

## Topic – Priming a pump. Installation and trouble shooting.

**Purpose:** To illustrate proper installation and procedure for priming and maintaining prime of a chemical metering pump.

### 1. Safety:

Always use personal protection equipment (PPE) when working with chemical feed pumps and chemicals. Eye protection (face shields provide the best protection), rubber gloves and an apron are all recommended. At the very least, eye protection is required.

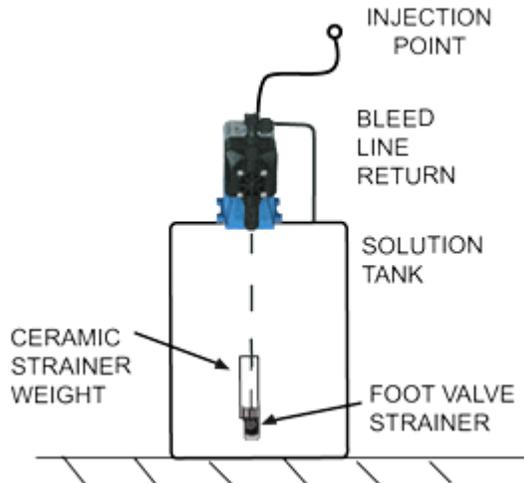
### 2. Proper installation and types of installations:

#### Suction Lift:

The most common application will have the pump installed in a suction lift configuration.

Suction lift is where the pump is installed above the chemical solution tank and the pump is drawing chemical up to the pump.

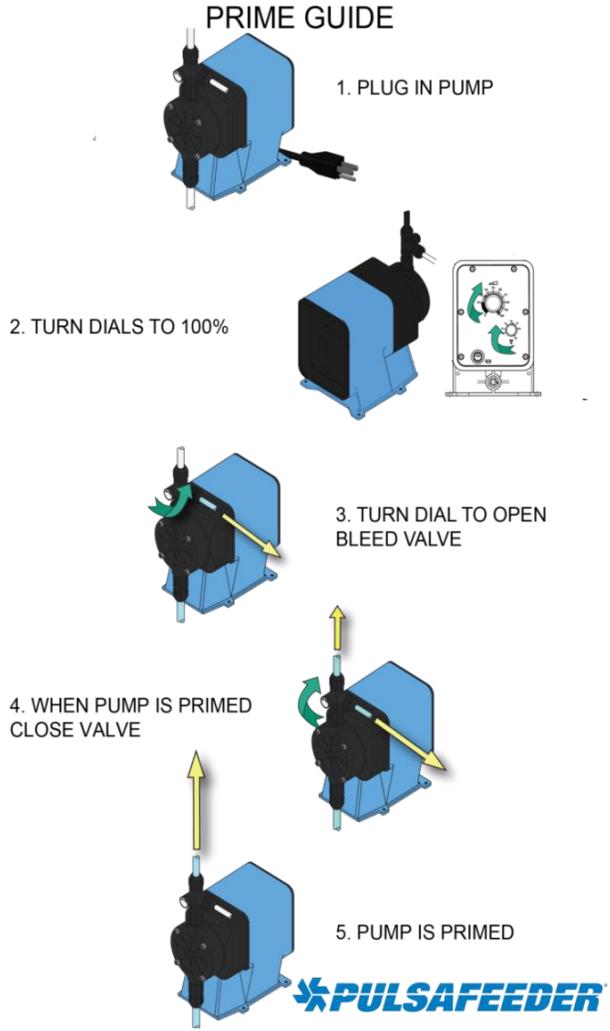
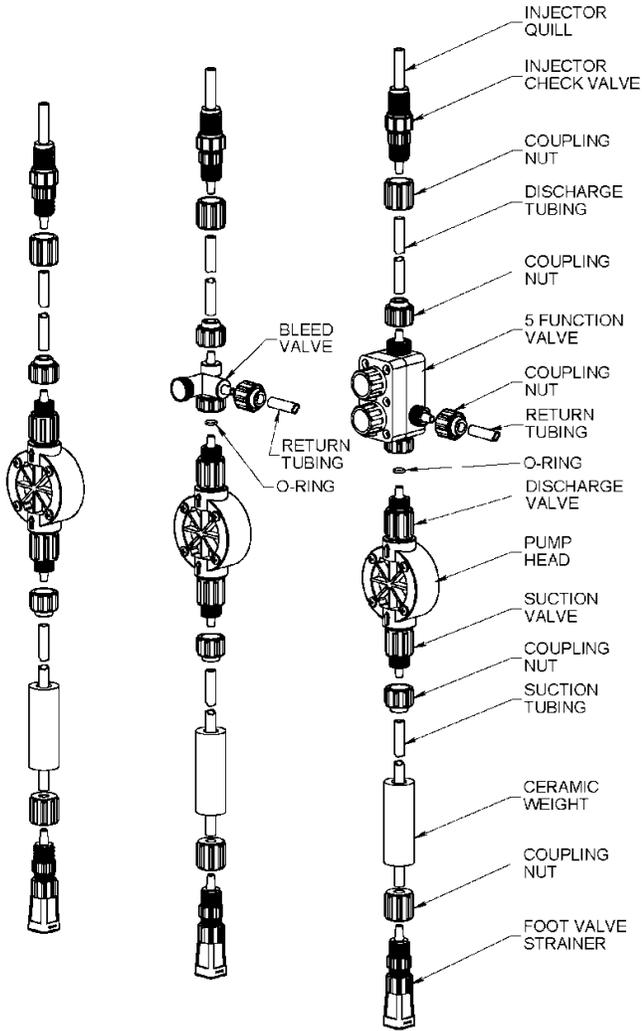
- The maximum suction lift distance is 5 ft. A 4 ft. section of suction tubing is supplied with tubing connected pumps.
- The tubing should be as straight as possible from the foot valve/strainer to the pump with no loops.
- The foot valve/strainer must be as vertical as possible and not resting on the bottom of the solution tank.
- Securely fasten the return tubing to the bleed valve or 5 function valve using the coupling nut provided.
- Make sure the other end of the return tubing returns to the top of the solution tank and is not submerged.



