

Reduced Pressure Principle Assembly
(for use with five valve equipment)

Preparation	Notify customer Inspect area Flush testcocks (open #4, open then close #1, #2 slowly , #3, close #4) Install fittings Inspect test kit - close all needle valves
Observe CV #1	Attach high hose to testcock #2 Attach low hose to testcock #3 Open testcock #3 slowly then open low-pressure bleed valve Open testcock #2 slowly then open high-pressure bleed valve Close high-pressure bleed valve Close low-pressure bleed valve Close #2 shut-off valve, record line pressure Observe check valve #1 (5.0psid. or greater to continue)
Record Relief Value	Open high control valve two full turns Open low control valve slowly (no more than ¼ turn) Record relief valve opening (2.0 psid or greater to pass) Close low control valve only
Record CV #2 Leaks or Closed Tight	Bleed bypass hose by opening bypass valve Loosely attach bypass hose to testcock #4 Close bypass valve Tighten bypass hose to testcock #4 open testcock #4 Reset gauge (open and close low-pressure bleed valve) Open bypass valve two full turns Observe whether relief valve drips Record status of check valve #2 as (closed tight or leaking)
Record #2 shut-off Leaks or Closed Tight	Close testcock #2 observe gauge Record #2 shut-off valve as (closed tight or leaking)
Record CV #1	Close bypass valve Open testcock #2 Reset gauge (open and close low-pressure bleed valve) Record status of check valve #1 (closed tight or leaked) Record value of check valve #1 (5.0 psid or greater to pass) Record buffer value (cv#1 – rv = 3.0psid or greater to pass) Close testcocks #2, #3, and #4 Remove bypass hose from testcock #4
Record CV #2	Move low hose to testcock #4 Move high hose to testcock #3 Open testcock #4 slowly then open low-pressure bleed valve Open testcock #3 slowly then open high-pressure bleed valve Close high-pressure bleed valve Close low-pressure bleed valve Record value of check valve #2 (1.0 psid or greater to pass)
Final	Close testcocks #3 and #4, remove all equipment Open #2 shut-off valve slowly

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Trouble Shooting

NOTE: Flushing and/or cleaning the internal components can correct many problems. Carefully observe condition of components.

PROBLEM	MAY BE CAUSED BY
Relief valve discharges continuously	1. Faulty check valve #1 2. Faulty check valve #2 with back-pressure condition 3. Faulty relief valve
Relief valve discharges intermittently	1. Properly working assembly with back-siphonage condition 2. 1st check valve "buffer" is too small (less than 3.0 psid), with line pressure fluctuation 3. Water hammer
Relief valve discharges after no. 2 shut-off valve is shut. (observe CV #1 test)	1. Normally indicates faulty check valve #1 a. dirty or damaged disk b. dirty or damaged seat
Relief valve would not open, differential on the gage would not drop (relief valve test)	1. Leaky #2 shut-off valve with flow through the assembly
Relief valve would not open, differential drops to zero (relief valve test)	1. Relief valve stuck closed due to corrosion or scale 2. Relief valve sensing line (s) plugged
Relief valve opens too high (with sufficiently high 1st check reading)	1. Faulty relief valve a. dirty or damaged RV disk b. dirty or damaged RV seat
1st check reading too low (less than 3.0 psid "buffer") (observe CV #1 test, & Relief valve test)	1. Dirty or damaged CV #1 disk 2. Dirty or damaged CV #1 seat 3. Guide members hanging up 4. Weak or broken CV #1 spring
Leaky 2nd check valve (CV #2 back-pressure test) 2nd check valve reading too low (CV #2 differential test)	1. Dirty or damaged CV #2 disk 2. Dirty or damaged CV #2 seat 3. Guide members hanging up 4. Weak or broken CV #2 spring

Repair note: Lubricants shall only be used to assist with the re-assembly of components, and shall be USDA approved and non-toxic.