ASME B16.33-2012

[Revision of ASME B16.33-2002 (R2007)]

Manually Operated Metallic Gas Valves for Use in Gas Piping Systems Up to 175 psi (Sizes NPS ½ Through NPS 2)

AN AMERICAN NATIONAL STANDARD

The American Society of Mechanical Engineers

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Three Park Avenue • New York, NY • 10016 USA

Date of Issuance: September 21, 2012

The next edition of this Standard is scheduled for publication in 2017.

ASME issues written replies to inquiries concerning interpretations of technical aspects of this Standard. Periodically certain actions of the ASME B16 Committee may be published as Cases. Cases and interpretations are published on the ASME Web site under the Committee Pages at http://cstools.asme.org/ as they are issued.

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The American Society of Mechanical Engineers
Three Park Avenue, New York, NY 10016-5990

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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 (ASME), Manufacturers Standardization Society of the Valve and Fittings 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 shutoff valves used in distribution services 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 Subcommittee No. 13 of the B16 activity.

This Standard offers more performance requirements than has been customary in B16 standards. It is expected that this will permit both manufacturers and users greater latitude in producing and using products made to this Standard.

Work was extremely slow as the group gradually developed the document in the desired format. Its efforts were successful when, on July 18, 1973, final approval was granted by ANSI.

The revision incorporated some major revisions to the format. In addition, the scope of the standard was clarified so that the standard could be applicable to all manually operated metallic gas valves for use in gas piping standards up to 125 psig. The revised standard incorporated testing criteria for valves that could have a specific pressure rating within this pressure range. This revision was made to clarify the fact that the standard is also applicable to valves with service designations other than 60 psig and 125 psig. The revision was approved on February 10, 1981.

The 1990 revision deleted the sampling inspection table on the basis that the scope clearly limited the standard to turning torque valves at the time of manufacture. This edition established U.S. customary units as the standard and metric equivalents were deleted.

In 1982, American National Standards Committee B16 was recognized as an ASME Committee operating under procedures accredited by ANSI.

In 2002, a new materials section was added along with several other revisions. Also incorporated were metric values and a nonmandatory quality system program annex. Use of these valves in higher rated systems is outside the scope of this Standard, and is neither permitted nor prohibited.

The 2012 edition of B16.33 brings an updated scope to allow all manually operated metallic gas valves for use in gas piping standards up to 175 psig. This revision also includes revised testing requirements to match this increase in pressure and updates to referenced standards.

Following approval by the ASME B16 Standards Committee, this revision to the 2002 edition of this Standard was approved as an American National Standard by ANSI on August 21, 2012.

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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CORRESPONDENCE WITH THE B16 COMMITTEE

General. ASME Standards are developed and maintained with the intent to represent the consensus of concerned interests. As such, users of this Standard may interact with the Committee by requesting interpretations, proposing revisions, and attending Committee meetings. Correspondence should be addressed to:

Secretary, B16 Standards Committee
The American Society of Mechanical Engineers
Three Park Avenue
New York, NY 10016-5990

As an alternative, inquiries may be submitted via e-mail to: SecretaryB16@asme.org.

Proposing Revisions. Revisions are made periodically to the Standard 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 periodically.

The Committee welcomes proposals for revisions to this Standard. Such proposals should be as specific as possible, citing the paragraph number(s), the proposed wording, and a detailed description of the reasons for the proposal, including any pertinent documentation.

Interpretations. Upon request, the B16 Committee will render an interpretation of any requirement of the Standard. Interpretations can only be rendered in response to a written request sent to the Secretary of the B16 Standards Committee.

The request for interpretation should be clear and unambiguous. It is further recommended that the inquirer submit his/her request in the following format:

Subject:	Cite the applicable paragraph number(s) and the topic of the inquiry.
Edition:	Cite the applicable edition of the Standard for which the interpretation is being requested.
Question:	Phrase the question as a request for an interpretation of a specific requirement suitable for general understanding and use, not as a request for an approval of a proprietary design or situation. The inquirer may also include any plans or drawings that are necessary to explain the question; however, they should not contain proprietary names or information.

Requests that are not in this format will be rewritten in this format by the Committee prior to being answered, which may inadvertently change the intent of the original request.

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.

Attending Committee Meetings. The B16 Standards Committee regularly holds meetings, which are open to the public. Persons wishing to attend any meeting should contact the Secretary of the B16 Standards Committee.

MANUALLY OPERATED METALLIC GAS VALVES FOR USE IN GAS PIPING SYSTEMS UP TO 175 psi (SIZES NPS ½ THROUGH NPS 2)

1 SCOPE

1.1 General

This Standard covers requirements for manually operated metallic valves sizes NPS ½ through NPS 2, for outdoor installation as gas shutoff valves at the end of the gas service line and before the gas regulator and meter where the designated gauge pressure of the gas piping system does not exceed 175 psi (12.1 bar). The Standard applies to valves operated in a temperature environment between −20°F and 150°F (−29°C and 66°C).

1.2 Design

This Standard sets forth the minimum capabilities, characteristics, and properties that a valve at the time of manufacture must possess in order to be considered suitable for use in gas piping systems. Details of design and manufacture (other than those stated in this Standard, including such design and production tests that will produce a valve that will have the required capabilities to meet this Standard) remain the responsibility of the manufacturer.

1.3 Standards and Specifications

Standards and specifications adopted by reference in this Standard and the names and addresses 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 reference standards and in all other aspects conforming to this Standard will be considered to be in conformance even though the edition reference may be changed in a subsequent revision of this Standard.

1.4 Quality Systems

Nonmandatory requirements relating to the 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 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.

1.6 Codes and Regulations

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

2 CONSTRUCTION

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 gas tightness, safety, and reliability of performance, and freedom from injurious imperfections and defects.

2.2 Tamperproof Features

Where valves are specified to be tamperproof, they shall be designed and constructed to minimize the possibility of the removal of the core of the valve with other than specialized tools.

2.3 Configuration

2.3.1 Operating Indication. The valve shall be so marked or constructed that the operator can visually determine

(a) when a ¼ turn valve is in the open or closed position (if flat head, longitudinal axis of the head shall be perpendicular to the longitudinal axis of the valve when valve is in the closed position)

(b) when the valve requires more than ¼ turn to operate valve, turning direction to open or close the valve