PDHonline Course M160 (1 PDH)

The Function of Globe Valves Used in the Oil & Gas Industry

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Appendix C

STANDARDS PERTAINING TO VALVES

This chapter lists common USA and British standards pertaining to valves, as published in the standard indexes of the various standard organizations for 2003. Because new standards are continually issued and old standards revised or withdrawn, the validity of these standards should be verified prior to application.

STANDARD ORGANIZATIONS

ANSI American National Standards Institute
1819 L Street, N.W.
New York, New York 10018
Telephone: +1-202-293-8020, Fax: +1-202-293-9287
email: info@asme.org, website: www.asme.org

API American Petroleum Institute
1220 L Street, N.W.
Washington, D.C. 20005-4070
Telephone: +1-202-682-8000, Fax: +1-202-682-8408
email: info@api.org, website: www.api.org

ASME The American Society of Mechanical Engineers
Three Park Avenue
New York, New York 10016-5990
Telephone: +1-973-882-1167
email: infocentral@asme.org, website: www.asme.org

ASTM	ASTM International 100 Barr Harbour Drive West Conhohcken, PA 19428-2959 Telephone: +1-610-832-9585, Fax: +1-610-832-9555 email: info@astm.org, website: www.astm.org
AWWA	American Water Works Association 6666 West Quincy Avenue Denver, CO 80235 Telephone: +1-303-794-7711, Fax: +1-303-347-0804 email: info@awwa.org, website: www.awwa.org
MSS	Manufacturers Standardization Society 127 Park Street N.E. Vienna, VA 22180-4602 Telephone: +1-703-281-6613, Fax: +1+703-281-6671 email: info@mss-hq.com, website: www.mss.hq.com
AFNOR	Association Francaise de Normalisation 11, avenue Francis de Pressense FR-93571 Saint Denis la Plaine Cedex France Telephone: +33-1-41-62-80-00, Fax: +33-1-49-17-90-00 email: uari@afnor.fr, website: www.afnor.fr
BSI	British Standards Institute 389 Chiswick High Road London W4 4AL United Kingdom Telephone: +44-(0)208-996-9000, Fax: +44-(0)208-996-7001 email: info@bsi-global.com, website: www.bsi-co.uk
DIN	Deutsches Institut fur Normung eV Burggrafenstrasse 6 10787 Berlin Germany Telephone: +49-30-2601-0, Fax: +49-30-2601-1260 email: postmaster@din.de, website: www.din.de

STANDARDS PERTAINING TO VALVE ENDS AND GENERAL VALVE STANDARDS

MSS SP-6	Standard finishes for contact faces of pipe flanges and connecting-end flanges of valves and fittings.

MSS SP-9	Spot facing for bronze, iron, and steel flanges.
MSS SP-44	Steel pipeline flanges.
MSS SP-51	Class 150 LW corrosion-resistant cast flanges and flanged fittings.
MSS SP-65	High-pressure chemical industry flanges and threaded stubs for use with lens gaskets.
MSS SP-91	Guidelines for manual operation of valves.
MSS SP-92	MSS valve user guide.
MSS SP-96	Guidelines on terminology for valves and fittings.
MSS SP-98	Protective coatings for the interior of valves, hydrants, and fittings.
MSS SP-99	Instrument valves.
MSS SP 120	Flexible graphite packing systems for rising stem steel valves.
API Spec 6A	Wellhead and Christmas tree equipment.
API Std 605	Large diameter carbon steel flanges.
ASME B1.20.1	Pipe threads, general purpose (inch).
ASME B1.20.3	Dryseal pipe threads (inch).
ASME B16.1	Cast iron pipe flanges and flanged fittings.
ASME B16.5	Pipe flanges and flanged fittings.
ASME B16.20	Metallic gaskets for pipe flanges.
ASME B16.21	Non-metallic flat gaskets for pipe flanges.
ASME B16.24	Cast copper pipe flanges and flanged fittings.
ASME B16.25	Butt-welding ends.
ASME/AWWA C207-78	Flanges for water-works service, 4 in. through 144 in. steel.
ASME/AWWA C606-78	Joints, grooved and shouldered type.
BS 21	Pipe threads for tubes and fittings where pressure-tight joints are made on the threads (metric dimensions).
BS 1560	Steel pipe flanges and flanged fittings (nominal sizes $\frac{1}{2}$ in. to 24 in.) for the petroleum industry. Part 2 (1970), metric dimensions.
BS 3293	Carbon steel flanges (over 24 in. nominal size) for the petroleum industry.
BS 4504	Flanges and bolting for pipes, valves, and fittings, metric series. Part 1 (1969), ferrous. Part 2 (1974), copper alloy and composite flanges.

