

RPZ test Procedure.



On the test kit, shut off A & B and leave C open.

- a. Have permission to shut the water off. Close downstream isolation valve.
- b. Flush out test ports 1,2 & 3

To test the 1st check

- c. Connect HP hose A to test port 1.
- d. Connect LP hose B to test port 2.
- e. Very slowly open test port 1 then 2.
- f. Slowly open Valve A and flush out air, slowly close Valve A.
- g. Slowly open Valve B and flush out air, very slowly close valve B.

NOTE: Record the reading it needs to be a minimum of 35 kpa.

To test the downstream Isolation Valve

- h. Leave A & B hoses connected.
- i. Connect hose C to test port 3.
- j. Very slowly turn on test port 3.
- k. Very, very slowly open valve A, when the gauge is steady close test port 1, If the needle is steady record the reading as **tight**.

NOTE: If the gauge starts to fall it indicates the downstream isolation valve has failed. Leakage invalidates the results, and it would need to be repaired or replaced.

To test the relief valve

- l. While all hoses are still connected slowly re-open test port 1
- m. Very, very slowly open valve B.

NOTE: when the gauge starts to drop slowly, stop opening valve B, allowing the gauge to continue to drop. (*in other words, take your hand off B*)

- a. When the needle stops dropping, inspect the relief valve. Water should discharge (a slow drip) from the relief valve.
- b. It must discharge above 14 Kpa. Record the reading.

NOTE: If you open B too much and there is excessive discharge you will need to disconnect the hoses and start the procedure again.

- a. Close test ports, disconnect hoses.

To test the 2nd check valve

- b. Connect HP hose A to test port 2.
- c. Connect LP hose B to test port 3.
- d. Very slowly open test port 2 then 3.
- e. Slowly open Valve A and flush out air, slowly close Valve A.
- f. Slowly open Valve B and flush out air, very slowly close valve B

NOTE: Record the reading it needs to be a minimum of 7 kpa.

- g. Close test ports, disconnect hoses and slowly open the downstream isolation valve.

Backflow Prevention Ltd

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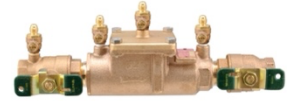
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DCV test procedure



On the test kit, shut off A & B and leave C open.

- a. Have permission to shut the water off. Close downstream isolation valve.
- b. Flush out test ports 1,2 & 3

To test the 1st check

- c. Connect HP hose A to test port 1.
- d. Connect LP hose B to test port 2.
- e. Very slowly open test port 1 then 2.
- f. Slowly open Valve A and flush out air, slowly close Valve A.
- g. Slowly open Valve B and flush out air, very slowly close valve B.

NOTE: Record the reading it needs to be a minimum of 7 kpa

To test the downstream Isolation Valve

- h. Leave A & B hoses connected.
- i. Connect hose C to test port 3.
- j. Turn on test port 3.
- k. Very, very slowly open valve A, when the gauge is steady close test port 1, If the needle is steady record the reading as **tight**.

NOTE: If the gauge starts to fall it indicates the downstream isolation valve has failed. Leakage invalidates the results, and it would need to be repaired or replaced.

- l. Close test ports, disconnect hoses.

To test the 2nd check valve

- m. Connect HP hose A to test port 2.
- n. Connect LP hose B to test port 3.
- o. Very slowly open test port 2 then 3.
- p. Slowly open Valve A and flush out air, slowly close Valve A.
- q. Slowly open Valve B and flush out air, very slowly close valve B

NOTE: Record the reading it needs to be a minimum of 7 kpa.

- r. Close test ports, disconnect hoses and slowly open the downstream isolation valve.

Repair

- Many valves will fail due to debris in the checks. Clean and repair is an easy solution.
- Always check to see if parts are available.
- Always replace valves like for like, brand for brand whenever possible. Refer building code G12 AS1, and installation instructions before ANY! installation.

