Double Check Test Procedures – Short Form

Using Sight Tube and Compensating Valve

Gauge Set Up:

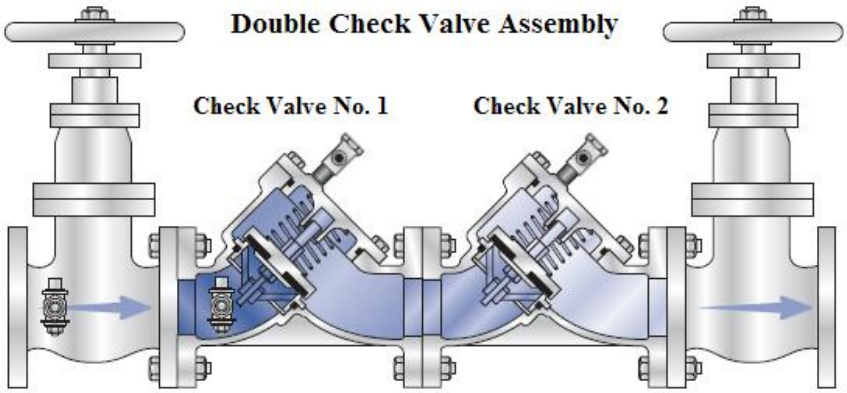
1. Notify, Identify, Inspect and Observe.
2. Purge debris from assembly.
3. Install fittings into test cocks using Teflon tape.
4. Connect compensating valve to the #2 test cock.
5. Connect gauge high side hose to the run of the tee of the compensating valve.
6. Close high control valve and high bleed valve.
7. Open #2 test cock.
8. Open high bleed to purge air from high hose.
9. When air is purged from high hose, close high bleed valve. (Pointer on gauge should be pegged.)

Tube Setup:

1. Connect Sight Tube to the #3 test cock.
2. Open #3 test cock slightly to allow water to fill the sight tube above the #1 check valve.
3. Close #3 test cock.

Test #1:

1. Close #2 shut off valve then close #1 shut off valve.
2. Open #3 test cock.
3. Hold center of gauge even with the water line in the sight tube.
4. When the water stops rising in the sight tube, read the gauge and record the number. (A reading of **1 psid or greater is a good reading.** A reading of **less than 1 psid means the check valve has failed** and will need to be repaired.)
5. If the #1 check valve has passed go to Set Up and Test #2. If the #1 check valve has failed the test, repair the check valve and retest the #1 check valve.



Set Up #2:

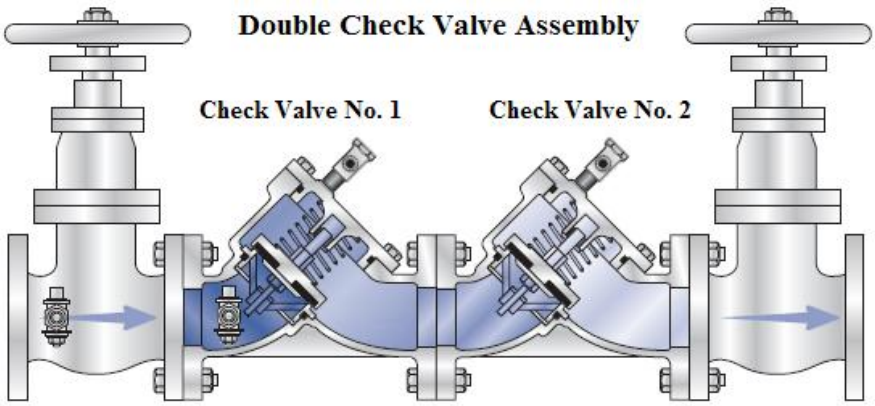
1. Move sight tube from #3 test cock to #4 test cock.
2. Move compensating valve, while high hose is still connected, from #2 test cock to #3 test cock.
3. Open #1 shut off valve. (Do not open #2 shut off valve.)
4. Open #3 test cock.
5. Open high bleed valve to purge air from high hose.
6. When air is purged from high hose, close high bleed valve. (Pointer on gauge should be pegged.)
7. Open #4 test cock slightly to allow water to fill the sight tube above the #2 check valve.
8. Close #4 test cock.

Test #2

1. Close #1 shut off valve.
2. Open #4 test cock.
3. Hold center of gauge even with the water line in the sight tube.
4. When the water stops rising in the sight tube, read the gauge and record the number. (A reading of **1 psid** or greater is a good reading. A reading of less than **1 psid** means the check valve has failed and will need to be repaired.)

