

1. Disassembly - Check Valves

- a. Close inlet and outlet gate valves. Bleed residual pressure by opening No. 2, 3 and 4 testcocks.
- b. Unscrew bonnet using appropriate size wrench.
- c. Using pliers (or similar tool), grasp the retainer either by the center boss or cross support member (depends on device size).

Lift upstream edge above its positioning groove and pull in the upstream direction to free the positioning tab from its groove.

While pulling in an upstream direction to slightly compress the spring, pivot the retainer out of the valve body.

- d. Remove the spring and check assembly.

2. Check Valve Seal Replacement

- a. Hold check assembly in one hand and rotate the disc retainer until the cutout are aligned with the tabs on the guide and remove. CAUTION: The use of pliers or other tools may damage the parts and require unnecessary replacement.

- b. Remove old seal and install new.

NOTE: On 3/4" and 1" sizes the seal is not symmetrical and can only be installed in one direction. Slanted surface must be facing out.

- c. Position disc retainer on guide and rotate to locked position.

Insure the seal is properly seated and has not been lifted during disc retainer installation.

3. Assembly - Check Valves

- a. Use reverse procedures for assembly with the following special instructions.
- b. NOTE: Insure the heavy check spring is installed in the No. 1 check valve.

After positioning the check assembly, insert the spring into the recessed area of the check assembly. Hold the other spring end, bending slightly upward and position the retainer over the spring end. Insert the retainer into position. Insure the spring is straight and properly seated. The use of a screw driver to pull/push on the spring is helpful to align the spring.

- c. To ease bonnet installation, apply a **thin** coating of o-ring lubricant or white petroleum jelly to the o-ring prior to assembly.

4. Relief Valve Disassembly

- a. Remove copper tubing.
- b. Unscrew relief valve body from check valve body and remove seat ring and o-ring gasket.
- c. Remove capscrews, diaphragm cover, and diaphragm.
- d. Remove diaphragm button and spring by unscrewing flat head screw.
- e. Push main stem out the seat ring end of body.
- f. Remove disc washer and seat disc by unscrewing screw)
- g. Remove o-ring from body.

5. Relief Valve Assembly

- a. Use reverse procedure from assembly.

NOTE: Lubricate o-ring and main stem using silicone based o-ring lubricant.

- b. To ease assembly of spring and diaphragm button support main stem in wide open position.
- c. To install diaphragm hold main stem in closed position center diaphragm, put cover in place, and
- d. After completing assembly, open inlet gate valve then bleed air from each check valve chamber. Open outlet gate valve.
- e. Test device to insure proper operation.