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Abridged Version of NEWWA Backflow Prevention Device Assembly 3 Valve Test Procedures for DCV and RPZ

(DVC) Double Check Valve Assembly (1 1 T)

Test Check Valve Number One for Differential Pressure Across First Check Valve. (Minimum 1 PSID)

1. Close #2 shut-off valve – Verify shut off valve #1 is open
2. Orientate the test kit. Close high and low control valves. Open the vent controls valve.
3. Connect the high pressure hose to test cock #2 and the low pressure hose to test cock #3.
4. Open test cocks #2, #3 and bleed air from the high and low control valves.
5. Record the differential pressure gauge reading. It should be a minimum of 1 PSID.
6. Close test cocks No. 2 and No. 3. Disconnect the hoses.

Test Check Valve Number Two for Differential Pressure Across Second Check Valve (Minimum 1 PSID)

7. Connect the high pressure hose to test cock #2 and the low pressure hose to test cock #3.
8. Open test cocks #3, #4 and bleed air from the high and low control valves.
9. Record the differential pressure gauge reading. It should be a minimum of 1 PSID.
10. Close test cocks No. 3 and No. 4. Disconnect the hoses.

Test #2 Shut-off Valve For Tightness (T)

11. Connect the high pressure hose to test cock #2 and the low pressure hose to test cock #3.
12. Open test cocks #2, #3 and bleed air from the high and low control valves.
13. Connect the vent hose to test cock #4 and open test cock #4.
14. Open the high control valve on the test kit. And close test cock #2.
15. If the differential pressure gauge reading holds steady, the #2 shut-off valve is recorded as being tight.
If the differential pressure gauge reading drops to zero, the #2 shut-of valve is recorded as leaking.

(RPZ) Reduced Pressure Principle Backflow Prevention Assembly (t5 T T 2)

Test Check Valve Number One for Tightness (small t) and Differential Pressure (Minimum 5 PSID)

1. Close #2 shut-off valve – if there is no discharge from relief valve, the first chek is holdinjg tight.
Verify shut off valve #1 is open
2. Orientate the test kit. Close high and low control valves. Open the vent controls valve.
3. Connect the high pressure hose to test cock #2 and the low pressure hose to test cock #3.
4. Open test cocks #2, #3 and bleed air from the high and low control valves.
5. Record the differential pressure gauge reading. It should be a minimum of 5 PSID.

(OVER)

Test Check Valve Number Two to insure that the second check valve is tight against backpressure (T)

6. Connect the vent hose to test cock #4, open test cock #4 and open the high control valve.
7. The second check valve is considered tight if the differential pressure gauge remains steady and no water is discharging from the relief valve. If the differential pressure gauge reading drops and water discharges from the relief valve, the second check is recorded as leaking. If the second check valve is leaking, the test of the #2 shut-off valve cannot be performed. An assertion can be made that since water is discharging from the relief valve, the No. 2 shut-off valve is considered tight. The relief valve can still be tested. Close test cock #4 and proceed to step #10.

Test No. 2 shut-off valve for tightness. (T)

8. Close test cock #2. The #2 shut-off valve is recorded as being tight if the differential pressure gauge Reading holds steady. Open test cock #2 and proceed to step #10.
9. If the differential pressure gauge drops to zero, the #2 shut-off valve is recorded as leaking and the differential readings previously recorded are invalid. Terminate test until no flow can be established.

Test the relief valve differential pressure opening. (2)

10. Slowly open the low control needle valve on the test kit $\frac{1}{4}$ **turn**.
11. Record the differential pressure gauge reading at the point when water initially drips from the relief valve opening. The differential pressure gauge reading should be a minimum of 2 PSID.

(PVB) Pressure Vacuum Breaker Assembly (1 T 1)

Test Check Valve for Differential Pressure. (Minimum 1 PSID)

1. Close #2 shut-off valve – Verify shut off valve #1 is open
2. Orientate the test kit. Close high and low control valves. Open the vent controls valve.
3. Connect the high pressure hose to test cock #2 and the low pressure hose to test cock #3.
4. Open test cocks #2, #3 and bleed air from the high and low control valves.
5. Record the differential pressure gauge reading. It should be a minimum of 1 PSID.
6. Close test cocks No. 2 and No. 3. Disconnect the hoses.

Test #2 Shut-off Valve for Tightness (T)

7. Connect high pressure hose to test cock #2
8. Orientation Test Kit. Open high control valve and close low and vent control valves.
9. Open test cock #2. The test needle should “peg” to the extreme right of the gauge.
10. Open low control valve to bleed air. Close low control valve.
11. Close #1 shut-off. Observe test kit needle. If the needle remains steady the #2 shut-off valve is holding tight. If needle starts to descend, the #2 shut-off valve is considered leaking and the device test is invalid. No further testing of the device can be completed until the #2 shut-off valve is repaired or no flow can be determined.

Test the Air Inlet Valve for Differential Pressure (Minimum 1 PSID)

12. Hold the Test Kit up to the same level as the device.
13. Slowly open the low control valve $\frac{1}{4}$ **turn** while simultaneously observing the air inlet valve.
14. Observe the Test Kit needle at the point where the air inlet valve opens (pops). It should be equal To or greater than 1 PSID.