ASME B16.38-2023
[Revision of ASME B16.38-2012 (R2017)]

Large Metallic Valves for Gas Distribution

Manually Operated, NPS 2½ (DN 65) to NPS 12 (DN 300), 125 psig (8.6 bar) Maximum

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FOREWORD

The B16 Standards Committee was organized in the spring of 1920 and held its organizational meeting on November 21 of that year. The group operated as a Sectional Committee (later redesignated as a Standards Committee) under the authorization of the American Engineering Standards Committee [subsequently named American Standards Association, United States of America Standards Institute, and now American National Standards Institute (ANSI)]. Sponsors for the group were the American Society of Mechanical Engineers, Manufacturers Standardization Society of the Valve and Fittings Industry, and the Heating and Piping Contractors National Association (later the Mechanical Contractors Association of America). In 1982, the B16 Committee was reorganized as an ASME Committee operating under procedures accredited by ANSI.

The American Gas Association (AGA) determined that standardization of gas valves used in distribution systems was desirable and needed. The AGA Task Committee on Standards for Valves and Shutoffs was formed and development work commenced in 1958. In 1968, it was determined that a more acceptable document would result if approval was gained from ANSI, and to facilitate such action, the A.G.A. Committee became Subcommittee 13 of the B16 activity. This B16 group was later renamed Subcommittee L, which is its current designation.

The first standard developed by Subcommittee L was ANSI B16.33, which was published in 1973. As a follow-up, ANSI B16.38 was subsequently developed to cover larger sizes of gas valves and shutoffs and was first published in 1978.

ANSI/ASME B16.38-1985 offered more performance requirements than had been customary in many B16 standards. It was expected that this would permit both manufacturers and users greater latitude in producing and using products made to that standard.

Editorial changes were made throughout the text and tables to bring the format in line with the rest of the B16 series of standards and to clarify the intent of that standard. Revisions included changes to the qualification requirements and to requirements for construction and valve ends, updating of reference standards, and editorial changes to the text and tables. The cover, headings, and designation of the standard had also been revised to reflect reorganization of the B16 Committee as an ASME Committee.

The 2007 edition of ASME B16.38 updated the 1985 edition. All requirements were metricated, and the references were updated to the current revision. The paragraph on minimum levels of performance was expanded to describe valve types and their relevant standards. The section on "Lubrication (Sealant)" was renamed "Injection Sealant," and the paragraph was edited for clarity. Paragraph 2.6, Pressure-Containing Materials; para. 2.7, Gas Resistance; para. 2.8, Temperature Resistance; and para. 2.9, Elastomer Components, were added. Paragraph 3.2, Number of Tests, was expanded to require that any material or design change that could affect qualification test results is reason to repeat all qualification tests. Wording throughout this edition was expanded for clarity.

The 2012 edition of B16.38 updated the referenced standards in Mandatory Appendix I. Following approval by the ASME B16 Standards Committee, B16.38-2012 was approved by ANSI as an American National Standard on August 21, 2012.

In ASME B16.38-2023, the figures and tables have been redesignated. Cross-references have been updated accordingly. Also, in this edition, the references in Mandatory Appendix I have been updated. Following approval by the ASME B16 Standards Committee, ASME B16.38-2023 was approved by ANSI on June 30, 2023.

ASME B16 COMMITTEE
Standardization of Valves, Flanges, Fittings, and Gaskets

(The following is the roster of the committee at the time of approval of this Standard.)

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Revisions and Errata. The committee processes revisions to this Standard on a continuous basis to incorporate changes that appear necessary or desirable as demonstrated by the experience gained from the application of the Standard. Approved revisions will be published in the next edition of the Standard.

In addition, the committee may post errata on the committee web page. Errata become effective on the date posted. Users can register on the committee web page to receive e-mail notifications of posted errata.

This Standard is always open for comment, and the committee welcomes proposals for revisions. Such proposals should be as specific as possible, citing the paragraph number, the proposed wording, and a detailed description of the reasons for the proposal, including any pertinent background information and supporting documentation.

Cases

(a) The most common applications for cases are

(1) to permit early implementation of a revision based on an urgent need

(2) to provide alternative requirements

(3) to allow users to gain experience with alternative or potential additional requirements prior to incorporation directly into the Standard

(4) to permit the use of a new material or process

(b) Users are cautioned that not all jurisdictions or owners automatically accept cases. Cases are not to be considered as approving, recommending, certifying, or endorsing any proprietary or specific design, or as limiting in any way the freedom of manufacturers, constructors, or owners to choose any method of design or any form of construction that conforms to the Standard.

(c) A proposed case shall be written as a question and reply in the same format as existing cases. The proposal shall also include the following information:

(1) a statement of need and background information

(2) the urgency of the case (e.g., the case concerns a project that is underway or imminent)

(3) the Standard and the paragraph, figure, or table number

(4) the editions of the Standard to which the proposed case applies

(d) A case is effective for use when the public review process has been completed and it is approved by the cognizant supervisory board. Approved cases are posted on the committee web page.

