

Valves — Terminology —

Part 1: Definition of types of valves

The European Standard EN 736-1:1995 has the status of a
British Standard

Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee PSE/7, Valves, upon which the following bodies were represented:

- Amalgamated Engineering Union
- Association of Bronze and Brass Founders
- British Chemical Engineering Contractors' Association
- British Foundry Association
- British Gas plc
- British Plumbing Fittings Manufacturers' Association
- British Valve and Actuator Manufacturers' Association
- British Water
- Chartered Institution of Building Services Engineers
- Electricity Association
- Energy Industries Council
- Engineering Equipment and Materials Users' Association
- GAMBICA (BEAMA Ltd.)
- Health and Safety Executive
- Institution of Mechanical Engineers
- LP Gas Association
- Ministry of Defence
- Pipe Line Industries Guild
- Society of British Water Industries
- Water Services Association of England and Wales
- West Midlands CBI
- Coopted members

This British Standard, having been prepared under the direction of the Engineering Sector Board, was published under the authority of the Standards Board and comes into effect on 15 July 1995

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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 736-1:1995 *Valves — Terminology — Part 1: Definition of types of valves*, published by the European Committee for Standardization (CEN).

EN 736-1 was produced as a result of international discussions in which the United Kingdom took an active part.

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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 7 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.

ICS 01.040.23; 23.060.00

Descriptors: Valves and fittings, vocabulary, classifications, designations

English version

Valves — Terminology Part 1: Definition of types of valves

Appareils de robinetterie — Terminologie —
Partie 1: Définition des types d'appareil

Armaturen — Terminologie —
Teil 1: Definition der Grundbauarten

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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 has been prepared by the 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 1995, and conflicting national standards shall be withdrawn at the latest by August 1995.

According to 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, United Kingdom.

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1 Scope

This standard gives the denominations of valves. It has the purpose to provide a uniform and systematic terminology for all types of valves. By reasons of classification of terms, clause 4 defines terms related to basic design characteristics and clause 5 defines terms related to functional characteristics of valves.

2 Normative reference

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

3 Definition

For the purposes of this standard, the following definition applies:

3.1 valve

pipework component which influences the fluid flow by opening, closing or partially obstructing the passage of the fluid flow or by diverting or mixing the fluid flow

4 Types of valves related to design

4.1 Basic types

Table 1 shows the basic types of valves.

They are distinguished by:

- a) the operating motion of the obturator;
- b) the direction of flow in the seating area.

4.1.1 Gate valve

Valve in which the obturator movement is linear and, in the seating area, at right angle to the direction of flow.

4.1.2 Globe valve

Valve in which the obturator movement is linear and, in the seating area, in the direction of flow.

NOTE This definition also applies to lift check valves and axial check valves.

4.1.3 Plug and ball valves

Valve in which the obturator rotates about an axis at right angle to the direction of flow and, in the open position, the flow passes through the obturator.

4.1.4 Butterfly valve and eccentric plug valve

Valve in which the obturator rotates about an axis at right angle to the direction of flow and, in the open position, the flow passes around the obturator.

NOTE This definition also applies to swing check valves.

4.1.5 Diaphragm valve

Valve in which the fluid flow passage through the valve is changed by deformation of a flexible obturator.

NOTE This definition also applies to diaphragm check valves.

4.2 Examples of basic types

The schematic figures given below show typical designs of valves. Details of different body patterns and obturator designs are given in EN 736-2.

