

GP 03-12-01	Valve Selection	August 2004
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Valve Selection

GP 03-12-01

Scope

- 1) [I] This Global Practice (GP) covers requirements for valve selection excluding control valves and pressure relief valves. Design requirements for location, accessibility, and power operation of Emergency Block Valves (EBVs) in isolation services are excluded from the scope of this Practice. (Additional requirements for EBVs are covered in Design Practices XV-F.)
 - 2) [I] An asterisk (*) indicates that additional information is required. If a job is contracted, this information is furnished in the Job Specification.
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1. Required References

[I] This Section lists Practices and Standards that are generically referenced and assumed to be a part of this document. Unless otherwise specified herein, use the latest edition.

1.1. Global Practices–ExxonMobil Engineering Practices

GP 03-12-09	General Requirements for Valves
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1.2. ASME–American Society of Mechanical Engineers

ASME B16.34	Valves - Flanged, Threaded, and Welding End
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1.3. API–American Petroleum Institute

API STD 594	Check Valves: Wafer, Wafer-Lug, and Double Flanged Type
API STD 600	Bolted Bonnet Steel Gate Valves for Petroleum and Natural Gas Industries
API STD 602	Compact Steel Gate Valves - Flanged, Threaded, Welding, and Extended-Body Ends
API STD 603	Corrosion-Resistant, Bolted Bonnet Gate Valves - Flanged and Butt-Welding Ends
API STD 608	Metal Ball Valves - Flanged, Threaded, and Welding End
API STD 609	Butterfly Valves: Double Flanged, Lug- and Wafer-Type

1.4. ASTM–American Society for Testing and Materials

ASTM A 494/A 494M	Standard Specification for Castings, Nickel and Nickel Alloy
ASTM A 564/A 564M	Standard Specification for Hot-Rolled and Cold-Finished Age-Hardening Stainless Steel Bars and Shapes

1.5. AWWA–American Water Works Association

AWWA C504	Rubber-Seated Butterfly Valves
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2. Additional Requirements

* [I] The following Practices and Standards shall be used with this Practice as specified by the Owner's Engineer.

2.1. Global Practices–ExxonMobil Engineering Practices

GP 17-05-01	Human Factors in Plant Design
GP 19-01-01	Paint and Protective Coatings

2.2. API–American Petroleum Institute

API STD 598	Valve Inspection and Testing
API STD 607	Fire Test for Soft-Seated Quarter-Turn Valves

2.3. ASME–American Society of Mechanical Engineers

ASME B1.20.1	Pipe Threads, General Purpose (Inch)
ASME B31.3	Process Piping

2.4. ASTM–American Society for Testing and Materials

ASTM B 584	Standard Specification for Copper Alloy Sand Castings for General Applications
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2.5. AWS–American Welding Society

AWS A5.13	Specification for Surfacing Electrodes for Shielded Metal Arc Welding
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2.6. MSS–Manufacturers Standardization Society of the Valve and Fittings Industry

MSS SP-25	Standard Marking System for Valves, Fittings, Flanges and Unions
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3. Definitions

Term	[I] Description
block valve	Refers to any valve used to stop flow, typically, an on/off valve.
combustible liquids	High flash liquids [flash points 100°F (38°C) or higher] when handled at temperatures 15°F (8°C) below their flash point and lower.
corrosion inhibitor	An additive to inhibit corrosion. There are active and passive corrosion inhibitors.
dangerous materials	As used in this Practice, dangerous materials shall include the following: a. Toxic materials such as phenol, hydrogen sulfide, chlorine. b. Highly corrosive materials such as acids, caustic and other similar materials. c. Flammable materials (including light hydrocarbons lighter than 68 degrees API). d. Boiler feedwater and steam, in systems requiring ASME Class 300 and higher flange ratings. e. Oxygen in concentrations greater than 35 percent.
emergency block valves (EBV)	Block valves in isolation service for which the Owner has specified additional requirements with regard to location, accessibility, power operation, etc.
flammable liquids	Low flash liquids [flash point below 100°F (38°C)] and high flash liquids [flash point 100°F or higher] when handled at temperatures above or within 15°F (8°C) of their flash points.
flammable materials	Flammable liquids; hydrocarbon vapors; and other vapors, such as hydrogen and carbon disulfide, that are readily ignitable when released to atmosphere.
fire-tested	Used in this Practice, means valve complies with API STD 607.
line service classification	Defines design pressure, design temperature, material, and corrosion allowance of a piping system.
non-dangerous materials	As used herein, shall include all materials not listed as dangerous per the definition for dangerous materials in this Section.
onstream equipment isolation	As used in this Practice, indicates the removal from service of equipment or a unit for the purpose of repair, cleaning, or inspection while the remainder of the plant continues in operation. Equipment includes but is not limited to exchangers, pumps, compressors, steam turbines, dryers, vessels, and fired heaters either provided with a spare or able to be bypassed.

