

## MID-WEST INSTRUMENT BACK FLOW TEST KIT DOUBLE CHECK VALVE ASSEMBLY - TEST PROCEDURE

NOTE: IT IS THE TESTER'S RESPONSIBILITY TO DETERMINE IF THIS PROCEDURE IS ACCPTED BY LOCAL AUTHORITIES.

### TEST SET UP:

1. Obtain permission to shut off the water supply.
2. Determine the direction of flow.
3. Identify and "blow out" all 4 test cocks and install appropriate adapters in test cocks 2, 3 and 4.
4. All test kit valves are closed.

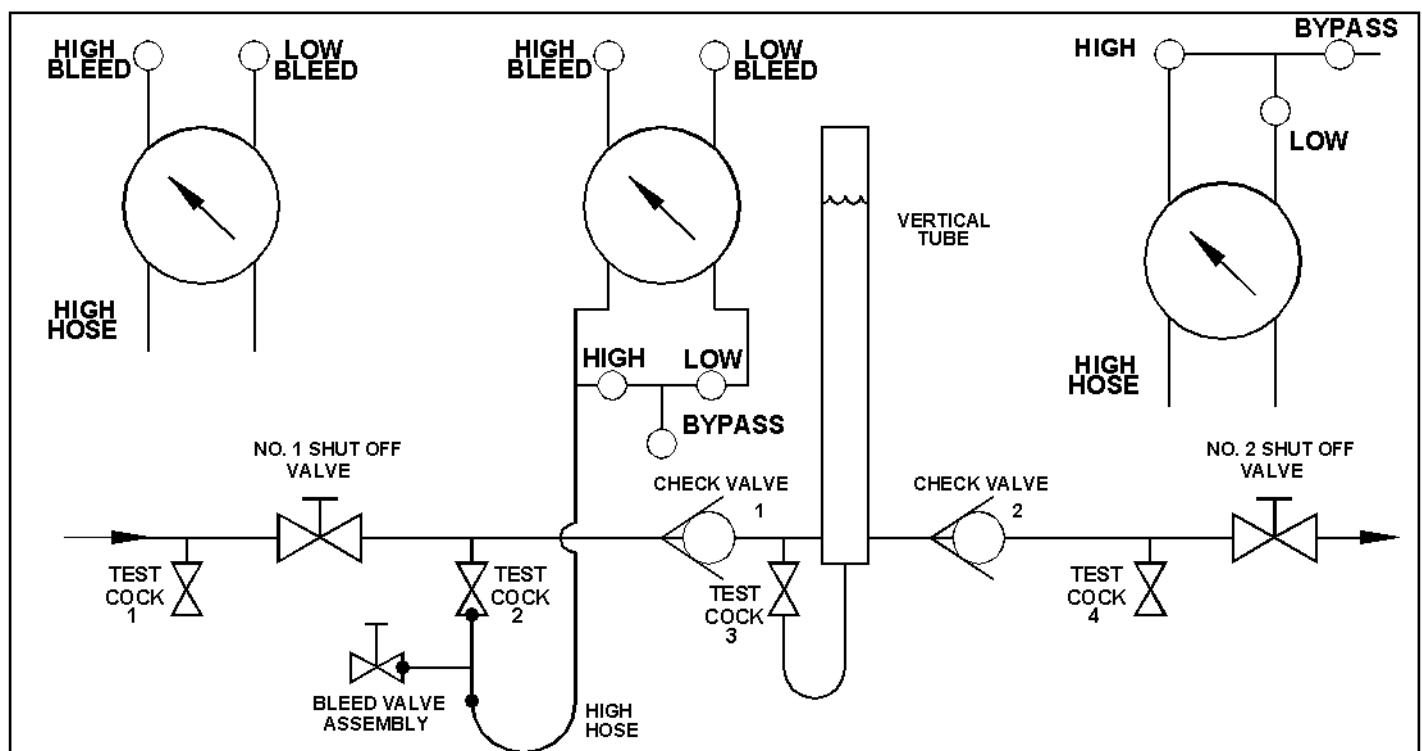
**IMPORTANT: THE TEST KIT AND HOSES MUST BE HELD AT PROPER LEVEL.**

**\*\*Note: The bleed valve assembly and vertical tube assembly are not included with the Test Kit.\*\***

### TEST NO. 1 - DETERMINE THE STATIC PRESSURE DROP ACROSS CHECK VALVE #1.

REQUIREMENT: #1 CHECK VALVE PRESSURE DROP SHALL BE AT LEAST 1.0 PSID.