- For safety reasons, it is also advised to secure the tubing to the tank. The bleed valve and 5 function valve also serves as a pressure relief to release pressure in the discharge line prior to doing pump maintenance. Securing the return tube to the tank helps prevent the tube from flying and spraying chemical due to a sudden pressure release.
- Make sure all adjustment knobs are at 100% prior to priming.  
Note: Only adjust stroke length (large knob) when the pump is running.

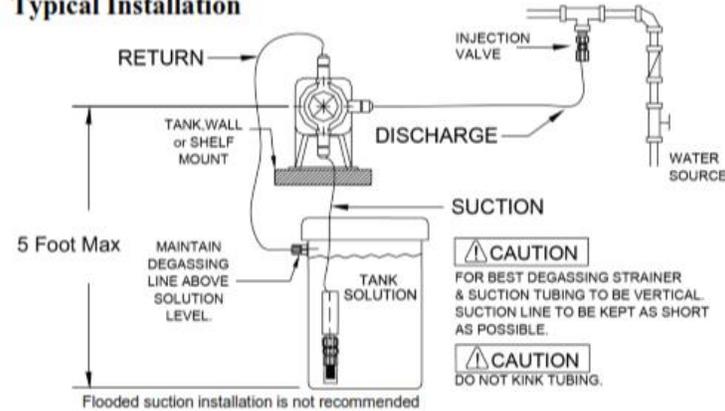
# Pulsafeeder Technical Bulletin

The illustrations below show the correct installation of supplied accessories and the proper sequence for priming.



With a degas head, there is no bleed valve and the head automatically allows gas to purge while priming the pump.

### Typical Installation



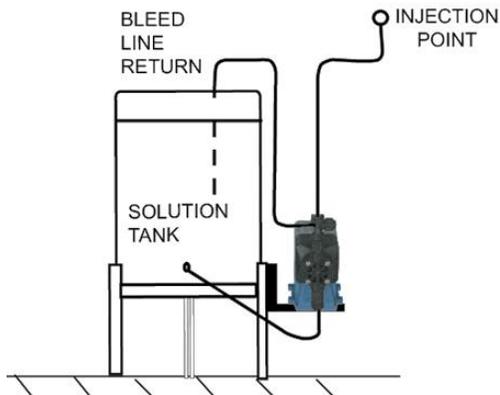
Flooded Suction:

For Technical Support contact the Pulsafeeder Technical Support Team  
 941-575-3800 [ppgspotech@idexcorp.com](mailto:ppgspotech@idexcorp.com)

## Pulsafeeder Technical Bulletin

Unlike suction lift, a flooded suction installation has the pump mounted below the solution tank and draws chemical from a fitting at the bottom of the tank. Although less common, a flooded suction is the best type of installation in terms of making and maintaining prime. The priming procedure is the same as with a suction lift.

Note: Running a tube up and over the top of the tank and back down to the pump is not a flooded suction and will create issues with prime.



### 3. Troubleshooting and Tips:

If all of the steps and conditions from the previous sections are met, and there is difficulty priming the pump, the following troubleshooting steps and tips can be tried.

- a. Check all of the connections to and from the pump to ensure there is no possible air ingress especially on the suction side of the pump.
- b. Check the screws that fasten the head to the pump and make sure none have loosened.
- c. Check the suction and discharge valves to make sure they are hand tight.
- d. Never disassemble a valve cartridge on a Pulsatron pump. These cartridges are assembled using gauges and shims in a very specific order and method. Disassembly and re-assembly can compromise the original assembly results. This is particularly critical with pumps that have PTFE seats. Even a minor scratch or nick can compromise the valves function.
- e. Diaphragm/check valve pumps do not like to be dry. Pulsafeeder pumps are tested at the factory with water. If a pump sits on a shelf for some time prior to installation, the inside of the head and valves can dry out and be challenging to prime. If the chemical to be dosed is water friendly, using water for the following is the safest. If the chemical to be dosed reacts with water, use that chemical or another fluid that is friendly to the chemical.
- f. Remove the suction line from the suction valve on the pump. Submerge the valve directly in a cup of fluid so that the pump is drawing directly from the cup. Let the pump run just long enough to ensure all of the components in the valves are wet. Re-attach the suction line and prime as normal.