STANDARDS PERTAINING TO GLOBE VALVES

MSS SP-42	Class 150 corrosion-resistant gate, globe, angle, and check valves with flanged and butt-weld ends.
MSS SP-61	Pressure testing of steel valves.
MSS SP-80	Bronze gate, globe, angle, and check valves.
MSS SP-85	Gray iron globe and angle valves, flanged and threaded ends.
MSS SP-117	Bellows seals for globe and gate valves.
MSS SP-118	Compact steel globe and check valves—flanged, flangeless, threaded and welding ends.
API RP 6FA	Fire test for valves.
ASME B16.10	Face-to face and end-to-end dimension of ferrous valves.
ASME B16.34	Steel valves, flanged and butt-welding end.
BS 1873	Steel globe valves and stop and check valves (flanged and butt-welding ends), for the petroleum, petrochemical, and allied industries.
BS 5352	Cast and forged steel wedge gate, globe, check, and plug valves, screwed and socket welding, sizes 50 mm and smaller, for the petroleum, petrochemical, and allied industries.
BS 5152	Cast iron globe and globe stop and check valves, for general purposes.
BS 5154	Copper alloy globe, globe stop and check, check, and gate valves (including parallel slide type), for general purposes.
BS 5160	Specification for flanged steel globe valves, globe stop and check valves, and lift-type check valves for general purposes.

STANDARDS PERTAINING TO PARALLEL AND WEDGE GATE VALVES

MSS SP-42	Class 150 corrosion-resistant gate, globe, angle, and check valves with flanged and butt-weld ends.
MSS SP-45	Bypass and drain connection standard.
MSS SP-61	Pressure testing of valves.
MSS SP-70	Cast iron gate valves, flanged and threaded ends.

MSS SP-80	Bronze gate, globe, angle, and check valves.
MSS SP-81	Stainless steel, bonnetless, flanged, wafer, knife gate valves.
MSS SP-117	Bellows seals for globe and gate valves.
API Spec 6D	Specification for pipeline valves, end closures, connectors and swivels.
API RP 6FA	Fire test for valves.
API Std 595	Cast iron gate valves, flanged ends.
API Std 597	Steel venturi gate valves, flanged or butt-welding ends.
API Std 598	Valve inspection and test.
API Std 600	Bolted bonnet steel gate valves for petroleum and natural gas industries.
API Std 602	Compact carbon steel gate valves.
API Std 603	Corrosion-resistant, bolted bonnet gate valves—flanged and butt-welding ends.
ASME B16.10	Face-to-face and end-to-end dimensions of ferrous valves.
ASME B16.34	Steel valves, flanged and butt-welding end.
BS 1414	Steel wedge gate valves (flanged and butt-welding ends) for the petroleum, petrochemical and allied industries.
BS 5150	Cast iron wedge and double-disc gate valves, for general purposes.
BS 5154	Copper alloy globe, globe stop and check, check, and gate valves (including parallel slide type), for general purposes.
BS 5163	Double-flanged cast iron wedge gate valves for water works purposes.
BS 5352	Cast and forged steel wedge gate, globe, check, and plug valves, screwed and socket welding, sizes 50 mm and smaller, for the petroleum, petrochemical, and allied industries.

STANDARDS PERTAINING TO PLUG VALVES

MSS SP-61	Pressure testing of steel valves.
MSS SP-78	Cast iron plug valves, flanged and threaded ends.

MSS SP-108	Resilient-seated cast iron-eccentric plug valves.
API Spec 6A	Wellhead and Christmas tree equipment.
API Spec 6D	Pipeline valves (gate, plug, ball, and check valves).
API RP 6FA	Fire test for valves.
API Std 599	Metal plug valve—flanged and welding ends.
ASME B16.10	Face-to-face and end-to-end dimensions of ferrous valves.
ASME B16.34	Steel valves, flanged and butt-welding end.
BS 5158	Cast iron and cast steel plug valves for general purposes.
BS 5353	Specification for plug valves.

STANDARDS PERTAINING TO BALL VALVES

MSS SP-61	Pressure testing of steel valves.
MSS SP-68	High pressure butterfly valves with offset design.
MSS SP-72	Ball valves with flanged or butt-welding ends for general service.
MSS SP-110	Ball valves threaded, socket-welding, solder joint, grooved and flared ends.
MSS SP-122	Plastic industrial ball valves.
API Spec 6D	Pipeline valves (gate, plug, ball, and check valves).
API Std 598	Valve inspection and test.
API Std 607	Fire test for soft-seated quarter-turn valves.
ASME B16.10	Face-to-face and end-to-end dimensions of ferrous valves.
ASME B16.34	Steel valves, flanged and butt-welding end.
BS 5159	Cast iron carbon steel ball valves for general purposes.
BS 5351	Steel ball valves for the petroleum, petrochemical, and allied industries.

STANDARDS PERTAINING TO BUTTERFLY VALVES

MSS SP-67	Butterfly valves.
API Std 598	Valve inspection and test.
API Std 609	Butterfly valves, “double flanged” lug-type and wafer-type.
ANSI/AWWA C504-80	Rubber-seated butterfly valves.