4.2.1 Gate valve

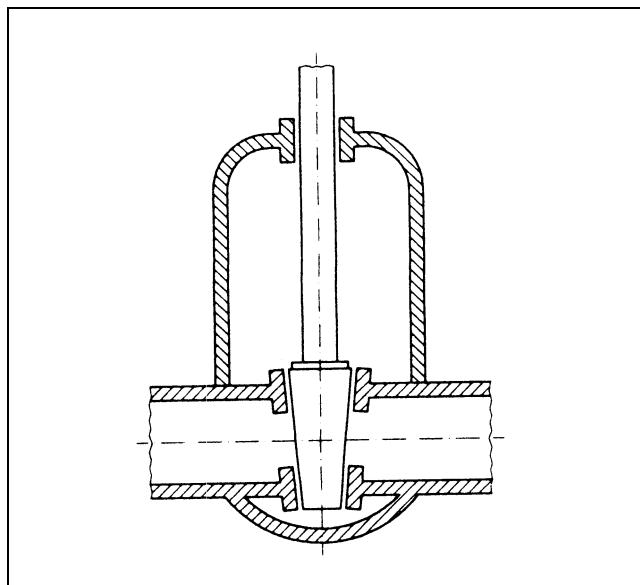
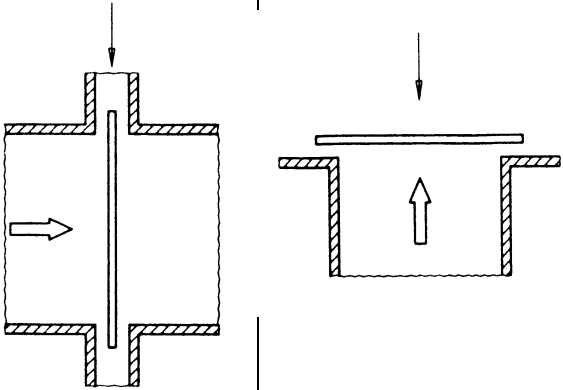
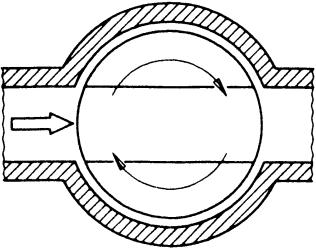
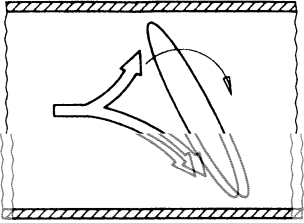
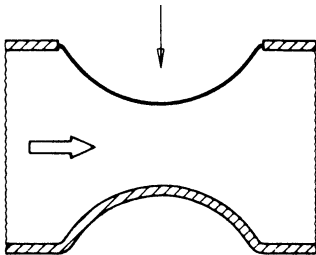
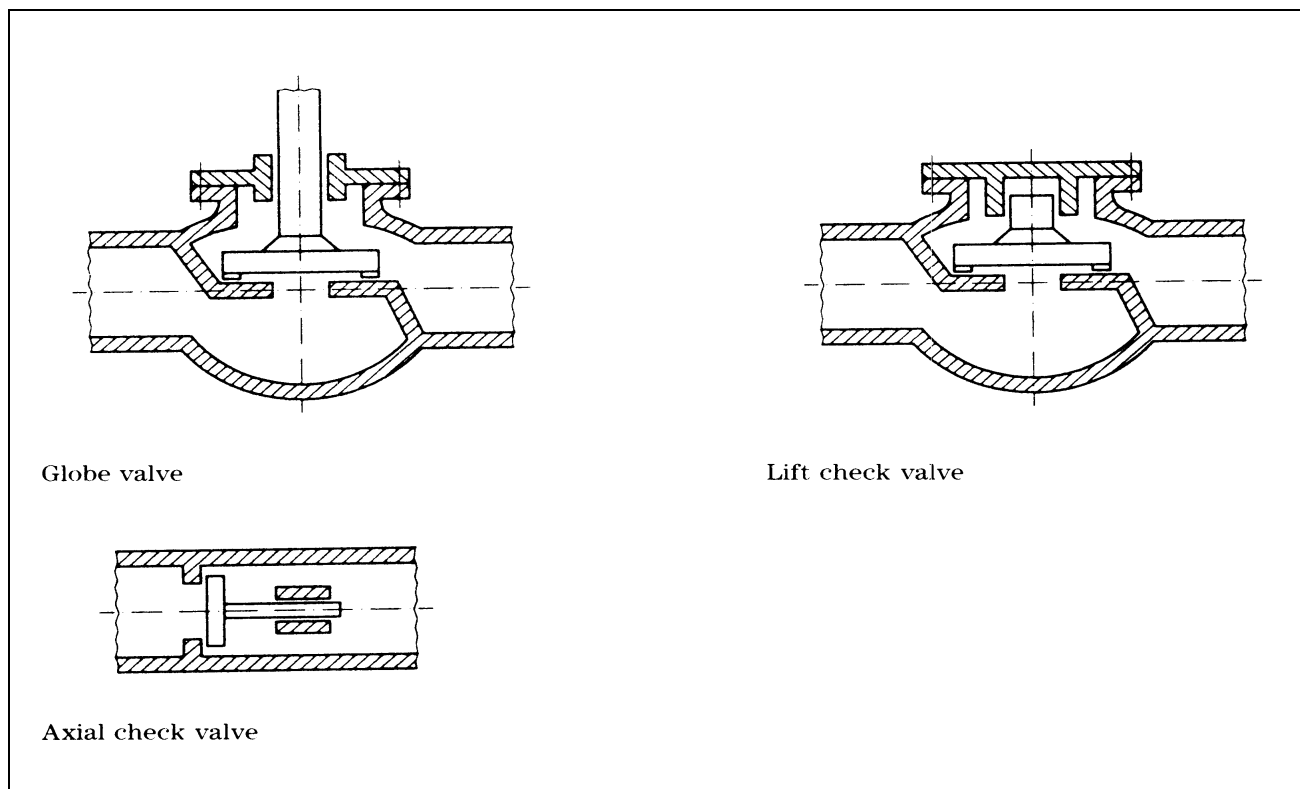


