Common Installation Set-Ups

A. Pump mounted above the tank.

B. Pump mounted on shelf partially up the tank.

C. Pump mounted at the base of the tank.

For Pumps with auto-degassing Liquid Ends

A. Pump mounted above the tank.

For applications where the pump is mounted above the chemical tank, the bypass line should be routed back to the top of the tank. Install it so the bypass line is not submerged in the chemical.

B. Pump mounted on shelf partially up the tank.

B: POSITIVE SUCTION
Route the bypass line to a location approximately the same level as the suction line. Install it such that any bypassed air/gas is not rerouted into the suction line. Bypass can be routed back to the top of the tank if max. suction pressure is $\leq 2.8$ psi (0.2 bar). To prevent loss of chemical if a diaphragm ruptures, we recommend installing a diaphragm failure detector.
Installation Tips:
- Should be as close to the pump as possible.
- Set pressure at 90% of discharge line pressure.
- No further than 12 inches from the metering pump discharge, in direction of flow.

**Note:** Backpressure valve is required at point of injection, downstream of pulsation dampener. Consult ProMinent for verifications when discharge lines are greater than 100 feet.

- **Pressure relief valve**
  - In form of an adjustable backpressure valve or 3-port relief valve.
  - Protects metering pump against "dead head" (pumping against a closed valve).

**Installation Tip:**
- Must be close to the pump, upstream of the backpressure valve, for system protection.

**Application Suggestions:**
- Where the discharge line is hard piped.
- When pumping into high pressures.
- Where the discharge line has several check valves installed.

**Note:** Recommended for all motor-driven pumps.

- **Viscous fluids**
  - Require valve springs to ensure balls seat properly.

**Installation Tips:**
- Should be spring-loaded for viscous media.
- Operation at a greater stroke length is better than operation at a higher stroking rate.
- The suction piping should be sized up by one pipe size and a pulsation dampener used.
- Select PP4/PP5 series pumps with special liquid ends for extremely high viscosities. Positive suction recommended.

- **Calibration column**
  - Draw down, graduated cylinder.
  - Useful for setting up metering pump to reach desired capacity.
  - Single pump dosing package can be equipped with a self-filling calibration assembly for application where the pump is installed above the tank (eliminates chemical handling).

**Installation Tip:**
- Easy to install off the suction side of the metering pump with a ball valve to isolate from the tank.

**APPLICATION OF PUMP ACCESSORIES FOR AN OPTIMAL METERING SYSTEM**

![Diagram of pump accessories](image)