3 Valve Test Procedure for Double Check Valve Assembly (DCVA) (Pressure Differential)

PREPERATION

- ☐ 1. Notify the customer
- ☐ 2. Inspect the area for safety
- ☐ 3. Determine if the assembly is Approved & Appropriate
- ☐ 4. Record Make, Model #, Serial # and on test report form

FLUSHING OF TEST COCKS

- ☐ 1. Place Test Adapters on Test Cocks (If Applicable)
- ☐ 2. Open TC # 1, Bleed, then Close
- ☐ 3. Open TC # 2, Bleed, then Close
- ☐ 4. Open TC # 3, Bleed, then Close
- ☐ 5. Open TC # 4, Bleed, then Close
- ☐ 6. Close High & Low control valves
- ☐ 7. Leave Open Vent/Bypass valve
- ☐ 8. Turn off Shut Off Valve # 2 on assembly

ATTACHING THE TEST KIT

- ☐ 1. Attach High Side Hose to TC # 2
- ☐ 2. Attach Low Side Hose to TC # 3
- ☐ 3. Open TC # 2
- ☐ 4. Open High Side Control Valve, Bleed Air, Then Close
- ☐ 5. Open TC #3
- ☐ 6. Open Low Side Control Valve, Bleed Air, Then Close
- ☐ 7. Attach Vent/Bypass Hose to TC # 4
- ☐ 8. Open Low Control Side Valve
- ☐ 9. Loosen By-Pass Hose at TC # 4 to Bleed Air, Then Tighten
- ☐ 10. Close Low Control Valve
- ☐ 11. Open High Control Valve
- ☐ 12. Record Static Working Pressure (If Required)

Test #1: TIGHTNESS OF # 2 SHUT OF VALVE

- ☐ 1. Open TC # 4
- ☐ 2. Close TC # 2 – Pause to Allow Gauge to Readjust
- ☐ 3. Read the Gauge & Record(Example: Tight)
  *If the Pressure Differential Gauge **Remains Steady**, Record the #2 Shut Off Valve as **Tight**.

Test #2 TIGHTNESS OF #1 CHECK

- ☐ 1. Close TC # 4
- ☐ 2. Close High Valve
- ☐ 3. Remove Vent/Bypass Hose from TC #4
- ☐ 4. Open TC # 2
- ☐ 5. (Reset) Open Low Side Control Valve to Cause Differential Reading to Rise – Then Close
- ☐ 6. Read the Gauge & Record Value
  - ○ Pressure Differential Gauge Reading should be 1 PSID or Above.

Test #3 TIGHTNESS OF # 2 CHECK

- ☐ 1. Close TC # 2
- ☐ 2. Close TC # 3
- ☐ 3. Remove Low Side Hose from TC # 3 and place it on TC # 4
- ☐ 4. Remove High Side Hose from TC # 2 and Place it on TC # 3
- ☐ 5. Open TC # 3
- ☐ 6. Open High Side Bleed Valve – Bleed Air, Then Close
- ☐ 7. Open TC # 4
- ☐ 8. Open Low Side Bleed Valve – Bleed Air, Then Close
- ☐ 9. Read the Gauge & Record Value
  A) If the Pressure Differential Gauge Reading Should be 1 PSID or Above.

RESTORE SYSTEM

- ☐ 1. Close All Test Cocks
- ☐ 2. Remove Hoses
- ☐ 3. Open All Valves on the Test Kit and Drain Water
- ☐ 4. Restore Water by Opening # 2 Shut Off Valve

Detector Assemblies: To verify flow through the bypass, open test cock #4 and the meter should move.
DCDA Type I: 1) Test main assembly as normal using approved DCVA procedures. Remember to isolate the bypass before testing main assembly. 2) Test bypass assembly separately using approved DCVA procedures.

DCDA Type II: 1) Test mainline DCVA as normal using approved DCVA procedures, remember to isolate bypass before testing main assembly. 2) Test bypass single check valve using normal approved check #2 test procedures.