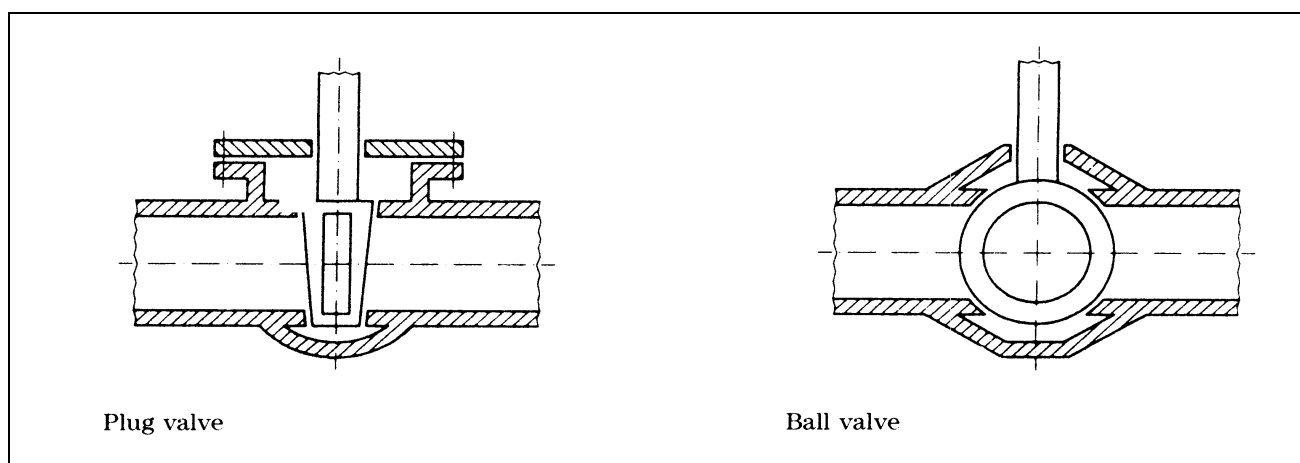
Table 1 — Basic types of valves

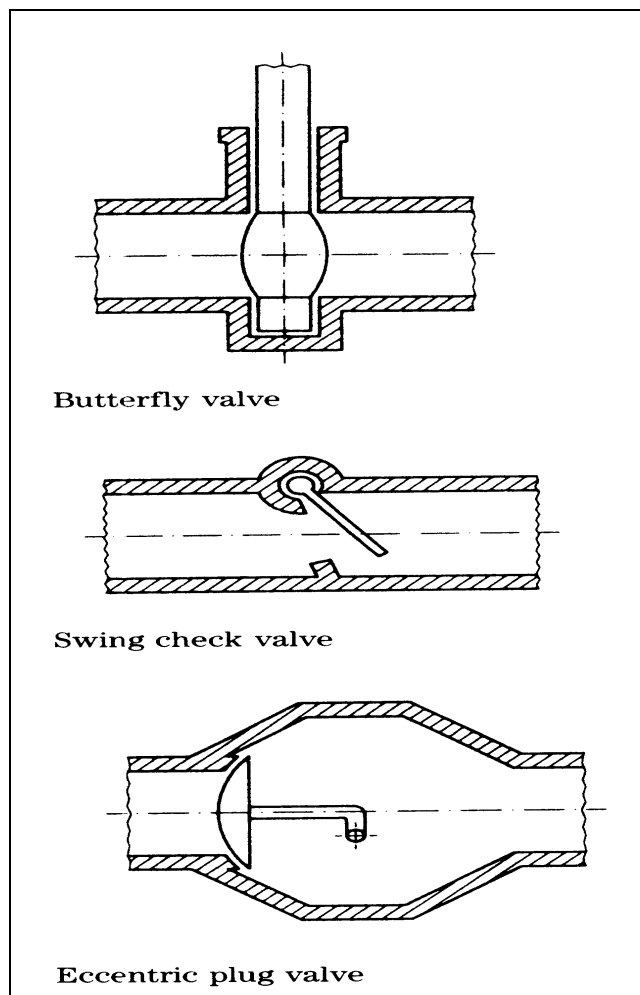
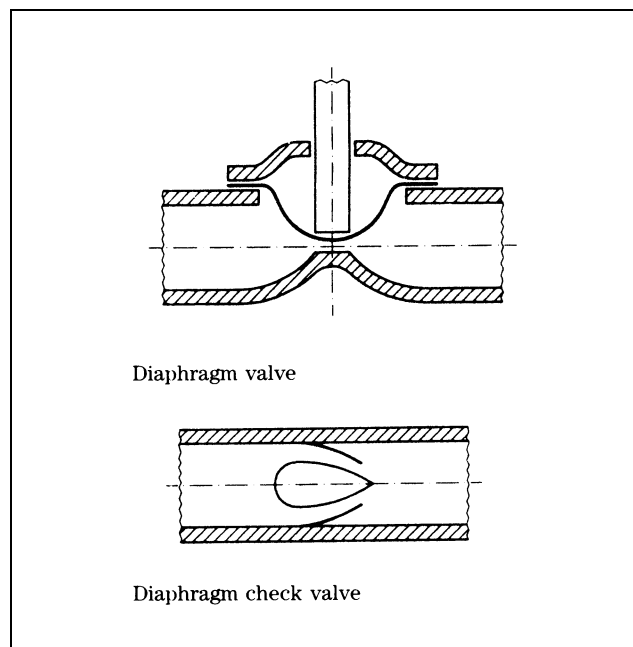
Operation of the obturator	Linear motion		Rotation about an axis at right angles to the direction of flow		Deformation of a flexible component
	At right angles to the operating motion of the obturator	In the direction of the operating motion of the obturator	Through of obturator	Around the obturator	
Direction of flow in the seating area	At right angles to the operating motion of the obturator	In the direction of the operating motion of the obturator	Through of obturator	Around the obturator	Depends on design
Schematic figures					
Basic type	Gate valve	Globe valve	Plug and ball valves	Butterfly and eccentric plug valves	Diaphragm valve
 Direction of fluid flow  Operating motion of the obturator					

4.2.2 *Globe valve*



4.2.3 *Plug and ball valve*



4.2.4 *Butterfly valve and eccentric plug valve*4.2.5 *Diaphragm valve***5 Types of valves related to function****5.1 Isolating valve**

Valve intended for use only in the closed or fully open position.

5.2 Regulating valve

Valve intended for use in any position between closed and fully open.

5.3 Control valve

A power operated device which changes the fluid flow rate in process control system. It consists of a valve connected to an actuator with or without positioner that is capable of changing the position of an obturator in the valve in response to a signal from the controlling system.

5.4 Safety valve

Valve which automatically, without the assistance of any energy other than that of the fluid concerned, discharges a certified quantity of the fluid so as to prevent a predetermined safe pressure being exceeded, and which is designed to reclose and prevent further flow of fluid after normal pressure conditions of service have been restored.

5.5 Bursting disc safety device

A non-reclosing pressure relief device actuated by differential pressure and designed to function by the bursting of the bursting disc(s). It is the complete assembly of installed components including, where appropriate, the bursting disc holder.

5.6 Check valve

Valve which automatically opens by fluid flow in a defined direction and which automatically closes to prevent fluid flow in the reverse direction.

NOTE Definitions of types of check valves are given in clauses 4.1.2, 4.1.4 and 4.1.5.

5.7 Diverting valve

Valve intended to influence the proportion of two or more output flows from a common input flow by changing the position of the obturator.

5.8 Mixing valve

Valve intended to influence the proportion of two or more input flows to produce a common output flow by changing the position of the obturator.

5.9 Automatic steam trap

Self-contained valve which automatically drains the condensate from a steam-containing enclosure whilst remaining tight to live steam or, if necessary, allowing steam to flow at a predetermined rate.

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