STANDARDS PERTAINING TO DIAPHRAGM VALVES

MSS SP-88	Diaphragm-type valves.
BS 5156	Screwdown diaphragm valves for general purposes.
BS 5418	Marking of general purpose industrial valves.
ISO 5209	Marking of general purpose industrial valves.
DIN 3359	*Membran-Absperrarmaturen aus metallischen Werkstoffen.*

STANDARDS PERTAINING TO STAINLESS STEEL VALVES

MSS SP-42	Class 150 corrosion-resistant gate, globe, angle, and check valves with flanged and butt-weld ends.
API Std 603	Corrosion-resistant, bolted bonnet gate valves.

STANDARDS PERTAINING TO CHECK VALVES

MSS SP-42	Class 150 corrosion-resistant gate, globe, angle, and check valves with flanged and butt-weld ends.
MSS SP-61	Pressure testing of steel valves.
MSS SP-71	Gray iron swing check valves, flanged and threaded ends.
MSS SP-80	Bronze gate, globe, angle, and check valves.
MSS SP-118	Compact steel globe and check valves—flanged, flangless, threaded and welding ends.
MSS SP-126	Steel in-line spring assisted center guided check valves.
API Spec 6D	Pipeline valves (gate, plug, ball and check valves).
API RP 6FA	Fire test for valves.
API Std 594	Check valves: wafer, wafer-lug and double flanged type.
ASME B16.10	Face-to-face and end-to-end dimensions of ferrous valves.
ASME B16.34	Steel valves, flanged and butt-welding end.
BS 1868	Steel check valves (flanged and butt-welding ends) for the petroleum, petrochemical, and allied industries.

BS 1873	Steel globe and glove stop and check valves (flanged and butt-welding ends) for the petroleum, petrochemical, and allied industries.
BS 5152	Cast iron globe and globe stop and check valves for general purposes.
BS 5154	Copper alloy globe, globe stop and check, check, and gate valves.
BS 5160	Specification for flanged steel globe valves, globe stop and check valves, and lift-type check valves for general purposes.
BS 5352	Cast and forged steel wedge gate, globe, check, and plug valves, screwed and socket-welding, sizes 50 mm and smaller, for the petroleum, petrochemical, and allied industries.

STANDARDS PERTAINING TO PRESSURE VALVES

API RP 520	Recommended practice for the design and installation of pressure relieving systems in refineries. Part I (1976)—Design Part-II (1973)—Installation.
API RP 521	Guide for pressure relief and depressurizing systems.
ASME/API 526	Flanged-steel safety relief valves.
ASME/API 527	Commercial seat tightness of safety relief valves with metal-to-metal seats.
BS 6759	Safety valves.
Part 1	Safety valves for steam and hot water.
Part 2	Safety valves for compressed air or inert gases.
Part 3	Safety valves for process fluids.
ISO 4126	Safety valves.

STANDARDS FOR THE INSPECTION AND TESTING OF VALVES

MSS SP-25	Standard marking system for valves, fittings, flanges, and unions.

MSS SP-53	Quality standard for steel castings and forgings for valves, flanges and fittings, and other piping components—magnetic particle examination method.
MSS SP-54	Quality standard for steel castings for valves, flanges and fittings, and other piping components—radiographic examination method.
MSS SP-55	Quality standard for steel castings for valves, flanges and fittings, and other piping components—visual method for evaluation of surface irregularities.
MSS SP-61	Pressure testing of steel valves.
MSS SP-82	Valve-pressure testing methods.
MSS SP-93	Quality standard for steel castings for valves, flanges and fittings, and other piping components—liquid penetrant examination method.
MSS SP-94	Quality standard for steel castings and forgings for valves, flanges and fittings, and other piping components—ultrasonic examination method.
MSS SP-111	Quality standard for evaluation of cast steel surface finishes—visual and tactile method.
MSS SP-121	Qualification testing methods for stem packing for rising stem valves.
API Spec. 6FA	Fire test for valves.
API Spec. 6FC	Fire test for valves with automatic backseats.
API Std. 607	Fire test for soft-seated quarter turn valves.
ASME/API 527	Commercial seat tightness of safety relief valves with metal-to-metal seats.
API Std 598	Valve inspection and test.
BS 6755-1	Testing of valves; Part 1: Specification for production pressure testing requirements.
BS 6755-2	Testing of valves; Part 2: Specification for fire type testing requirements.

MISCELLANEOUS STANDARDS PERTAINING TO VALVES

BS 4371	Fibrous gland packings.

STANDARDS PERTAINING TO RUPTURE DISCS

ASME Code, Section VIII, Division, 1, UG 125 through 136

BS 2915	Bursting discs and bursting-disc devices.
ISO 6718	Bursting discs and bursting-disc devices.
ANSI/NFPA 68	Explosion venting.
VDI 3673	Pressure release of dust explosions.