

WAC 16-202-2011 What are the prevention requirements for backflow into or seepage from application tanks? All irrigation and injection systems used for fertigation must prevent backflow into the application tank. Leakage or siphonage from the application tank through the injection system into the irrigation system must also be prevented.

(1) Injection into a pressurized section of an irrigation system must include:

(a) An automatic, quick-acting injection line check valve must be used to prevent leakage from the application tank into irrigation water and to prevent irrigation water from entering the chemical injection line. 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. The check valve must be located at the point of product injection into the irrigation water; and

(b) Where siphon action induced by an irrigation system could compromise the cracking (opening) pressure of an injection line check valve, a vacuum relief valve must be installed in the irrigation line downstream of the injection point. The orifice size must comply with current American Society of Agricultural Engineers (ASAE) standards.

(2) Injection into nonpressurized (e.g., open surface, gated pipe, or spigotted pipe) portion of irrigation system must include a hydraulic discontinuity in source water flow or a sufficient hydraulic gradient such that chemicals or treated water cannot contaminate the water source. Backflow devices for nonpressurized systems may include a weir box, drop structure, air gap, batch tank, or similar device whose intended function is to prevent backflow into the application tank.

(3) Venturi or other passive injection systems.

(a) If backpressure or backsiphonage can occur, the chemical injection line must contain an automatic, quick-closing check valve. The valve must be located immediately adjacent to the chemical inlet side of the venturi.

(b) If product can potentially siphon or seep into the water supply, the chemical injection line must contain a normally closed solenoid operative valve connected to the system interlock, or a normally closed hydraulically operated valve that opens only when the main water line is adequately pressurized. The valve must be installed adjacent to the product outlet on the application tank.

(c) With a bypass system, as an alternative to (a) and (b) of this subsection, the automatic, quick-closing check valve may be installed in the bypass immediately upstream of the venturi water inlet. In addition, either the normally closed solenoid or the hydraulic solenoid may be installed immediately downstream of the venturi water outlet.

(d) Bypass systems with a booster pump must have the normally closed solenoid interlocked with the source pump for the irrigation system.

[Statutory Authority: Chapters 15.54, 15.58, and 17.21 RCW. WSR 01-13-063, § 16-202-2011, filed 6/18/01, effective 11/9/01.]