

**TEST NO. 1****SINGLE HOSE 5-VALVE DIFFERENTIAL ASSEMBLY****Test Objective:**

To determine if the check valves close tight, to measure the static PSID across the check valves and also to determine the opening PSID of the differential relief valve.

**Location of Equipment:**

Hold the test gauge and all unused hoses level with the center of the assembly.

**TESTING THE REDUCED PRESSURE ZONE BACKFLOW PREVENTION ASSEMBLY USING THE HIGH HOSE (SINGLE HOSE) METHOD**

Using a 5-Valve Differential Pressure Gauge Test Kit

**Test Cock Flushing Procedure for Reduced Pressure Principal Assembly:**

1. Open test cock #4 to flush out any dirt or foreign material.
2. Leave test cock #4 open enough to maintain flow across the assembly.
3. Open test cock #1 to flush out any dirt or foreign material.
4. Close test cock #1.
5. Open test cock #2 to flush out any dirt or foreign material.
6. Close test cock #2.
7. Open test cock #3 to flush out any dirt or foreign material.
8. Close test cock #3.
9. Close test cock #4.

**Attach Test Gauge**

10. Close all valves on test gauge.
11. Open the high side bleed valve.
12. Attach the high pressure hose to test cock #2.
13. Open test cock #2 to bleed air out of the assembly.
14. Close the high side bleed valve.

**Direction of Flow Test – Check Valve No. 1**

15. Close shutoff valve 2.
16. Close shutoff valve # 1.
17. Slowly open test cock # 3.
18. Observe the needle on the test gauge. When water stops flowing from test cock #3, record the static PSID observed on the test gauge. If the differential reading is 5 PSID or above, record check valve # 1 as closed tight. Also record the static PSID observed on the test gauge.

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**Test of Relief Valve**

19. Place your hand under the relief valve.
20. Slowly open the high side bleed valve, allowing the needle on the gauge to move slowly.
21. Observe the needle on the test gauge. Read and record the PSID at which the relief valve first drips on your hand. If the relief valve does not drip at 2 PSID or above, the assembly has failed the performance test.
22. Continue to open the high side bleed valve until the relief valve fully opens. (fully discharging water) If the relief valve does not fully open record that the relief valve did not open.
23. Close test cock # 2.
24. Close test cock # 3.
25. Remove the high pressure hose from test cock # 2.

**Direction of Flow Test- Check Valve # 2**

26. Open shutoff # 1 to reestablish pressure to the assembly. (or attach bypass hose from test cock # 1 to test cock # 2 and open both test cocks)
27. Attach the high pressure hose to test cock 3 #
28. Open test cock # 3 to bleed air out of assembly.
29. Close the high side bleed valve.
30. Close shutoff valve # 1. (or close test cock # 2)
31. Slowly open test cock # 4.
32. Observe the needle on the test gauge. When the water stops flowing from test cock # 4, record the static PSID observed on the test gauge. If the needle holds steady at 1 PSID or above record check valve # 2 as "closed tight".
33. Close test cock # 3.

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**Direction of Flow Test- Check Valve # 2**

34. Close test cock # 4.
35. Remove the high side hose from test cock # 3.
36. Open shutoff valve # 1.
37. Open shutoff valve # 2.
38. Open all valves on test gauge.
39. Drain hoses and test gauge to prevent freezing.
40. Dry the entire RP assembly and inspect for any leakage from test cocks, check valve covers, relief valve outlet and shut off valve packings. The RP assembly must be holding pressure with no leakage when finished testing.
41. Record on the test form that the shutoff valves # 1 and # 2 are open.
42. Remind owner that the system is back in service.
43. Inform owner of action you have taken.
44. Complete, sign and distribute the cross connection control performance test form.