ASME A112.4.14-2004

Manually Operated, Quarter-Turn Shutoff Valves for Use in Plumbing Systems

AN AMERICAN NATIONAL STANDARD

The American Society of Mechanical Engineers

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Three Park Avenue • New York, NY 10016

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This Standard will be revised when the Society approves the issuance of a new edition. There will be no addenda issued to this edition.

ASME issues written replies to inquiries concerning interpretations of technical aspects of this Standard. Interpretations are published on the ASME Web site under the Committee Pages at http://www.asme.org/codes/ as they are issued.

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

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FOREWORD

In 2001, the American Society of Mechanical Engineers received a request for the development of a standard for ball valves that would normally be used in residential hot and cold water plumbing systems. This request was approved by the ASME A112 Standards Committee and assigned to a new project team (PT 4.14).

The IAPMO IGC 157 entitled "Ball Valves" was used as the base document for this Standard. While in development, the ASME project team broadened the title and scope to cover "quarter turn shutoff valves."

This Standard was developed with the hope that due consideration should be given for adoption of these provisions by model, state, and local codes.

Suggestions for improvement of this Standard will be welcomed. They should be sent to The American Society of Mechanical Engineers; Attn: Secretary, A112 Standards Committee; Three Park Avenue; New York, NY 10016-5990.

This Standard was approved as an American National Standard on May 25, 2004.

ASME A112 STANDARDS COMMITTEE

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

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PERSONNEL OF PROJECT TEAM 4.14 — BALL VALVES

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CORRESPONDENCE WITH THE A112 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, A112 Standards Committee
The American Society of Mechanical Engineers
Three Park Avenue
New York, NY 10016-5990

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 edition, the paragraph number(s), the proposed wording, and a detailed description of the reasons for the proposal, including any pertinent documentation. When appropriate, proposals should be submitted using the A112 Project Initiation Request Form.

Interpretations. Upon request, the A112 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 A112 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 A112 Standards Committee schedules meetings as needed, which are open to the public. Persons wishing to attend any meeting should contact the Secretary of the A112 Standards Committee. The A112 home page contains information on future meeting dates and locations.

MANUALLY OPERATED, QUARTER-TURN SHUTOFF VALVES FOR USE IN PLUMBING SYSTEMS

1 GENERAL

1.1 Scope

This Standard establishes requirements for manually operated, quarter-turn valves in nominal sizes (NPS) ≤ 2. These valves are intended for indoor installation as potable water shutoff valves between the meter and the supply stop. Valves governed by this Standard are intended for service at temperatures between 34°F (1°C) and 180°F (82°C), with an allowable working pressure rating not less than 125 psi (862 kPa).

1.2 Limitations

This Standard does not apply to hose end valves or endpoint devices as defined in NSF/ANSI 61, Section 9.

1.3 Units of Measurement

The values stated in either U.S. customary units or the International System of Units (SI) are to be regarded separately as standard. The values stated in each system are not exact equivalents; therefore, each system must be used independently of the other. Combining values from the two systems may result in non-conformance with the Standard. All pressures, unless otherwise specified, are gauge pressures. For the purpose of determining conformance with this Standard, the convention for "rounding off" shall be as defined in ASTM E29.

1.4 References

The following is a list of publications referenced in this Standard.

ASME B1.20.1, Pipe Threads (Excluding Dryseal)

ASME B16.18, Cast Copper Alloy Solder Joint Pressure Fittings

ASME B16.22, Wrought Copper and Copper Alloy Solder Joint Pressure Fittings

ASME B16.26, Cast Copper Alloy Fittings for Flared Copper Tubes

Publisher: The American Society of Mechanical Engineers (ASME), Three Park Avenue, New York, NY 10016-5990; Order Department: 22 Law Drive, Box 2300, Fairfield, NJ 07007-2300

ASTM B16, Free-Cutting Brass Rod, Bar, and Shapes for Use in Screw Machines

ASTM B62, Composition Bronze or Ounce Metal Castings

ASTM B124, Copper and Copper Alloy Forging Rod, Bar, and Shapes

ASTM B371, Copper-Zinc-Silicon Alloy Rod

ASTM B584, Copper Alloy Sand Castings for General Applications

ASTM D2846, Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Hot- and Cold-Water Distribution Systems

ASTM E29, Standard Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications

ASTM F439, Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80

ASTM F876, Crosslinked Polyethylene (PEX) Tubing

ASTM F877, Crosslinked Polyethylene (PEX) Plastic Hot- and Cold-Water Distribution Systems

ASTM F1498, Taper Pipe Threads 60° for Thermoplastic Pipe and Fittings

ASTM F1807, Metal Insert Fittings Utilizing a Copper Crimp Ring for SDR9 Cross-linked Polyethylene (PEX) Tubing

ASTM F1960, Cold Expansion Fittings with PEX Reinforcing Rings for Use with Cross-linked Polyethylene (PEX) Tubing

ASTM F1970, Special Engineered Fittings, Appurtenances or Valves for use in Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) System

ASTM F2159, Plastic Insert Fittings Utilizing a Copper Crimp Ring for SDR9 Cross-linked Polyethylene (PEX) Tubing

Publisher: The American Society for Testing and Materials (ASTM), 100 Barr Harbor Drive, West Conshohocken, PA 19428.

ANSI/ISA 75.01.01, Flow Equations for Sizing Control Valves

Publisher: Instrument Society of America (ISA), 67 Alexander Drive, Research Triangle Park, NC 27709.

NSF/ANSI 61, Drinking Water System Components – Health Effects

Publisher: NSF International, 789 North Dixboro Road, Ann Arbor, MI 48113.