the latest by July 1998.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Contents

	Page
Foreword	2
1 Scope	3
2 Normative references	3
3 Definitions	3
4 Classification	3
4.1 DN range	4
4.2 PN and class range	4
4.3 Valve types	4
5 Requirements	4
5.1 Design	4
5.2 Functional characteristics	6
6 Testing and inspection	6
6.1 General	6
6.2 Pressure tests	6
6.3 Operation test	6
6.4 Other tests	6
7 Assessment of conformity	6
8 Marking — Preparation for storage and transportation	7
8.1 Marking	7
8.2 Preparation for storage and transportation	7
Annex A (informative)	
A.1 Information to be supplied by the purchaser	8
A.2 Data sheet for butterfly valves	8
Annex B (informative) Bibliography	9
National annex NA (informative) Additional information	11

1 Scope

This standard specifies requirements for butterfly valves having metallic bodies of designations PN 2,5 to PN 40 and class 125 to class 300 inclusive, in the size range DN 40 to DN 2000 for use in flanged or butt welding piping systems and used for isolating, regulating or control applications.

For application as industrial process control valves, see prEN 1349 and EN 60534-2-1.

2 Normative references

This European 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 the subsequent amendments to or revisions of any of these publications 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 19, *Marking of general purpose industrial valves.*

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.*

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

EN 736-2, *Valves — Terminology — Part 2: Definition of components of valves.*

prEN 736-3, *Valves — Terminology — Part 3: Definition of terms.*

prEN 1092-1, *Flanges and their joints — Circular flanges for pipes, valves and fittings — Part 1: Steel flanges — PN designated.*

EN 1092-2, *Flanges and their joints — Circular flanges for pipes, valves, fittings and accessories, PN designated — Part 2: Cast iron flanges.*

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

prEN 1092-4, *Flanges and their joints — Circular flanges for pipes, valves, fittings and accessories, PN designated — Part 4: Aluminium alloy flanges.*

prEN 1267, *Valves — Test of flow resistance using water as test fluid.*

prEN 1349, *Industrial process control valves.*

prEN 1503-1, *Valves — Shell materials — Part 1: Steels.*

prEN 1503-2, *Valves — Shell materials — Part 2: ISO steels.*

prEN 1503-3, *Valves — Shell materials — Part 3: Cast irons.*

prEN 1503-4, *Valves — Shell materials — Part 4: Copper alloys.*

prEN 1759-3, *Flanges and their joints — Circular flanges for pipes, valves, fittings and accessories, class designated — Part 3: Copper alloy and composite flanges.*

prEN 12116, *Industrial valves — Part-turn valve actuator attachment.*

prEN 12266-3, *Industrial valves — Technical conditions of delivery — Part 3: Test procedures and acceptance criteria.*

EN 60534-2-1, *Industrial process control valves — Part 2: Flow capacity — Section 1: Sizing equations for incompressible fluid flow under installed conditions.*

prEN ISO 10497, *Testing of valves — Fire type-testing requirements.*
(ISO 10497: 1992).

3 Definitions

For the purposes of this European Standard, the definitions given in EN 736-1, EN 736-2, prEN 736-3 and the following definitions apply.

3.1

double flanged butterfly valve

a butterfly valve having flanged ends for connection to flanges of adjacent components by individual bolting (see Figure 1)

3.2

wafer butterfly valve

a butterfly valve intended for clamping between flanges of adjacent components

NOTE Different body shapes are possible (see Figures 2, 3 and 4).

3.3

butt weld end butterfly valve

a butterfly valve intended for butt welding into a pipe line (see Figure 5)

4 Classification

4.1 DN range

The DN range is:

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 750¹⁾, DN 800, DN 900, DN 1000, DN 1200, DN 1400, DN 1600, DN 1800, DN 2000.

¹⁾ DN 750 is for class designated valves only.