



VALVE TESTING STANDARDS

Every valve testing standard has an acceptable leakage rate; this includes ANSI FCI 70-2 CL V & VI, MSSP-61 and API 598, the three most applied standards. There are two things that the test standards have in common:

- a) they all allow leakage
- b) the hold times vary

Based on standard specifications we can see how Valvtechnologies, Inc. Metal Seated Valves far exceed the competition with **zero leakage**.

All tests at Valvtechnologies, Inc. are done at standard pressures, this being as follows:

- A hydrostatic shell test is performed 1.5 times the cold working pressure.
- A hydrostatic seat test is performed at 1.1 times the cold working pressure.
- A low pressure air test is performed between 50 and 80 psig. In addition, high pressure valves are gas tested to **zero leakage**.

MSS - SP - 61

Seat Leakage: The maximum allowable leakage of each seat closure shall be 10m/hr of liquid or 0.1 standard cu. ft/hr of gas per unit of NPS (0.4 ml/hr of liquid or 120 standard ml/hr of gas per unit of DN) under specified test conditions.

Seat Leakage Test Times:

2" and smaller = 15 seconds

2-1/2" – 8" = 30 seconds

10" – 18" = 60 seconds

20" and larger = 120 seconds

ANSI FCI 70/2

Class V: 1.1 times cold working pressure allowable leakage: .005ml/min of water per inch of port diameter per psi differential.

Class VI: 50 psi air or nitrogen, allowable leakage: 2" – 3 bpm*, 6"-27 bpm*, 8" – 45 bpm*
Allow sufficient time for leakage flow to stabilize and use a suitable measuring device.

*bpm = bubbles per min.

API 598

Allowable leakage shall be in accordance with the following table:

< 2"	leakage liquid "0 (b)" - gas test "0 (b)"	15 seconds
2-1/2" – 6"	leakage liquid 12 dpm* (a) gas test 24 bpm**	60 seconds
8" – 12"	leakage liquid 20 dpm* (a) gas test 40 bpm**	120 seconds
< 14"	leakage liquid 28 dpm* (a) gas test 56 bpm**	120 seconds

** 1 millimeter is considered equivalent to 16 dpm

There shall be no leakage for the specified test duration. For liquid test, 0 drops means no visible leakage per minimum specified test duration. For gas test, 0 bubble means less than 1 bubble specified test duration.

dpm = drops per min.

**bpm = bubbles per min.

VQP 010

Hydrostatic shell test 1.5 times cold working pressure for 3 min. = **ZERO LEAKAGE**

Hydrostatic seat test 1.1 times cold working pressure for 3 min. = **ZERO LEAKAGE**

Low pressure gas test, 50 psig for 3 min. = **ZERO LEAKAGE**

ANSI 900# class and higher gas test at 1000 psig for 3 min. = **ZERO LEAKAGE**

ANSI 3500# and higher gas test at 3000 psig for 3 min. = **ZERO LEAKAGE**

100% of all Valvtechnologies, Inc. valves built and shipped go through stringent testing to ensure absolute **ZERO LEAKAGE**.

There is not a single test specification that *exceeds* the **VALVTECHNOLOGIES, INC.** testing standard.



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