5-Valve Test Procedure for a Reduced Pressure Principal Backflow Preventor (ASSE1013)

PREPARING TO TEST THE ASSEMBLY	Test#2 BACKPRESSURE ON # 2 CHECK VALVE
 Notify the customer Inspect the area for safety Determine if the assembly is Approved & Appropriate Record Make, Model #, Serial # & Assembly Type 	 If Gauge is steady & No Water is Dripping from the Relief Valve, the #2 Check Valve is Considered to be Tight.
FLUSHING OF TEST COCKS	Test #3. DIFFERENTIAL VALUE ON # 1 CHECK VALVE (5psid>)
 1. Place Test Adapters on Test Cocks 1, 2, 3, and 4 (If needed) 2. Open TC # 4 - Let flow 3. Flush TC #1, #2 & #3 4. Close TC # 4 5. Make sure all 5 Valves on the Gauge are <i>CLOSED</i>!!! 	 1. Close the By-Pass Valve!!! - <u>Close the By-Pass Valve</u> 2. Open TC # 2 3. Open Low Side Bleed Valve, to Cause Reading to Rise, Then Close Low Side Bleed Valve <u>Read the Gauge and Record Value (Spsid>)</u>
ATTACHING THE TEST KIT	Test #4. RELIEF VALVE OPENING POINT(2psid>)
 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 Bleed Valve (Leave Open) 5. Open TC #2 	 □ <u>1. Place the Top of Your Hand Under the Relief</u> □ 2. S-L-O-W-L-Y Open Low Valve □ 3. As Soon as You Feel the First Drop of Water on Your Hand. <i>Read the Gauge and Record Value(2psid>)</i> □ Close Low Control Valve
 6. Open High Side Bleed Valve, Bleed Air, Then Close 7. Close Low Side Bleed Valve 	Test #5. TIGHTNESS OF # 2 CHECK (1psid>) (Optional Test)
 7. Close Low Side Bleed Valve 8. Attach By-Pass Hose to TC # 4 9. Open High Side Control Valve (one full turn) 10. Open By-Pass Valve (1/4 Turn) 11. Loosen By-Pass Hose at TC # 4 to Bleed Air, Then Tighten 12. S-L-O-W-L-Y Open Low Side Bleed Valve to Cause DifferentialReading to Rise – Then Close (Reset) 13. Record Value of System Pressure (If Required) 	 1. Close TC # 2 2. Close TC # 3 3. Close TC # 4 4. Remove By-pass Hose from TC # 4 5. Remove Low Side Hose from TC # 3 and place it on TC # 4 6. Remove High Side Hose from TC # 2 and Place it on TC # 3 7. Open TC # 3 8. Open High Side Bleed Valve – Bleed Air, Then Close 9. Open TC # 4 10. Open Low Side Bleed Valve – Bleed Air, Then Close 9. Read the Gauge & Record Value (1psid>)
Test #1. TIGHTNESS OF # 2 SHUT OFF VALVE	RESTORE SYSTEM
 1. Close Shutoff valve #2 2. Open TC # 4 3. Close TC # 2 - Pause to Allow Gauge to Readjust <u>4. Read the Gauge & Record Value (ex: Closed Tight)</u> If the Pressure Differential Gauge Remains Steady, Record the #2 ShutOff Valve as Tight. Test procedure PASSES. If the Pressure Differential Gauge Drops to ZERO, This Means The # 2 Shut Off is in a Flow Condition and the #2 Shut Off Valve is not holding. Test procedure FAILED. 	 1. Close All Test Cocks 2. Remove Hoses 3. Open All Valves on the Test Kit and Drain Water 4. Restore Water to Building by Opening # 2 Shut Off Valve on Assembly



5-Valve Test Procedure / Double Check Valve Assembly (Pressure Differential)

