ASME B16.44-2023
[Revision of ASME B16.44-2012 (R2017)]

Manually Operated Metallic Gas Valves for Use in Aboveground Piping Systems Up to 5 psi

AN AMERICAN NATIONAL STANDARD

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The American Society of Mechanical Engineers
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FOREWORD

The B16 Standards Committee was organized in the spring of 1920 and held its organizational meeting on November 21st 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 (ASA), then the United States of America Standards Institute, and now, the American National Standards Institute (ANSI)]. Sponsors for the group were The American Society of Mechanical Engineers (ASME), Manufacturers Standardization Society of the Valve and Fitting Industry, and the Heating and Piping Contractors National Association (later the Mechanical Contractors Association of America).

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 Shut-Offs was formed and development work commenced in 1958. In 1968, it was determined that a more acceptable document would result if approval were gained from ANSI and to facilitate such action, the AGA Committee became B16 Subcommittee No. 13, later renamed Subcommittee L, which is its current designation. In 1982, the B16 Committee was reorganized as an ASME committee operating under procedures accredited by ANSI. The first standard developed by the Subcommittee was ANSI B16.33.

As a follow-up, the B16.38 standard was subsequently developed to cover larger sizes of gas valves and shut-offs. Starting in about 1965, there was a major increase in the use of plastic piping in gas distribution systems, which made it desirable to have valves and shut-offs of a compatible material. To fill this need, the B16.40 standard was developed.

In 1985, the lack of standards for gas valves for use in gas piping systems downstream from the point of delivery (meter outlet) and upstream of the inlet to gas utilization equipment was brought to the attention of the subcommittee. To fill this need, this Standard was developed.

This Standard has been developed so that users and manufacturers have a common basis valve specification, one that can be readily used to qualify valve designs. Usage by certifying bodies would make it possible for building codes to reference the Standard.

In 2002, the title was changed to clearly match the updated scope and several other revisions were incorporated to bring the standard up to date with the current practices.

In 2012, a new edition was released to introduce a new Mandatory Appendix for the referenced standards, and the existing references were migrated and updated.

In ASME B16.44-2023, the figure and tables have been redesignated, and cross-references have been updated accordingly. Paragraph titles have been added, and Mandatory Appendix I has been updated, among other revisions. Following its approval by the B16 Standards Committee, ASME B16.44-2023 was approved as an American National Standard 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.

ASME procedures provide for reconsideration of any interpretation when or if additional information that might affect an interpretation is available. Further, persons aggrieved by an interpretation may appeal to the cognizant ASME committee or subcommittee. ASME does not "approve," "certify," "rate," or "endorse" any item, construction, proprietary device, or activity.

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 B16.44-2023
SUMMARY OF CHANGES

Following approval by the ASME B16 Standards Committee and ASME, and after public review, ASME B16.44-2023 was approved by the American National Standards Institute on June 30, 2023.

In ASME B16.44-2023, the figure and tables have been redesignated, and 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)*
3	3.3	Titles added to paras. 3.3.1.1, 3.3.1.2, 3.3.2.1, and 3.3.2.2 *(15-1083)*
6	Table 5.5-1	Second column head revised *(14-826)*
9	Mandatory Appendix I	References updated *(22-581)*

LIST OF CHANGES IN RECORD NUMBER ORDER

Record Number	Change
14-826	Revised second column head in Table 5.5-1 (former Table 6).
15-1083	Added titles to para. 3.3.
22-581	Updated references in Mandatory Appendix I.

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MANUALLY OPERATED METALLIC GAS VALVES FOR USE IN ABOVEGROUND PIPING SYSTEMS UP TO 5 psi

1 SCOPE

1.1 General

This Standard applies to new valve construction and covers quarter turn manually operated metallic valves in sizes NPS $4\frac{1}{4}$ and tubing sizes $1\frac{1}{4}$ O.D. These valves are intended for indoor installation as gas shutoff valves when installed in aboveground fuel gas piping downstream of the gas meter outlet and upstream of the inlet connection to a gas appliance. The valves covered by this Standard are intended for service at temperatures between 32°F (0°C) and 125°F (52°C) at pressure ratings not to exceed 5 psi (0.34 bar). When so designated by the manufacturer, these valves may be installed for service outdoors and/or at temperatures below 32°F (0°C) and/or above 125°F (52°C).

1.2 Applicability

This Standard sets requirements, including qualification requirements, for metallic gas valves for use in gas piping systems. Details of design, materials, and testing in addition to those stated in this Standard that are necessary to meet the qualification and production testing requirements of this Standard remain the responsibility of the manufacturer. A valve used under a code jurisdiction or governmental regulation is subject to any limitation of such code regulations.

1.3 Limitations

This Standard does not apply to manually operated gas valves that are an integral part of a gas appliance. Manually operated gas valves intended for use in a particular appliance are covered in ANSI Z21.15/CGA 9.1.

1.4 Convention

For determining conformance with this Standard, the convention for fixing significant digits where limits (maximum and 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.

1.5 Quality Systems

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

1.6 Relevant Units

This Standard states values in both SI (Metric) and U.S. Customary units. These systems of units are to be regarded separately as standard. Within this Standard, the SI units are shown in parentheses. The values stated in each system are not exact equivalents; therefore, it is required that each system of units be used independently of the other. Combining values from the two systems constitutes nonconformance with the Standard.

All pressures, unless otherwise specified, are gauge pressures.

2 GENERAL CONSTRUCTION AND ASSEMBLY

2.1 General

Each valve at the time of manufacture shall be capable of meeting the requirements set forth in this Standard. The workmanship employed in the manufacture and assembly of each valve shall provide for the specified gas tightness, reliability of performance, freedom from injurious imperfections, and defects as specified herein.

2.2 End Connections

The valve body shall be provided with wrench flats at ends with tapered pipe threads.

2.3 Pipe and Tubing Connections

2.3.1 Taper Pipe Threads. Taper pipe threads, when provided, shall be in accordance with ASME B1.20.1.

2.3.2 Flare Tubing Connection. Valves with an inlet and/or outlet for $\frac{3}{8}$, $\frac{1}{2}$, or $\frac{5}{8}$ O.D. tube shall be in accordance with the flare fitting dimensions shown in Table 2.3.2-1. Other flare sizes shall be made per manufacturer's standards.