

## **ESPECIFICACIONES y ESTÁNDARES** **STANDARDS and SPECIFICATIONS**

### **ANSI (American National Standards Institute)**

**ANSI B31.4** - Liquid petroleum transportation piping system.

**ANSI B31.4** - Gas transmission and distribution piping system.

### **API (American Petroleum Institute)**

**API 520-1** - Sizing, Selection, and Installation of Pressure-Relieving Devices in Refineries: Part I - Sizing and Selection. The recommended practice applies to the sizing and selection of pressure relief devices used in refineries and related industries for equipment that has a maximum allowable working pressure of 15 psig (or greater). It covers gas, vapor, steam, two-phase and incompressible fluid service.

**API 520-2** - *Recommended Practice 520: Sizing, Selection, and Installation of Pressure-Relieving Devices in Refineries-Part II, Installation.* The recommended practice covers methods of installation for pressure relief devices for equipment that has a maximum allowable working pressure of 15 psig (1.03 bar g or 103 kPa g) or greater. It covers gas, vapor, steam, twophase and incompressible fluid service.

**API 526** - *Flanged Steel Pressure Relief Valves.* The standard is a purchase specification for flanged steel pressure relief valves and pilot-operated pressure relief valves as follows: orifice designation and area; valve size and pressure rating, inlet and outlet; materials; pressure temperature limits; and center-to-face dimensions, inlet and outlet.

**API 527** - *Seat Tightness of Pressure Relief Valves R(2002).* Describes methods of determining the seat tightness of metal- and soft-seated pressure relief valves, including those of conventional, bellows, and pilot operated designs.

**API 574** - *Inspection Practices for Piping System Components.* The standard covers the inspection of piping, tubing, valves (other than control valves) and fittings used in petroleum refineries.

**API 576** - *Inspection of Pressure Relieving Devices.* The recommended practice describes the inspection and repair practices for automatic pressure relieving devices commonly used in the oil and petrochemical industries.

**API 594** - *Check Valves: Flanged, Lug, Wafer and Butt-welding.* API Standard 594 covers design, material, face-to-face dimensions, pressure, temperature ratings, and examination, inspection, and test requirements for two types of check valves.

**API 598** - *Valve Inspection and Testing*

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**API 599** - *Metal Plug Valves - Flanged, Threaded and Welding Ends.*

**API 600** - *Bolted Bonnet Steel Gate Valves for Petroleum and Natural Gas Industries - Modified National Adoption of ISO 10434:1998.*

**API 602** - *Compact Steel Gate Valves - Flanged, Threaded, Welding, and Extended-Body Ends.*

**API 603** - *Corrosion-Resistant, Bolted Bonnet Gate Valves – Flanged and Butt-Welding Ends.* The standard covers corrosion-resistant bolted bonnet gate valves with flanged or butt-weld ends in sizes NPS 1/2 through 24, corresponding to nominal pipe sizes in ASME B36.10M, and Classes 150, 300, and, 600, as specified in ASME B16.34.

**API 607** - *Fire Test for Soft-Seated Quarter Turn Valves.*

**API 608** - *Metal Ball Valves - Flanged and Butt-Welding Ends.* The standard covers Class 150 and Class 300 metal ball valves that have either butt welding or flanged ends and are for use in on-off service.

**API 609** - *Butterfly Valves: Double Flanged, Lug- and Wafer-Type.* The standard covers design, materials, face-to-face dimensions, pressure- temperature ratings, and examination, inspection, and test requirements for gray iron, ductile iron, bronze, steel, nickel-base alloy, or special alloy butterfly valves that provide tight shutoff in the closed position and are suitable for flow regulation.

**API 6D** - *Specification for Pipeline Valves.* API Specification 6D is an adoption of ISO 14313: 1999, Petroleum and Natural Gas Industries- Pipeline Transportation Systems-Pipeline Valves. This International Standard specifies requirements and gives recommendations for the design, manufacturing, testing and documentation of ball, check, gate and plug valves for application in pipeline systems.

**API 6FA** - *Specification for Fire Test for Valves.* The standard covers the requirements for testing and evaluating the performance of API Spec 6A and Spec 6D valves when exposed to specifically defined fire conditions covers the requirements for testing and evaluating the performance of API Spec 6A and Spec 6D valves with automatic backseats when exposed to specifically defined fire conditions.

**API 6FC** - *Fire Test for Valve with Automatic Backseats.* The standard covers the requirements for testing and evaluating the performance of API Spec 6A and Spec 6D valves with automatic backseats when exposed to specifically defined fire conditions.

