



TEST PROCEDURE FOR DOUBLE CHECK VALVE ASSEMBLY (DC)

HIGH PRESSURE HOSE METHOD

USING A 5-VALVE DIFFERENTIAL PRESSURE GAUGE TEST KIT

Test Objectives: To determine if check valves are closed tight and measure the static PSID across the check valves.

Note: If the assembly is a detector type, also conduct the entire performance test on the DC valve located on the bypass.

The first thing that must be determined is if shutoff valve # 1 will close tight.

- a. Close shutoff valve # 2 slowly to prevent water hammer, then close shutoff valve # 1
- b. Open test cock # 2 and observe flow. If shutoff valve # 1 is closed tight the flow from test cock # 2 will stop. If the flow stops, proceed to "Location of test Equipment."

Location of test Equipment: for vertical installation, when testing check valve # 1 hold the test gauge and unused hose level with test cock # 3 and when testing check valve # 2 hold test gauge and unused hose level with test cock # 4. For horizontal installations, hold test gauge and unused hose level with center line of the DC valve.

Test of check Valve # 1

1. Connect the high side hose of the test gauge to test cock # 2. Test gauge valves and test cock # 2 should be open.
2. Close high side control valve.
3. Open shutoff valve # 1 enough to re-pressurize the DC valve while purging the air from the high side of the test gauge.
4. Close the high side bleed valve, the needle will peg at the high end of the scale.

5. Close shutoff valve # 1.
6. Open test cock # 3 slowly and let water flow out.
7. Observe the needle on the test gauge, when the water stops flowing from test cock # 3, the needle will fall to the low end of the scale.
8. If the needle holds steady at 1 PSID or above, record check valve # 1 as "closed tight." Also record the static PSID observed on the test gauge. Note: If the needle does not hold steady at 1 PSID or above, you must record that check valve # 1 as "leaked." The DC valve has just failed the performance test.

Test of check valve # 2.

9. Close test cock # 2.
10. Open the high side bleed valve.
11. Remove the high side hose from test cock # 2 and attach it to test cock # 3.
12. Open shutoff valve # 1 enough to re-pressurize the DC valve, while purging the air from the high side of the test gauge.
13. Close the high side bleed valve, the needle will peg at the high end of the scale.
14. Close shutoff valve # 1.
15. Open test cock # 4 slowly and let water flow out.
16. Observe the needle on the test gauge, when water stops flowing from test cock # 4, the needle will fall to the low end of the scale.
17. If the needle holds steady at 1 PSID or above, record check valve # 2 as "closed tight." Also record the static PSID observed on the test gauge. **Note:** If the needle does not hold steady at 1 PSID or above, you must record check valve # 2 as "leaked." The DC valve has just failed the performance test. If either check valves # 1 or # 2 fail the performance test, you must clean and repair the DC valve and conduct the final performance test.
18. Close test cock # 3.
19. Close test cock # 4.
20. Open shutoff valve # 1.
21. Open shutoff valve # 2.
22. Open all valves on the test kit.

23. Remove hose from test cock # 3.
24. Drain the hoses and test gauge to prevent freezing.
25. Dry the entire DC valve and inspect for any leakage from the test cocks, check valve covers and shutoff packing's. The DC valve must be holding pressure with no leakage when you are finished testing.
26. Record on the test form that shutoff valves # 1 and # 2 are open.
27. Inform the owner of the actions that you have taken and remind the owner to notify the fire department that the system is back in service.
28. Complete, sign and distribute the cross connection control assembly performance test form.