



How to Reduce Pump Pulsation & Extend Equipment Life

Overview

Pump pulsation is a natural result of positive displacement pumps, but when left unmanaged, it can create serious operational challenges. Pressure fluctuations caused by pulsation can lead to vibration, inaccurate flow measurement, and premature wear on system components.

Over time, these issues increase maintenance demands, raise operating costs, and reduce overall system reliability. Implementing the right pulsation control strategy helps facilities improve performance while protecting critical equipment.

Application

Pulsation control plays a critical role in many industrial systems where consistent flow and equipment reliability are essential.

Common applications include:

- Chemical dosing and injection systems
- Water and wastewater treatment
- Mining and slurry transfer systems
- Oil and gas fluid handling
- Manufacturing and coating processes

Across these applications, facilities frequently face:

- Pressure spikes damaging equipment
- Inconsistent or pulsating flow
- Reduced accuracy in meters and gauges
- Increased wear on hoses, valves, and pumps



We offer on-site product demonstrations!

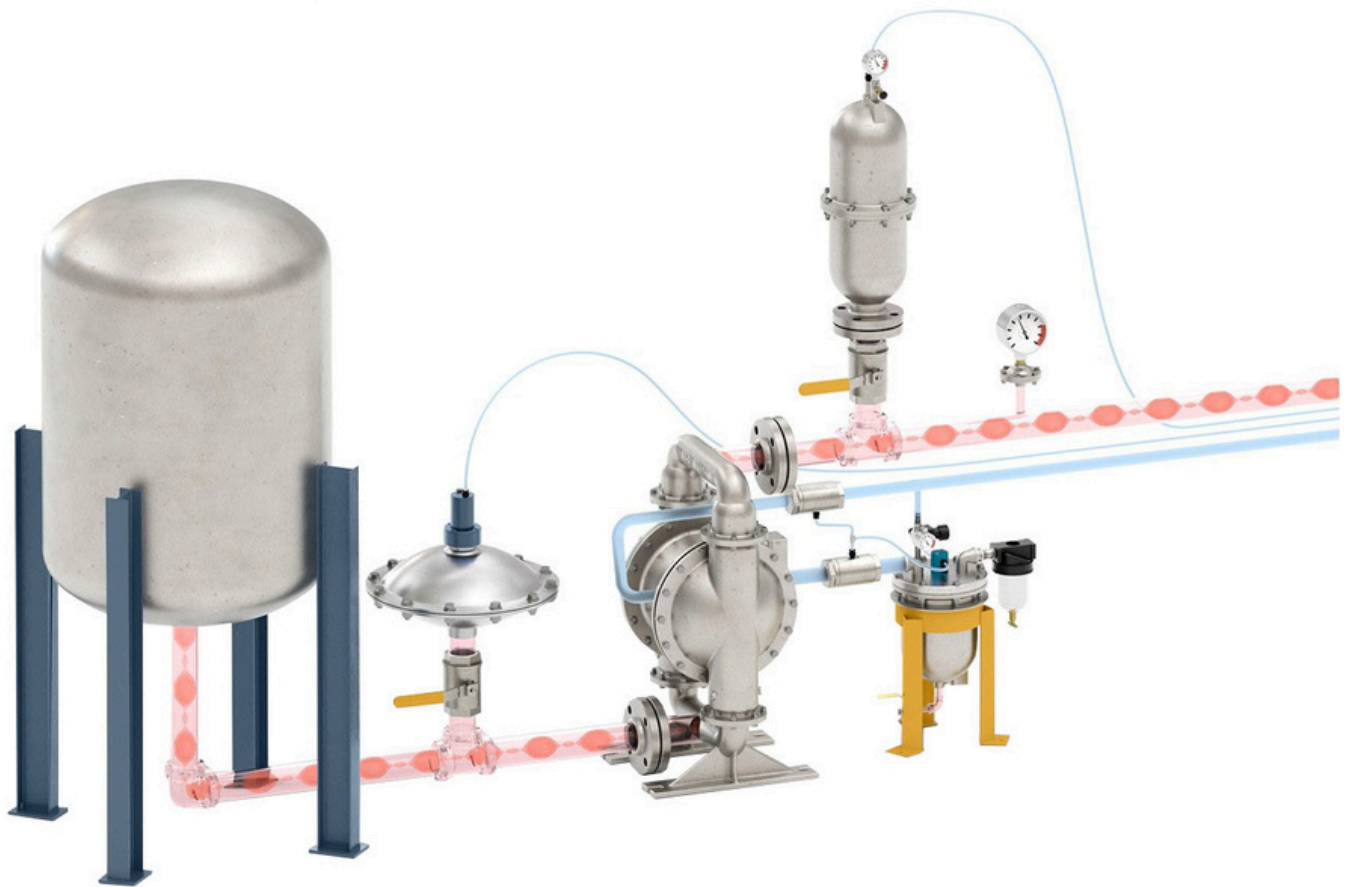
Solution

Many facilities reduce pulsation by installing dampeners at key system points. These devices act as shock absorbers, smoothing pressure fluctuations for more consistent flow.

How dampening helps:

- Absorbs pressure spikes and oscillations
- Reduces vibration and hydraulic shock
- Stabilizes pressure and flow
- Protects sensitive instrumentation

Properly sized and placed near the source, dampeners improve system stability and performance.



Features/Specifications

When evaluating pulsation control:

- Properly sized dampener
- Installed near pump discharge
- Pre-charged gas chamber
- Bladder or diaphragm design
- Compatible with pump type

Key considerations:

- Correct sizing is critical
- Proper pre-charge ensures performance

Advantages

- ✓ Reduced wear and longer system life
- ✓ Improved flow stability and accuracy
- ✓ Lower maintenance and downtime
- ✓ Increased process efficiency
- ✓ Reduced vibration and noise

Pulsation dampeners protect flow meters and components, improving reliability and extending system life.



Outcome



By implementing pulsation control solutions, facilities can significantly improve system performance and reliability.

Results include:

- Smoother, more consistent fluid flow
- Reduced stress on pumps, piping, and instrumentation
- Longer service life for critical components
- Lower maintenance and operational costs
- Improved overall system efficiency

In demanding applications such as slurry transfer or chemical dosing, reducing pulsation directly improves uptime, process control, and long-term equipment protection.