Interpretations. Upon request, the committee will issue an interpretation of any requirement of this Standard. An interpretation can be issued only in response to a request submitted through the online Interpretation Submittal Form at https://go.asme.org/InterpretationRequest. Upon submitting the form, the inquirer will receive an automatic e-mail confirming receipt.

ASME does not act as a consultant for specific engineering problems or for the general application or understanding of the Standard requirements. If, based on the information submitted, it is the opinion of the committee that the inquirer should seek assistance, the request will be returned with the recommendation that such assistance be obtained. Inquirers can track the status of their requests at https://go.asme.org/Interpretations.

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Interpretations are published in the ASME Interpretations Database at https://go.asme.org/Interpretations as they are issued.

Committee Meetings. The B16 Standards Committee regularly holds meetings that are open to the public. Persons wishing to attend any meeting should contact the secretary of the committee. Information on future committee meetings can be found on the committee web page at https://go.asme.org/B16committee.

ASME B16.38-2023
SUMMARY OF CHANGES

Following approval by the ASME B16 Standards Committee and ASME, and after public review, ASME B16.38-2023 was approved by the American National Standards Institute on June 30, 2023.

In ASME B16.38-2023, figure and tables have been redesignated. Cross-references have been updated accordingly. In addition, this edition includes the following changes identified by a margin note, **(23)**. The Record Numbers listed below are explained in more detail in the "List of Changes in Record Number Order" following this Summary of Changes.

Page	*Location*	*Change (Record Number)*
1	2.1.2	Reference to MSS SP-84 deleted *(14-391)*
2	2.3.3	Reference to MSS SP-72 deleted *(14-391)*
7	Mandatory Appendix I	Updated *(21-2227)*

LIST OF CHANGES IN RECORD NUMBER ORDER

Record Number	Change
14-391	Revised the references in paras. 2.1.2 and 2.3.3.
21-2227	Updated references in Mandatory Appendix I.

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LARGE METALLIC VALVES FOR GAS DISTRIBUTION Manually Operated, NPS 2½ (DN 65) to NPS 12 (DN 300), 125 psig (8.6 bar) Maximum

1 SCOPE

1.1 Valve Types

This Standard covers requirements for manually operated metallic valves in nominal sizes 2½ (DN 65) through 12 (DN 300) having the inlet and outlet on a common centerline. These valves are intended for controlling the flow of gas from open to fully closed positions, for use in distribution and service lines where the maximum gage pressure does not exceed 125 psig (8.6 bar). Valve seats, seals, and stem packing may be nonmetallic.

1.2 Application

This Standard sets forth the minimum capabilities, characteristics, and properties that a newly manufactured metallic valve must possess in order to be considered suitable for use in the piping systems indicated above, carrying natural gas, manufactured gas [includes synthetic natural gas (SNG)], and liquefied petroleum gases (distributed as a vapor, with or without the admixture of air) or mixtures thereof.

1.3 Referenced Standards

Standards and specifications adopted by reference in this Standard and the names of the sponsoring organizations are shown in Mandatory Appendix I. It is not considered practical to refer to a specific edition of each of the standards and specifications in the individual references. Instead, the specific edition references are included in Mandatory Appendix I. A product made in conformance with a prior edition of referenced standards will be considered to be in conformance, even though the edition reference may be changed in a subsequent revision of the standard.

1.4 Quality Systems

Nonmandatory requirements relating to the product manufacturer's quality system program are described in Nonmandatory Appendix A.

1.5 Convention

For determining conformance with this Standard, the convention for fixing significant digits where limits (maximum or minimum values) are specified shall be as defined in ASTM E29. This requires that an observed or calculated value be rounded off to the nearest unit in the last right-hand digit used for expressing the limit. Decimal values and tolerances do not imply a particular method of measurement.

1.6 Codes and Regulations

A valve used under the jurisdiction of a Federal Regulation, such as CFR Title 49, Part 192; the ASME Code for Pressure Piping, such as ASME B31.8; or the National Fuel Gas Code, AGA Z223121/ANSI Z223.1/NFPA 54, is subject to any limitation of that code or regulation.

1.7 Definitions

NPS: nominal pipe size.

NVS: nominal valve size.

one bar: 100 kPa.

PTFE: materials that comply with ASTM D4894.

All pressures, unless otherwise stated, are gage pressures.

2 CONSTRUCTION

2.1 Conformance

2.1.1 Each completed and assembled valve at the time of manufacture and marked with the designation "B16.38" shall be capable of meeting the requirements set forth in this Standard.

2.1.2 Classes 125 and 150 valves (depending upon their design) shall meet the requirements of one of the following standards: MSS SP-67, MSS SP-70, MSS SP-72, MSS SP-78, MSS SP-80, ASME B16.34, and ASME B16.42 (see Mandatory Appendix I). (23)