

Specification for

Open bottomed taper plug valves for 1st, 2nd and 3rd family gases up to 200 mbar

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Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee GSE/22, Safety and control devices for gas governors and gas burning appliances, upon which the following bodies were represented:

- Association of Control Manufacturers (TACMA (BEAMA Ltd.))
- British Combustion Equipment Manufacturers' Association
- British Gas plc
- Department of Trade and Industry (Consumer Safety Unit, CA Division)
- Electricity Association
- LP Gas Association
- Society of British Gas Industries

The following body was also represented in the drafting of the standard, through subcommittees and working groups:

Calor Gas Limited

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 April 1995

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Foreword

This British Standard has been prepared under the direction of the Engineering Sector Board and covers valves outside the scope of prEN 331 which is being prepared by CEN/TC 236.

It supersedes BS 1552 : 1989, which is withdrawn. Its scope differs from that of BS 1552 : 1989, as it covers only open bottomed taper plug valves.

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

Specification

1 Scope

This British Standard specifies the requirements and methods of test for the design and performance of manually operated open bottomed taper plug valves, operating at a declared working pressure of up to 200 mbar¹⁾ on 1st, 2nd and 3rd family gases.

Valve sizes covered are up to and including size R2 and a maximum bore of 50 mm or equivalent free area.

2 Normative references

This British Standard incorporates, by dated or undated reference, provisions from other publications. These normative references are made at the appropriate places in the text and the cited publications are listed on the inside back cover. For dated references, only the edition cited applies: any subsequent amendments to or revisions of the cited publication apply to this British Standard only when incorporated in the reference by amendment or revision. For undated references, the latest edition of the cited publication applies, together with any amendments.

3 Definitions

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

3.1 valve

A device which admits or closes the gas flow by movement of a closure member.

NOTE. A valve is termed manually operated if the operation can be directly performed by the user.

3.2 open bottomed taper plug valve

A valve with a taper plug closure member and open bottomed body.

NOTE. Examples of applications are given in annex A and are illustrated in figure A.1.

3.3 closure member

The moving part of the valve that effects opening and closing.

3.4 declared flow rate

The flow rate, at the fully open position, declared by the manufacturer, using air at a pressure differential across the valve of 1.0 mbar.

NOTE 1. Air at standard density and pressure has a relative density of 1.

NOTE 2. A method of calculating the equivalent gas rate is given in annex C.

4 Materials

4.1 Body, closure member and its retaining parts

The body, closure member and its retaining parts shall be made of a metallic material with a melting point in excess of 425 °C.

Zinc alloys shall not be used for these components.

4.2 Zinc alloys

Where zinc alloys are used for components other than those specified in 4.1, the following conditions shall apply.

- a) The alloys shall conform to the specification of alloy A given in BS 1004.
- b) The castings shall be manufactured in accordance with BS 5338.
- c) The parts shall not be subjected to a temperature higher than 80 °C.

4.3 Corrosion resistance

4.3.1 General

For all parts of the valve, corrosion resistance shall be achieved either by the use of corrosion-resistant materials or by means of a protective coating, e.g. paint. Sealing surfaces of the valve shall be made from corrosion-resistant materials. No part of the valve shall corrode to an extent that would affect its safe and correct operation.

Conformity shall be checked in accordance with 4.3.2 and 4.3.3.

4.3.2 Scratch resistance

Those parts of the valve that are coated for protection and not solely for decoration shall be tested as specified in B.1, both before and after the humidity tests specified in B.2. There shall be no penetration of the protective coating by the ball.

4.3.3 Resistance to humidity

Following the test in B.2 the valve shall conform to the following.

- a) No part of the valve shall show signs of undue corrosion, and coated surfaces shall not show signs of bubbling or blistering when viewed with the naked eye.
- b) Those parts of the valve, the corrosion of which could adversely affect the continued safe working of the valve, shall not show any signs of corrosion.

¹⁾1 mbar = 100 N/m² = 100 Pa.