Good Reading: If the #2 check valve has passed, close #3 and #4 test cocks, open #1 shutoff valve then open #2 shut off valve and remove equipment.

Failed Reading: If #2 check valve failed, repair #2 check valve and retest the entire assembly starting with #1 check valve.



Test Procedures – Leaking Shut Off Valves

Test #1 – Testing the #1 Check Valve:

Problem #1 Water Continually Overflows Sight Tube:

1.1.1 While holding gauge at the top of the water overflow on the sight tube, take a reading for possible future use.

1.1.2 Attempt to compensate for leaking #1 shut off valve by slowly opening the compensating valve until the water in the sight tube slows to a bare continual drip running down the side of the sight tube.

1.1.3 If you are able to obtain the bare continual drip, take the reading on the gauge at that point and record that number as the #1 check valve reading.

1.1.4 If the check valve passes go to Set Up #2 and Test #2. If the check valve fails, repair the check valve and retest #1 check valve before going to # 2 check valve.

Problem #2 Water Continually Overflows Sight Tube – Unable to Compensate:

1.2.1 While holding gauge at the top of the water overflow on the sight tube, take a reading for possible future use.

1.2.2 Attempt to compensate. Try to achieve bare continual drip.

1.2.3 If water continues to overflow more than the bare continual drip and compensating valve is open completely, the leak is too great to continue.

1.2.4 Close test cocks and exercise the shut off valves,(turn shut off valves off and on). If successful in slowing or stopping the flow of water, continue the test. If the water continues to flow as before, stop the test, repair #1 shut off valve and test again.

Problem #3 Water Continually Overflows Sight Tube – Compensating Valve Dry:

1.3.1 While holding gauge at the top of the overflow on the sight tube, take a reading for possible future use.

Test Procedures – Leaking Shut Off Valves

1.3.2 Attempt to compensate. Try to achieve a bare continual drip.

1.3.3 If water continues to overflow the sight tube and the compensating valve goes dry, then this means there is backpressure present, the #2 shut off valve is leaking and the #2 check valve is leaking.

1.3.4 Use the previous reading, (refer to 1.3.1), to evaluate the #1 check valve.

1.3.5 Stop the test, repair #2 check valve and retest the entire assembly.

Problem #4 Water in Sight Tube Goes Down:

1.4.1 Follow the water as it goes down the sight tube until it stops moving or to the center of the assembly. Which ever comes first.

1.4.2 Take the reading on the gauge.

1.4.3 If this occurs this means there is low pressure downstream, leaking #2 shut off valve and a leaking #2 check valve. Proof that the #2 check valve leaks is a 2.31 ft. column of water is not being supported.

1.4.4 Use the previous reading, (refer to 1.4.2), to evaluate the condition of the #1 check valve.

1.4.5 Stop the test, repair #2 check valve and retest the entire assembly.

Test Procedures – Leaking Shut Off Valves

Test #2 – Testing the #2 Check Valve:

Problem #1 Water Continually Overflows Sight Tube:

2.1.1 While holding gauge at the top of the water overflow on the sight tube, take a reading for possible future use.

2.1.2 Attempt to compensate for leaking #1 shut off valve by slowly opening the compensating valve until the water in the sight tube slows to a bare continual drip running down the side of the sight tube.

2.1.3 If you are able to obtain the bare continual drip, take the reading on the gauge at that point and record that number as the #2 check valve reading.

2.1.4 If you are unable to compensate, (water still overflowing sight tube and compensating valve completely open), then most probable there is a leaking #1 shut off valve and leaking #2 shut off valve with backpressure.

2.1.5 Close compensating valve, open #2 test cock 100%, take the reading on the gauge for future use, open compensating valve.

2.1.6 If compensating valve goes dry, record the previous reading, (refer to 2.1.5), as the reading for #2 check valve.

2.1.7 If unable to compensate, (water still flowing from sight tube and compensating valve, close all valves and test cocks and exercise the #1 shut off valve and try again.

Problem #2 Water in Sight Tube Goes Down:

2.2.1 Follow the water as it goes down the sight tube until it stops moving or to the center of the assembly. Take the reading on the gauge.

2.2.2 If this occurs, this means there is low pressure downstream and a leaking #2 shut off valve.

2.2.3 Record the previous reading, (refer to 2.2.1), for the #2 check valve.