PREPARING TO TEST THE ASSEMBLY	Test #1 TIGHTNESS OF # 2 SHUT OFF VALVE
 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 #, Size & Type 	 1. Turn Off Shut Off Valve # 2 2. Open TC # 4 3. Close TC # 2 - Pause to Allow Gauge to Readjust 4. Read the Gauge & Record Value (Example:Tight)
FLUSHING OF TEST COCKS	Test #2 TIGHTNESS OF #1 CHECK
 1. Place Test Adapters on Test Cocks (If needed) 2. Flush TC #1, #2, #3 & #4 3. Make sure all 5 valves on Gauge are closed 	 1. Close TC # 4 2. Close High Valve 3. Remove By-Pass Hose from TC #4 4. Open TC # 2 5. S-L-O-W-L-Y Open Low Side Bleed Valve to Cause Differential Reading to Rise – Then Close 6. Read the Gauge & Record Value If the Pressure Differential Gauge Reading should be 1 PSID or Above.
ATTACHING THE TEST KIT	Test #3 TIGHTNESS OF # 2 CHECK
 1. Attach High Side Hose to TC # 2 2. Attach Low Side Hose to TC # 3 3. Open TC # 2 4. Open TC # 3 5. Open High Side Bleed Valve, Bleed Air, Then Close 6. Open Low Side Bleed Valve, Bleed Air, Then Close 7. Attach By-Pass Hose to TC # 4 8. Open High Side Valve (1/4 Turn) 9. Open By-Pass Valve 10. Loosen By-Pass Hose at TC # 4 to Bleed Air,Then Tighten 11. S-L-O-W-L-Y Open Low Side Bleed Valve to Cause Differential Reading to Rise – Then Close 	 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 andPlace 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 to building by Opening # 2 Shut Off Valve on Assembly



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

Preparation	Test #2: Check Valve #2
 1. Notify customer 2. Inspect the area for safety 3. Determine if the assembly is Approved & Appropriate 4. Record Make, Model, Serial #, Size & Type 5. Install test adapter fittings (if required) 6. Flush TC # 1, #2, #3 & #4 7. Close all valves on gauge 	 1. Move vertical tube from TC #3 to TC # 2. Move high hose to TC #3 3. Open high bleed valve 4. Open TC #3 slowly 5. close high bleed valve when air stops 6. Open TC #4 to fill vertical tube 7. Close TC #4 8. Close shut-off valve #1 9. Center gauge with top of vertical tube 10. Open TC #4 11. Record status of check valve #2(closed tight @ 1psid> or
Test #1: Check Valve #1	leaking) Condition of Shut Off Valves
 1. Install vertical tube on TC #3 2. Open High bleed valve on gauge 3. Attach high hose to TC #2 4. Open TC #2 slowly 5. Close high bleed valve when air stops 6. Open TC #3 to fill vertical tube 	 1. Close TC #3 & #4 2. Remove all hoses 3. Open shut-off valve #1 4. Open shut-off valve slowly #2
 6. Open TC #3 to fill vertical tube 7. Close TC #3 8. Close shut-off valve #2 9. Record service line pressure (if required) 10. Close shut-off valve #1 11. Center gauge with top of verticaltube 12. Open TC #3 13. Record status of check valve #1(closed tight @ 1psid> or leaking) 14. Close TC #2 and TC #3 15. Open shut-off valve #1 	 Close TC #3 & #4 Remove all hoses Open shut-off valve #1 Open shut-off valve slowly #2



