STATE OF WASHINGTON

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CHEMIGATION / FERTIGATION INDUSTRY ADVISORY

Upon evaluation by the WSDA, the following types of injection check valves failed to fulfill the provisions of WAC 16-202 for the following reasons:

- ✦ Valve A: spring rating cannot be determined.
- ✦ Valve B: given that there is a 10-pound spring, there is no manufacturing control to assure that the spring will exert 10-psi opening (cracking) pressure.
- ✦ Since both valves are off the shelf components, there is no manufacturer's specification information or certification accompanying the device at point of sale. Both factory assembled or off the shelf components must contain specifications and certifications.
- ✦ The manufacturer when contacted stated that the main components are not compatible with acid products and that the devices were neither designed nor intended for use as chemigation or fertigation injection check valves.

Relevant Provisions of Rule

1. WAC 16-202-1003(3): Substituted alternative technology not otherwise specified in this chapter must be evaluated by the department to determine if the provisions of this chapter have been fulfilled.

2. WAC 16-202-1014(1)(a)-b: The injection line check valve must maintain, at a minimum, 10 psi opening (cracking) pressure or adequate opening pressure to prevent gravity flow due to hydraulic head pressure from the application tank.

3. WAC 16-202-1003(14): Safety devices and injection equipment must be installed, operated, and maintained in accordance with the manufacturer's specifications, established industry standards, and department rule.

4. WAC 16-202-1002(15): "Check valve" means a certified device designed and constructed to provide automatic, quick acting, and absolute closure that creates and maintains a watertight seal. . . .

5. WAC 16-202-1003(12): All components must be chemically compatible with injected materials; water containing injected materials, and system pressure.

6. WAC 16-202-1003(10): All chemigation systems and system components must allow for adequate visual, physical and/or manual inspection.

7. WAC 16-202-1014(1)(a)-b: The check valve must be located at the point of product injection into the irrigation water.

An example of a manufacture's information sheet. A similar sheet must accompany all injection line check valves at time of sale.

CAUTION

IT IS THE INSTALLERS AND/OR SYSTEM DESIGNERS RESPONSIBILITY TO ENSURE THAT THESE VALVES ARE INSTALLED IN ACCORDANCE WITH APPLICABLE AND CURRENT ANSI B31 STANDARDS. (61-600 SERIES SOLDER END CHECK VALVES ARE DESIGNED TO BE SOFT SOLDERED. APPLY HEAT WITH THE FLAME DIRECTED AWAY FROM THE CENTER OF THE VALVE BODY. EXCESSIVE HEAT CAN HARM THE EPR SEAT)

INSTALLATION

1. 61 & 62 series check valves are designed to be installed horizontal or vertical flow up.
2. Make sure all pipe and connections are clean and free of any debris.
3. Apply pipe sealant (pipe dope, Teflon® tape, Loctite®, etc.) to the male end pipe prior to installing the valve.
4. Make sure the flow is going in the direction of the arrow on the check valve body.
5. Use the pipe wrench on the pipe, near the valve, and a wrench with flat jaws which properly fit the valve flats. A pipe wrench is for pipe, never for valves. Fit valve wrench over valve hex flats at the end where connection is being made. Never apply an installation torque through the valve. Valve bodies may be twisted out of shape by using the wrench on the hex opposite the joint being tightened or by using a wrench which is too large. DO NOT OVER TIGHTENED! With proper application of thread sealant, a pipe joint seal can be achieved without using an excessive amount of turning effort.
6. Check the system for leaks prior to putting the valve(s) in service.

MAINTENANCE

1. 61 & 62 series check valves are designed to be virtually maintenance free.
2. If a problem should arise, do not disassemble the valve while the lines under pressure.
3. Repair kits are available for most models should the check or spring need replacing.

FREEZING

1. Provide means to protect the valve from freezing and bursting when used with liquids.

FLUID COMPATIBILITY

1. Consider the corrosive, erosive, and adhesive effects of fluids on the valve and piping components. It is your responsibility to ensure that the valve is compatible with the material(s) used in the system.

OPERATION

1. No manual operation is required, of the check valve, once it is in the pipe line.

NOTE: Not recommended for use with reciprocating pumps and similar applications which may induce repetitious vibrations. Low flow rates, which do not fully open the valve, may result in undesirable noise and premature valve failure. Upstream flow disturbances, which create turbulence, may also result in rapid wear. Therefore it is recommended that a minium of 10 diameters of straight pipe be provided between the check valve and any upstream flow disturbances such as pumps, control valves, elbows, etc.