

Specification for

**Steel and copper alloy
wafer check valves,
single disk,
spring-loaded type**

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Piping Systems Components Standards Policy Committee (PSE/-) to Technical Committee PSE/7, upon which the following bodies were represented:

Amalgamated Engineering Union
Association of Bronze and Brass Founders
Association of Building Component Manufacturers
British Chemical Engineering Contractors' Association
British Foundry Association
British Gas plc
British Maritime Technology
British Plumbing Fittings Manufacturers' Association
British Valve and Actuator Manufacturers' Association
Chartered Institution of Building Services Engineers
Copper Development Association
Department of the Environment (Property Services Agency)
Electricity Supply Industry in United Kingdom
Energy Industries Council
Engineering Equipment and Materials Users' Association
GAMBICA (BEAMA Ltd.)
Health and Safety Executive
Institute of British Foundrymen
Institution of Chemical Engineers
Institution of Gas Engineers
Institution of Mechanical Engineers
Institution of Water and Environmental Management
Liquefied Petroleum Gas Industry Technical Association (UK)
Pipeline Industries Guild
Society of British Gas Industries
Society of British Water Industries
Water Companies' Association
Water Services' Association of England and Wales
West Midlands CBI

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Contents

	Page
Committees responsible	Inside front cover
Foreword	ii
Section 1. General	
1 Scope	1
2 Definitions	1
3 Type	1
4 Nominal sizes	1
5 Nominal and Class pressure designations	1
6 Pressure/temperature ratings	1
7 Dimensions and tolerances	2
Section 2. Design and operation	
8 Design	4
9 Operation	4
Section 3. Materials	
10 Optional requirements	5
11 Body material	5
12 Disk, spring, spring retainer materials	5
13 Identification plates	5
Section 4. Testing	
14 Production pressure testing	6
15 Test certificate	6
Section 5. Marking and packaging	
16 Body markings	7
17 Packaging	7
Appendix A Information to be supplied by the purchaser	8
Figure 1 — Typical wafer check valve for use with PN flanges	2
Figure 2 — Typical wafer check valve for use with Class designated flanges	3
Table 1 — Dimensions and tolerances of wafer check valves for use with PN flanges (type A)	2
Table 2 — Dimensions and tolerances of wafer check valves for use with Class designated flanges (type B)	3
Publication(s) referred to	Inside back cover

Foreword

This British Standard has been prepared under the direction of the Piping Systems Components Standards Policy Committee and at the time of publication of this British Standard no corresponding international standard exists.

Face-to-face dimensions comply with DIN 3202 and tolerances comply with BS 5155. Body outside diameters for wafer check valves for use with Class designated flanges are consistent with the dimensions of centring ring outside diameters of Table 1 of BS 3381:1989 and those for use with PN flanges are consistent with the dimensions of centring ring outside diameters of Table 1 of BS 4865-2:1989.

Product certification. Users of this British Standard are advised to consider the desirability of third party certification of product conformity with this British Standard based on testing and continuing surveillance, which may be coupled with assessment of a supplier's quality systems against the appropriate Part of BS 5750.

Enquiries as to the availability of third party certification schemes will be forwarded by BSI to the Association of Certification Bodies. If a third party certification scheme does not already exist, users should consider approaching an appropriate body from the list of Association members.

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Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 8, 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.

Section 1. General

1 Scope

This British Standard specifies requirements for the pressure/temperature ratings, dimensions, design, materials, testing and marking of steel and copper alloy wafer check valves, single disk, spring-loaded type in nominal sizes DN 15 to DN 100.

NOTE 1 To assist the purchaser, Appendix A lists information which should be supplied when ordering wafer check valves.

NOTE 2 The titles of the publications referred to in this standard are listed on the inside back cover.

2 Definitions

For the purposes of this British Standard, the following definitions apply.

2.1

wafer

a valve primarily intended for clamping between pipe flanges using through bolting

2.2

face-to-face dimension

the distance between two planes, perpendicular to the body axis located at the extremities of the body end ports

2.3

nominal size (DN)

a numerical designation of size which is common to all components in a piping system other than those components designated by outside diameter or by thread size. It is a convenient round number for reference purposes and it is normally only loosely related to manufacturing dimensions

NOTE 1 Nominal size is designated by the letters DN followed by a number.

NOTE 2 This definition is identical with that given in ISO 6708.

2.4

nominal pipe size (NPS)

a designation of size in inches which is common to all components in a piping system other than those components designated by outside diameter. It is a convenient number for reference purposes and it is normally only loosely related to manufacturing dimensions

NOTE 1 Nominal pipe size is designated by the letters NPS followed by a number.

NOTE 2 NPS is used only in association with the "Class" rating system.

2.5

nominal pressure (PN)

a numerical designation which is a convenient rounded number for reference purposes

all the equipment of the same nominal size (DN) designated by the same PN number shall have compatible mating dimensions

NOTE 1 The maximum allowable working pressure depends on materials, design and working temperatures, and should be selected from the tables of pressure/temperature ratings given in the appropriate standards.

NOTE 2 Nominal pressure is designated by the letters PN followed by the appropriate reference number.

NOTE 3 This definition is identical with that given in ISO 7268.

2.6

class

a numerical designation for reference purposes

NOTE 1 The maximum allowable working pressure depends on materials, design and design temperature and should be selected from the table of pressure/temperature ratings given in the appropriate standards.

NOTE 2 Class is designated by the word Class followed by the appropriate reference number.

3 Type

Wafer valves shall have a single disk, be spring-loaded, have metal or resilient seatings and shall be one of the following:

- a) type A for use with PN flanges (see 7.1);
- b) type B for use with Class designated flanges (see 7.2).

4 Nominal sizes

Valves shall be of the following nominal sizes (DN) or nominal pipe sizes (NPS):

DN	15	20	25	(32)	40	50	(65)	80	100
NPS	½	¾	1	(1¼)	1½	2	(2½)	3	4

NOTE Non-preferred sizes are shown in parentheses.

5 Nominal and Class pressure designations

5.1 Nominal pressure (PN) designations

The nominal pressure (PN) designations for valves specified by nominal size (DN) shall be as follows:

PN6, PN10, PN16, PN25, PN40.

5.2 Class pressure designations

The Class pressure designations for valves specified by nominal pipe size (NPS) shall be as follows:

Class 150, Class 300.

6 Pressure/temperature ratings

Pressure/temperature ratings shall be as specified in BS 4504-3.1 and BS 4504-3.3 for type A valves, or BS 1560-3.1 and BS 1560-3.3 for type B valves.

NOTE 1 For metal seated valves the temperatures will be restricted by the material of the spring.

NOTE 2 For resilient seated valves temperatures will be restricted by the material of the seat.