**API Q1** - *Specification for quality programs -American Petroleum Institute.*

**API 6RS** - *Referenced Standards for Committee 6, Standardization of Valves and Wellhead Equipment.*

**API 11V6** - *Design of Continuous Flow Gas Lift Installations Using Injection Pressure Operated Valves.* The standard sets guidelines for continuous flow gas lift installation designs using injection pressure operated Valves.

**API RP 11V7** - *Recommended Practice for Repair, Testing, and Setting Gas Lift Valves.* The standard applies to repair, testing, and setting gas lift valves and reverse flow (check) valves.

**ASME (American Society for Mechanical Engineers)**

**ASME B16.10** - *Face-to-face and end-to-end dimensions of valves.*

**ASME B16.11** - *Forged fittings, socket-welding and threaded.*

**ASME B16.20** - *Metallic Gaskets for Pipe Flanges (Ring joint, Spiral Wound, and Jacketed).*

**ASME B16.21** - *Nonmetallic Flat Gaskets for Pipe Flanges.*

**ASME B16.25** - *Buttwelding ends.*

**ASME B16.34** - *Valves - flanged, threaded and welding end.*

**ASME B16.47** - *Large Diameter Steel Flanges NPS 26 to NPS 60, Large diameter steel flanges Note:* This specification for flanges larger than 24" replaces MSS SP-44 and API 605 with the designations of Series A (MSS SP- 44) and Series B (API 605).

**ASME B16.5** - *Pipe flanges and flanged fittings NPS 1/2 to NPS 24.*

**ASME B31.3** - *Chemical plant and petroleum refinery piping.* ASTM (American Society of Testing Materials)

**ASTM A 182** - *Forged or rolled alloy-steel pipe flanges, forged fittings and valves and parts for high temperature service.*

**ASTM A216** - *Carbon steel castings, suitable for fusion welding for high temperature service.*

**ASTM A217** - *Martensitic stainless and alloy steel castings for pressure containing parts, suitable for high-temperature service.*

**ASTM A351** - *Austenitic, austenitic-ferritic (duplex) castings for pressure-containing parts.*

**ASTM A352** - *Ferritic and martensitic steel castings for pressure containing parts, suitable for low-temperature service.*

**ASTM A487** - *Steel castings suitable for pressure service.*

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**ASTM A494** - *Nickel and nickel alloy castings.*

**ASTM A890** - *Duplex stainless steel castings suitable for pressure service.*

**BS (British Standard Institute)**

**BS 5351** - *Specification for steel ball valves.*

**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 pressure testing requirements.*

**BS 1414** - *Steel wedge gate valves (flanged and butt welding ends) for the petroleum, petrochemical, and allied industries.*

**BS 1868** - *Steel check valves (flanged and butt welding ends) for the petroleum, petrochemical, and allied industries.*

**BS 1873** - *Steel globe and globe stop and check valves (flanged and butt welding ends) for the petroleum, petrochemical, and allied industries.*

**BS 5352** - *Steel wedge gate, globe and check valves 50 mm and smaller for the petroleum, petrochemical, and allied industries. ISO (International Organization for Standardization)*

**ISO 5211** - *Actuators & gear operators.*

**ISO 9001/9002 Quality system** - *Model for Quality Assurance.*

**ISO 10497** - *Steel and Steel products - inspection documents.*

**MSS (Manufacturer's Standardization Society of the Valves and Fittings Industry)**

**MSS SP-25 B31.4** - *Standard marking system for valves, fittings, flanges and union.*

**MSS SP-55** - *Quality standard for steel castings for valves, flanges, and fittings, and other piping components - visual method.*

**MSS SP-70** - *Cast iron gate valves, flanged and threaded end.*

**MSS SP-71** - *Cast iron swing check valves, flanged and threaded end.*

**MSS SP-79** - *Socket-welding reducer insert.*

**MSS SP-80** - *Bronze gate, globe, angle and check valve.*

**MSS SP-83** - *Class 3000 steel pipe unions, socket-welding and threaded.*

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**NACE (National Association of Corrosion Engineers)**

**MR0103** - *Materials resistant to sulfide stress cracking in corrosive petroleum refining.*

**R0175-2002** - *Sulfide stress cracking resistant metallic materials for oilfield equipment.*

**MR0175/ISO15156** - *Materials for use in H<sub>2</sub>S – containing environments in oil and gas production.*

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