5 - Valve Test Procedure – Pressure Vacuum Breaker

PREPERATION	TEST # 2: Check Valve Value
1. Notify the customer	1. Attach High Side Hose to TC #1
2. Inspect the area for safety	2. SLOWLY Open TC # 1
3. Determine if the assembly is Approved	3. Close High Side Bleed Valve
& Appropriate	4. Turn Off The # 1 Shut off Valve
4. Record Make, Model #, Serial # & Size	5. With the Gauge Centerline at Elevation of PVB
5. Close All Valves on Test Gauge	6. SLOWLY Open TC # 2 and Record PSID Value
6. Remove Low Side Hose from Gauge (If attached)	WhenWater Stops Flowing from TC #2 (1psid>)
7. Remove Canopy and Clean Debris Around Air Inlet	□ 7. Close TC #2 & TC #1
8. Flush TC#1	8. Remove Hose from TC#1
9. Flush TC#2	
10. Turn Off The # 2 Shut off Valve	
11. Open High Side Bleed Valve	
TEST # 1: Air Inlet Opening	Restore system:
1 Attach high has to TC #2	
1. Attach high hose to TC #2	1. Open the # 1 Shut off Valve First
2. SLOWLY - Open TC #2	
-	
 2. SLOWLY - Open TC #2	-
2. SLOWLY - Open TC #2 3. Close High Side Bleed Valve	-
 SLOWLY - Open TC #2 Close High Side Bleed Valve Turn Off The # 1 Shut off Valve Center Gauge to PVB Place Finger / Small Screwdriver to Air-Inlet Valve 	-
 SLOWLY - Open TC #2 Close High Side Bleed Valve Turn Off The # 1 Shut off Valve Center Gauge to PVB Place Finger / Small Screwdriver to Air-Inlet Valve (OK to listen for POP) 	-
 SLOWLY - Open TC #2 Close High Side Bleed Valve Turn Off The # 1 Shut off Valve Center Gauge to PVB Place Finger / Small Screwdriver to Air-Inlet Valve (OK to listen for POP) With the Gauge Centerline at Elevation of PVB 	-
 SLOWLY - Open TC #2 Close High Side Bleed Valve Turn Off The # 1 Shut off Valve Center Gauge to PVB Place Finger / Small Screwdriver to Air-Inlet Valve (OK to listen for POP) With the Gauge Centerline at Elevation of PVB SLOWLY Open High Side Bleed Valve and Observe 	-
 SLOWLY - Open TC #2 Close High Side Bleed Valve Turn Off The # 1 Shut off Valve Center Gauge to PVB Place Finger / Small Screwdriver to Air-Inlet Valve (OK to listen for POP) With the Gauge Centerline at Elevation of PVB SLOWLY Open High Side Bleed Valve and Observe PSID Recording when Air Inlet Pops (1psid>) 	-
 SLOWLY - Open TC #2 Close High Side Bleed Valve Turn Off The # 1 Shut off Valve Center Gauge to PVB Place Finger / Small Screwdriver to Air-Inlet Valve (OK to listen for POP) With the Gauge Centerline at Elevation of PVB SLOWLY Open High Side Bleed Valve and Observe 	-

** Remove unused hoses from gauge or keep hoses the same level as gauge**



3-Valve Test Procedure for a Reduced Pressure Principal Backflow Preventor

PREPARING TO TEST THE ASSEMBLY	Test #2: BACKPRESSURE TEST FOR # 2 CHECK
 1. Notify the customer 2. Inspect the area for safety 3. Determine if the assembly is Approved & Appropriate 4. Record Make, Model #, Serial # & Size 	 I. If No Water is Dripping from the Relief Valve, the # 2 Check Valve is Considered Tight.
FLUSHING OF TEST COCKS	Test #3: CHECK VALVE #1 DIFFERENTIAL VALUE (5psid>)
 1. Place Test Adapters on Test Cocks (If needed) 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 <i>CLOSED!!</i> Open Vent/Bypass Valve on gauge 	 1. Close TC#4 2. Close High Control Valve 3. Remove Vent/Bypass hose from TC#4 2. Open TC # 2 3. Open Low Side Control Valve, to Cause Reading to Rise, Then Close <u>Read the Gauge and Record Value</u> A) If the Pressure Differential Gauge Reading is 5 PSID or Above, Record the #1 Check Valve as
	tight.
ATTACHING THE TEST KIT 1. Attach High Side Hose to TC # 2 	Test #4: RELIEF VALVE OPENING VALUE
 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 Bleed Valve 8. Close Vent/Bypass Valve on gauge 	 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 onYour Hand. <u>Read the Gauge and Record Value</u>
Test #1: TIGHTNESS OF # 2 SHUT OFF VALVE	Test #5: TIGHTNESS OF # 2 CHECK (1psid>) (Optional)
 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. Close Shutoff valve #2 6. Open TC # 4 7. Close TC # 2 - Pause to Allow Gauge to Readjust 8. <u>Read the Gauge & Record Value (ex: Closed Tight)</u> o If the Pressure Differential Gauge Remains Steady, Record The #2 Shut Off Valve as Tight. Test procedure PASSED. 	 1. Close TC # 2 2. Close TC # 3 3. Remove Low Side Hose from TC # 3 and place iton TC # 4 4. Remove High Side Hose from TC # 2 and Place iton TC # 3 5. Open TC # 3 6. Open Vent/Bypass Valve on gauge 7. Open High Side Control Valve – Bleed Air, ThenClose 8. Open TC # 4 9. Open Low Side Control Valve – Bleed Air, ThenClose 10. Close Vent/Bypass Valve on gauge <u>11. Read the Gauge & Record Value</u>
	RESTORE SYSTEM
	 1. Close All Test Cocks 2. Remove Hoses 3. Open All Valves on the Test Kit and Drain Water