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3-Valve Test Procedure for a Double Check Valve Assembly (DCVA) (Direction of Flow)

PREPARATION

- ☐ Notify customer
- ☐ Inspect the area for safety
- ☐ Determine if the assembly is Approved & Appropriate
- ☐ Record Make, Model, Serial #, Size & Type
- ☐ Install test adaptor fittings (if required)
- ☐ Flush TC # 1, 2, 3, 4
- ☐ Open High & Low control valves and Bypass valve on gauge

Attach High Hose Only on Gauge

TEST #1: CHECK VALVE #1

- ☐ Install vertical tube on TC #3 *
- ☐ Install High hose on TC #2
- ☐ Close Low control valve
- ☐ Open TC #2 slowly
- ☐ Close High control valve when air stops
- ☐ Open TC #3 to fill vertical tube, then close
- ☐ Close shut-off valve #2
- ☐ Record supply pressure (if required)
- ☐ Close #1 shut-off valve
- ☐ Center gauge with top of vertical tube
- ☐ Open TC #3
- ☐ Record value of check valve #1 (1.0 psid. or > to pass)
- ☐ Close TC #2 and TC #3
- ☐ Open #1 shut-off valve

TEST #2: CHECK VALVE #2

- ☐ Move vertical tube from TC #3 to TC #4*
- ☐ Move high hose from TC #2 to TC #3
- ☐ Open TC #3 slowly
- ☐ Open high control valve then close high control valve
- ☐ Open TC #4 to fill vertical tube
- ☐ Close TC #4
- ☐ Close #1 shut-off valve
- ☐ Open TC #4
- ☐ Record value of check valve #2 (1.0 psid or > to pass)

RECORD SHUT-OFF VALVES

- ☐ Record shut-off valve #1 & #2
  - ○ (closed tight or leaking)

RESTORE SYSTEM

- ☐ Close TC #3 & #4
- ☐ remove all hoses
- ☐ Open shut-off valve #1
- ☐ Open shut-off valve #2

* OK to use test cocks as long as gauge can be centered on Test Cocks

Detector Assemblies: To verify flow through the bypass, open test cock #4 and the meter should move.
DCDA Type I: 1) Test main assembly as normal using approved DCVA procedures. Remember to isolate the bypass before testing main assembly. 2) Test bypass assembly separately using approved DCVA procedures.

DCDA Type II: 1) Test mainline DCVA as normal using approved DCVA procedures, remember to isolate bypass before testing main assembly.
2) Test bypass single check valve using normal approved check #2 test procedures.

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3-Valve Test Procedure for a Pressure Vacuum Breaker Assembly (PVB)

(Direction of Flow)

PREPERATION	TEST #2 - CHECK VALVE VALUE
☐ 1. Notify the customer ☐ 2. Inspect the area for safety ☐ 3. Determine if the assembly is Approved & Appropriate ☐ 4. Record Make, Model #, Serial # and Static Working Pressure on test report form ☐ 5. Close All Valves on Test Gauge ☐ 6. Remove Canopy and Clean Debris Around Air Inlet ☐ 7. Flush TC#1 ☐ 8. Flush TC#2 ☐ 19. Turn Off The # 2 Shut off Valve ***Attach High Hose Only on Gauge***	☐ Attach High Side Hose to TC #1 ☐ *SLOWLY* Open TC # 1 ☐ Bleed Air, Then Close Vent/Bypass Valve ☐ ***Turn Off The # 1 Shut off Valve*** ☐ With the Gauge Centerline at Elevation of PVB ☐ *SLOWLY* Open TC # 2 Fully and Record PSID Value When Water Stops Flowing from TC #2 (1.0psid or greater) ☐ Close Both Test Cocks and Remove hose
TEST #1: AIR INLET OPENING	**RESTORE SYSTEM**
☐ 1. Attach high hose to TC #2 ☐ 2. SLOWLY - Open TC #2 ☐ 3. Open High Side Control Valve ☐ 4. Open Vent/Bypass Valve, Bleed Air ☐ 5. Close Vent/Bypass valve ☐ 6. Turn Off The # 1 Shut off Valve ☐ 7. Center Gauge to PVB ☐ 8. SLOWLY Open Vent/Bypass Valve and Observe PSID Recording when Air Inlet Pops (record Value 1.0psid or greater) ☐ 9. Close TC # 2 & Remove Hose ☐ 10. Turn on the # 1 Shut off Valve	☐ 1. Open Shut off Valve #1 First ☐ 2. Open Shut off Valve #2

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3-Valve Reduced Pressure Backflow Preventer (RPBP) *(Pressure Differential)*

PREPARING TO TEST THE ASSEMBLY

- ☐ 1. Notify the customer
- ☐ 2. Inspect the area for safety
- ☐ 3. Determine if the assembly is Approved & Appropriate
- ☐ 4. Record Make, Model #, Serial # & Assembly Type

