

Valve Inspection and Testing

Downstream Segment

API STANDARD 598
NINTH EDITION, SEPTEMBER 2009



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Suggested revisions are invited and should be submitted to the Standards Department, API, 1220 L Street, NW, Washington, DC 20005, standards@api.org.

Contents

	Page
1	Scope 1
2	Normative References 1
3	Terms and Definitions 2
4	Inspection, Examination, and Supplementary Examination 3
4.1	Inspection at the Valve Manufacturer's Plant 3
4.2	Inspection Outside the Valve Manufacturer's Plant 3
4.3	Inspection Notice 3
4.4	Extent of Inspection 3
4.5	Examination 4
4.6	Supplementary Examination 4
5	Pressure Tests 4
5.1	Test Location 4
5.2	Test Equipment 4
5.3	Tests Required 4
5.4	High-pressure Closure Test 6
5.5	High-pressure Pneumatic Shell Test 6
5.6	Test Fluid 6
5.7	Test Pressures 6
5.8	Test Duration 6
5.9	Test Leakage 6
6	Pressure Test Procedures 8
6.1	General 8
6.2	Backseat Test 9
6.3	Shell Test 9
6.4	Low-pressure Closure Test 9
6.5	High-pressure Closure Test 11
6.6	Double Block and Bleed High-pressure Closure Test 11
7	Valve Certification and Retesting 11
7.1	Certificate of Compliance 11
7.2	Retesting 11
Tables	
1	Pressure Tests 5
2	Pressure Tests 5
3	Shell Test Pressures 7
4	Other Test Pressures 8
5	Duration of Required Test Pressure 9
6	Maximum Allowable Leakage Rates for Closure Tests 10

Notes to Purchaser

- 1) Deviations from this standard shall be specifically stated in the purchase order. This requirement includes any deviation such as those on the following list.
- 2) If no deviations are specified, then the purchase order needs only to specify testing per API 598.
- 3) If this standard is used for valves not covered by this standard, the purchaser will specify the extent to which the standard is to be applied.

Purchaser Specified Deviation List

- a) Inspections by the purchaser at the valve manufacturer's plant (see 4.1).
- b) Inspections by the purchaser outside the valve manufacturer's plant (see 4.2).
- c) Address for inspection notices (see 4.3).
- d) Any supplementary examination required (see 4.6).
- e) Type of backseat test (see 5.3.2).
- f) Low-pressure closure test (see 5.3.3, 5.3.4 and 6.4).
- g) High-pressure closure test (see 5.3.3, 5.3.4, 5.4 and 6.5).
- h) High-pressure pneumatic shell test (see 5.5).
- i) Double block and bleed high-pressure closure test (see 6.6).
- j) Test fluid (see 5.6).
- k) Use of a wetting agent in the test water (see 5.6.4).
- l) Certificate of compliance (see 7.1).

Valve Inspection and Testing

1 Scope

1.1 This standard covers inspection, examination, supplementary examinations, and pressure test requirements for resilient-seated, nonmetallic-seated (e.g. ceramic), and metal-to-metal-seated valves of the gate, globe, plug, ball, check, and butterfly types. Resilient seats are considered to be:

- a) soft seats, both solid and semi-solid grease type (e.g. lubricated plug);
- b) combination soft and metal seats;
- c) any other type valve designed to meet resilient seat leakage rates as specified in Table 6.

API 598 supplements the API standards that reference it, but it may also be applied to other types of valves by agreement between the purchaser and the valve manufacturer.

1.2 The inspection requirements pertain to examinations and testing by the valve manufacturer and any supplementary examinations that the purchaser may require at the valve manufacturer's plant. The test requirements cover both required and optional pressure tests at the valve manufacturer's plant, or at a facility mutually agreeable to both the manufacturer and purchaser.

1.3 The following tests and examinations are specified in this standard:

- a) shell test,
- b) backseat test,
- c) low-pressure closure test,
- d) high-pressure closure test,
- e) double block and bleed high-pressure closure test,
- f) visual examination of castings by the manufacturer,
- g) high-pressure pneumatic shell test.

2 Normative References

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

API Standard 594, *Check Valves: Flanged, Lug, Wafer and Butt-welding*

API Standard 599, *Metal Plug Valves—Flanged, Threaded and Welding Ends*

API Standard 600, *Steel Gate Valves—Flanged and Butt-welding Ends, Bolted Bonnets*

API Standard 602, *Steel Gate, Globe and Check Valves for Sizes DN 100 and Smaller for the Petroleum and Natural Gas Industries*