- 3. Open All Valves on the Test Kit and Drain Water S. Open All valves on the rest kit and Drain value
 4. Restore Water by Opening # 2 Shut Off Valve



3-Valve Test Procedure for Double Check Valve Assembly Backflow Protector (Pressure Differential)

PREPERATION	Test #1: TIGHTNESS OF # 2 SHUT OFF VALVE
 1. Notify the customer 3. Determine if the assembly is Approved & Appropriate 4. Record Make, Model #, Serial # and on test report form 	 1. Open TC # 4 2. Close TC # 2 - Pause to Allow Gauge toReadjust 3. Read the Gauge & Record Value (Example:Tight)
FLUSHING OF TEST COCKS	Test #2 TIGHTNESS OFF#1 CHECK
 1. Place Test Adapters on Test Cocks (If needed) 2.Flush TC #1, #2, #3, & #4 Close 6. Close High & Low control valves 7. Leave Open Vent/Bypass valve 8. Turn off Shut Off Valve # 2 on assembly 	 1. Close TC # 4 2. Close High Valve 3. Remove Vent/Bypass Hose from TC #4 4. Open TC # 2 5. Open Low Side Control Valve to CauseDifferential Reading to Rise – Then Close 6. Read the Gauge & Record Value o Pressure Differential Gauge Reading should
ATTACHING THE TEST KIT	be 1 PSID or Above. Test #3 TIGHTNESS OF # 2 CHECK
 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 	 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) 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 to building by Opening #2 Shut Off Valve



3-Valve Test Procedure for a Double Check Valve Assembly

(Direction of Flow)

PREPARATION	TEST #2: CHECK VALVE #2
 Notify customer Inspect the area for safety Determine if the assembly is Approved & Appropriate Record Make, Model, Serial #, Size & Type Install test adapter fittings (if required) Flush TC # 1, 2, 3, 4 Open High & Low control valves and Bypass valve on gauge 	 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)
TEST #1: CHECK VALVE #1	RECORD SHUT-OFF VALVES
 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 	 Record shut-off valve #1 & #2 o (closed tight or leaking)
 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 (1.0psid. or > to pass) Close TC #2 and TC #3 Open #1 shut-off valve 	RESTORE SYSTEM Close TC #3 & #4 remove all hoses Open shut-off valve #1 Open shut-off valve #2



3-Valve Test Procedure for a Pressure Vacuum Breaker Assembly (Direction of Flow)

	PREPERATION	TEST #2 - CHECK VALVE VALUE
	1. Notify the customer	Open High Side Control Valve
	2. Inspect the area for safety	Open Vent/Bypass Valve
	3. Determine if the assembly is Approved	Attach High Side Hose to TC #1
	&Appropriate	SLOWLY Open TC # 1
	4. Record Make, Model #, Serial # on test report	Close Vent/Bypass Valve
	form	Turn Off The # 1 Shut off Valve
	5. Close All Valves on Test Gauge	With the Gauge Centerline at Elevation of PVB
	6. Remove Low Side Hose from Gauge (optional)	<u>SLOWLY</u> Open TC # 2 Fully and Record PSID
	7. Remove Canopy and Clean Debris Around Air Inlet	Value When Water Stops Flowing from TC #2
	8. Flush TC#1	Close Test Cocks and Remove hose
	9. Flush TC#2	
	10. Turn Off The # 2 Shut off Valve	
	TEST #1: AIR INLET OPENING	RESTORE SYSTEM
	1. Attach high hose to TC #2	1. Open Shut off Valve #1 First
	2. SLOWLY - Open TC #2	\square 2. Open Shut off Valve #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. Place Finger / Small Screwdriver to Air-Inlet Valve	
	9. With the Gauge Centerline at Elevation of PVB	
	SLOWLY Open Vent/Bypass Valve and Observe PSID	
_	Recording when Air Inlet Pops.	
	10. Close TC # 2 & Remove Hose	
	11. Turn on the # 1 Shut off Valve	