1. Install a vertical tube to test cock 3 that rises above the check valve body unless test cock 3 is the highest point of the check valve body.
2. Attach a bleed valve assembly to test cock 2 and high hose of test kit to bleed valve assembly.
3. Open test cock 2 and bleed test kit by opening high side bleed valve. (High and by-pass valves on a 3-valve test kit) Close high side bleed valve. (High valve on a 3-valve test kit)
4. Open test cock 3 to fill the vertical tube or test cock, then close test cock 3.
5. Close # 2 shut off valve, then close #1 shutoff valve.
6. With the test kit and hoses at the same height as the water in the tube or test cock 3, slowly open test cock 3.
  - a. Water stops running - record #1 check valve pressure drop. Proceed to step 8.
  - b. Water continues to flow from test cock 3. Proceed to step 7.
  - c. Water recedes from test cock 3. Lower the test kit to the centerline of the assembly and record #1 check valve pressure drop. Record #2 check valve and #2 shutoff valve as leaking.



7. Observe the test kit reading, then slowly open the bleed valve assembly:
  - a. If the bleed valve assembly can be adjusted so there is a slight drip from test cock 3 and flow from the bleed valve assembly, then record the test kit reading as the #1 check valve pressure drop. Proceed to step 8.
  - b. If the bleed valve assembly can not be adjusted to allow a slight drip from test cock 3, then the leaky #1 shutoff valve must be repaired before the test may be completed.
  - c. If water does not continue to flow from the bleed valve assembly with water still flowing from test cock 3, record the test kit reading as the #1 check valve pressure drop. Record #2 check valve as leaking and #2 shutoff valve leaking under back pressure.
8. Close all test cocks, open #1 shutoff valve, and remove all test equipment.

## **TEST NO. 2 - DETERMINE THE STATIC PRESSURE DROP ACROSS CHECK VALVE #2.**

REQUIREMENT: #2 CHECK VALVE PRESSURE DROP SHALL BE AT LEAST 1.0 PSID.

9. Install a vertical tube to test cock 4 that rises above the check valve body unless test cock 4 is the highest point of the check valve body.
10. Attach bleed valve assembly to test cock 3 and high hose of test kit to bleed valve assembly.
11. Open test cock 3 and bleed test kit by opening high side bleed valve. (High valve on a 3-valve test kit). Close high side bleed valve. (High valve on a 3-valve test kit)
12. Open test cock 4 to fill the vertical tube or test cock, then close test cock 4.
13. Close #1 shutoff valve.
14. With the test kit and hoses at the same height as the water in the tube or test cock 4, slowly open test cock 4.
  - a. Water stops running - record #2 check valve pressure drop. Proceed to step 16.
  - b. Water continues to flow from test cock 4 - proceed to step 15.
  - c. Water recedes from test cock 4. Lower the test kit to the center line of the assembly and record #2 check valve pressure drop. Note #2 shutoff valve is leaking. Proceed to step 16.
15. Observe the test kit reading, then slowly open the bleed valve assembly:
  - a. If the bleed valve assembly can be adjusted so there is a slight drip from test cock 4 and flow from the bleed valve assembly, then record the test kit reading as the #2 check valve pressure drop. Proceed to step 16.
  - b. If water does not continue to flow from the bleed valve assembly with water still flowing from test cock 4, record the test kit reading as the #2 check valve pressure drop. Note the #2 shutoff valve is leaking under back pressure. Proceed to step 16.
  - c. If it is not possible to adjust the bleed valve assembly to allow a slight drip at #4 test cock, check #1 shutoff to make sure it is closed tight. If a slight drip can not be obtained at test cock 4, AND test #1 passed, close the bleed valve assembly, and open test cock 2. Record the test kit reading as the #2 check valve pressure drop.
16. Close all test cocks and remove all test equipment.
17. Open #1 shutoff valve, then slowly open #2 shutoff valve.
18. Open all test kit valves and drain test kit.