PVB test procedure

On the test kit, shut off A & B and leave C open.

- Have permission to shut the water off. Close downstream isolation valve.
- Remove air-port shield.
- Flush out test ports 1 & 2



To test the 1st check

- Connect HP hose A to test port 1
- Connect LP hose B to test port 2
- Very slowly open test port 1 then 2
- Slowly open Valve A and flush out air, slowly close Valve A.
- Slowly open Valve B and flush out air, very slowly close valve B

NOTE: Record the reading it needs to be a minimum of 7 kpa.

To test the downstream Isolation Valve

- Close test ports 1 then 2 remove hoses.
- Connect hose A to test port 2.
- Turn on test port 2.
- Very slowly open valve A, while water is draining close valve C then close the upstream isolation valve. Leave valve A open.
- Open valve B dropping the gauge to 2 approx. 80kpa, Close valve B

NOTE: If the needle on the gauge rises turn on test port 1. If the needle stops rising it indicates the upstream valve is leaking or if the gauge continues to rise it indicates the downstream valve has failed, Leakage of the **downstream** valve invalidates the results, and it would need to be repaired or replaced.

To test the air inlet valve

- Slowly open valve B allow the needle to drop away.

NOTE: when the gauge starts to drop slowly, stop opening valve B (*take your hand off it*) allowing the gauge to continue to drop.

- Record the reading when the air inlet valve opens, it must be above 7 kpa.
- Close test ports, disconnect hoses and slowly open the downstream isolation valve.
- Refit air-port shield.

TEST KIT requirement's & care!

- 1) Ensure the gauge is calibrated (You must allow for any pressure differential readings + or -). Record readings to .5 of a kpa, do not round readings up or down. Be accurate!
- 2) Leaking test points, gauge or hoses will invalidate your test results. They will need to be repaired!
- 3) Do not shock pressure your gauge! treat the gauge with care. It may not be repairable and it's expensive to replace. Always disconnect hoses before you turn the water on
- 4) Always drain water out of the gauge.
- 5) For storage leave A, B & C valves open.

SPVB test procedure

On the test kit, shut off A & B and leave C open.

- Have permission to shut the water off. Close downstream isolation valve.
- Remove air-port shield.
- Flush out test ports 1 & bleed screw



To test the downstream Isolation Valve

- Connect hose A to test port 1.
- Turn on test port 1.
- Very slowly open valve A
- While water is draining close valve C then close the upstream isolation valve. Leave A open.
- Open valve B dropping the gauge to approx. 80kpa. Close valve B

NOTE: If the gauge Rises a small amount, then stops it indicates the downstream isolation valve has failed, If the gauge does not stop and continues to constantly rise it indicates the upstream valve has failed. Leakage of either valve will invalidate the results, and you would need to repair the failed isolation valve before continuing.

To test the 1st check

- When you have verified the upstream and downstream isolation valves are tight. Open the bleed screw.
- The needle will slowly drop.
- Record the reading when the needle has stopped, and water has stopped leaking out of the bleed screw.

NOTE: You may need to remove the bleed screw completely.

- When needle is steady, refit the bleed screw.

NOTE: With the bleed screw open, If the needle drops to 0 and the air inlet valve opens, then it indicates the first check valve has failed.

To test the air inlet valve

- With the bleed screw closed open valve B. Allow the needle to drop away.

NOTE: when the gauge starts to drop, stop opening valve B (*take your hand off it*) allowing the gauge to continue to drop.

- Record the reading when the air inlet valve opens, it must open above 0 kpa.
- Close test port, disconnect the hose and slowly open the downstream isolation valve.
- Refit the air-port shield.

Detector check valves, (*memory prompt*)

- Always test the low flow bypass first, the bypass D/S isolator must be tight and turned off for testing both backflow valves.
- The combined readings of the main valve checks must be greater than the combined readings of the low flow bypass checks.