

Suction Piping

Description of Release Detection:

Most suction systems use a positive displacement pump in the dispenser to draw the product from the tank. Typical suction lines operate at a vacuum of 3 to 5 psi. Suction systems are characterized as “European” or “American” systems. When the pump is shut off or a hole or break develops, suction is interrupted and the product flows from the dispenser (pump) toward the tank. In the European system (safe suction), a check valve is only located immediately below the dispenser pump. When the pump is turned off or there is a line failure, suction is broken, the check valve closes and most of the product drains back into the tank. In the American system, the check valve is located near the top of the tank, where it is often called an angle check, or at the bottom of the suction line within the tank, where it is called a foot valve. When the pump turns off the valves close. Since product cannot drain into the tank when the line fails, the product in the pipe above the hole is released to the environment.

Operating and Maintaining Suction Piping System:

No release detection is required, if and only if, it can be verified that you have a “safe suction” piping system (European suction) that meets all of the following criteria:

- 1) Only one check valve per line located directly below the dispenser
- 2) Piping slopes back to the tank
- 3) System must operate at less than atmospheric pressure.

If these characteristics cannot be verified, then the system is considered American Suction, and requires a line tightness test to be performed every three years by a qualified professional.

- Testers and testing equipment must maintain certification from equipment manufacturer in order to conduct valid testing acceptable to the Department.

Record Keeping:

- For safe suction, keep all records verifying that the system is indeed safe suction for the lifetime of the system.
- For American suction, keep the most recent line tightness until the next one is performed.
- Keep all records of calibration, maintenance, and repair of release detection equipment for at least one year.

If a line test result is anything other than a pass or indicates a release has occurred, call the UST Management Division within 24 hours at (803) 898-0589.