FLUSHING OF TEST COCKS

- ☐ 1. Place Test Adapters on Test Cocks (If Applicable)
- ☐ 2. Open TC # 4 – Let flow
- ☐ 3. Open TC # 1**,** then close
- ☐ 4. Open TC # 2, then close
- ☐ 5. Open TC # 3, then close
- ☐ 6. Close TC # 4
- ☐ 7. Make sure High & Low Valves on the Gauge are ***CLOSED!!***
- ☐ Open Vent/Bypass Valve on gauge
- ☐ *8.* Close Shutoff valve #2

ATTACHING THE TEST KIT

- ☐ 1. Attach High Side Hose to TC # 2
- ☐ 2. Attach Low Side Hose to TC # 3
- ☐ 3. Slowly open TC#3
- ☐ 4. Open Low Side Control Valve (Leave Open)
- ☐ 5. Open TC #2
- ☐ 6. Open High Side Control Valve, Bleed Air, Then Close
- ☐ 7. Close Low Side Control Valve
- ☐ 8. Close Vent/Bypass Valve on gauge

Test #1: TIGHTNESS OF # 2 SHUT OF VALVE

- ☐ 1. Attach Vent/Bypass Hose to TC # 4
- ☐ 2. Open High Side Control Valve
- ☐ 3. Open Vent/Bypass Valve on gauge
- ☐ 4. Loosen Vent/Bypass Hose at TC # 4 to Bleed Air, Then Tighten
- ☐ 5. Open TC # 4
- ☐ 6. Close TC # 2 – Pause to Allow Gauge to Readjust
- ☐ 7. *Read the Gauge & Record (ex: Closed Tight)*
  - If the Pressure Differential **Gauge Remains Steady**, Record the #2 Shut Off Valve as **Tight**.

Test #2: BACKPRESSURE TEST FOR # 2 CHECK

- ☐ 1. If gauge Remains Steady during Test #1 & No Water is Dripping from the Relief Valve, the # 2 Check Valve is Considered to be **Tight.**

Test #3: CHECK VALVE #1 DIFFERENTIAL VALUE (5psid>)

- ☐ 1. Close TC#4
- ☐ 2. Close High Control Valve
- ☐ 3. Remove Vent/Bypass hose from TC#4
- ☐ 4. Open TC # 2
- ☐ 5. Open Low Side Control Valve, to Cause Reading to Rise, Then Close… (Basically a Reset)
- ☐ ***Read the Gauge and Record Value***

Test #4: RELIEF VALVE OPENING VALUE

- ☐ 1. Close Vent/Bypass Valve on gauge
- ☐ 2. Open High Control Valve
- ☐ 3**. S-L-O-W-L-Y** Open Low Valve
- ☐ *4. Place the Top of Your Hand Under the Relief (2psid>)*
- ☐ 5. As Soon as You Feel the First Drop of Water on Your Hand. ***Read the Gauge and Record Value***
- ☐ *6. Close High & Low Control Valves on the Gauge*

Test #5: TIGHTNESS OF # 2 CHECK (1psid>) (SC Unique)

- ☐ 1. Close TC # 2
- ☐ 2. Close TC # 3
- ☐ 3. Remove Low Side Hose from TC # 3 and place it on TC # 4
- ☐ 4. Remove High Side Hose from TC # 2 and Place it on TC # 3
- ☐ 5. Open TC # 3
- ☐ 6. Open Vent/Bypass Valve on gauge
- ☐ 7. Open High Side Control Valve – Bleed Air, Then Close
- ☐ 8. Open TC # 4
- ☐ 9. Open Low Side Control Valve – Bleed Air, Then Close
- ☐ 10. Close Vent/Bypass Valve on gauge
- ☐ ***11. Read the Gauge & Record Value*** *(1psid>)*

RESTORE SYSTEM

- ☐ 1. Close All Test Cocks
- ☐ 2. Remove Hoses
- ☐ 3. Open All Valves on the Test Kit and Drain Water
- ☐ 4. Restore Water by Opening # 2 Shut Off Valve

Detector Assemblies: To verify flow through the bypass, open test cock #4 and the meter should move.
RPDA Type I: 1) Test main assembly as normal using approved RP procedures. Remember to isolate the bypass before testing main assembly.
2) Then test bypass assembly separately using approved RP procedures.

RPDA Type II: 1) Test mainline RP per normal approved procedures, Remember to isolate bypass before testing main assembly.
2) Test bypass single check valve using normal approved check #2 test procedures.

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