



PATENTED

Reduce Polymer Consumption

Drier Cake Solids

Eliminate Pump Maintenance

**Optimize Polymer-Slurry Mixing
&
Eliminate Polymer Shearing**



P6 PolyMix® Technology



1. POLYMER REDUCTION: The P6 PolyMix® System reduces polymer consumption by providing complete mixing in a shear sensitive manner. The long strand polymer chains remain intact and unbroken. As well, the wastewater floc remains intact and not sheared. This allows for a reduction in the amount of polymer needed per gallon of wastewater for effective dewatering saving the customer thousands of dollars. In addition, by not breaking up the polymer long chains, the dewatering equipment will experience less fouling providing for more uptime of the equipment and reduced costs of cleaning the equipment.

2. DRIER CAKE SOLIDS: The P6 PolyMix® technology optimizes polymer-solids mixing, thereby increasing dewatered solids concentration and percent solids capture. This results in more cost effective sludge hauling with less water and more dewatered cake solids being transported off site.

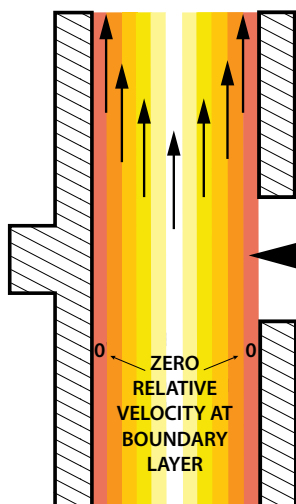
3. PUMPS & MIXES: The P6 PolyMix® technology uses the pumping dynamics for mixing the polymer versus a mixer valve or check valve. The hydraulic shear forces within the mixing pump provide for a complete homogeneous wastewater polymer slurry feed to the dewatering equipment without breaking the long chain polymers or reducing floc size. The InjeX™ polymer injection mixing chamber is designed for minimal polymer disruption. As well, pre-mix chambers are not needed when utilizing the P6 PolyMix® System.

4. LOWER OPERATING PRESSURE: The P6 PolyMix® technology greatly reduces the operating pressure by reducing back pressure within the piping system via the elimination of the mixer valve or check valve. Back pressure in some applications can be reduced by over 75%. Pumping systems generally last longer and experience less wear when operating at lower pressures versus higher pressures.

5. LOWER HORSE POWER: The P6 PolyMix® technology allows for the feed pump to operate at lower horsepower over a traditional attangement with mixer valves. This creates substantial long term energy savings as well as reduced upfront capital cost associated with lower installed horsepower. Horsepower savings of up to 50% or more can be expected.

6. ELIMINATION OF PUMP MAINTENANCE: The P6 PolyMix® technology reduces pump parts & maintenance by utilizing the abrasion resistant pumping principles of Boundary Layer and Viscous Drag. This benefit can save the customer thousands of dollars over the life of the equipment. It is not unusual for customers to experience 20 plus years of UpTime service with our Boundary Layer-Viscous Drag P6 PolyMix® Feed Pump.

DISCFLO Pumps - Boundary Layer / Viscous Drag Pumping Principle



As fluid enters the eye of the Discpac, liquid adheres to the disc surface creating the boundary-layer which rotates at the same speed as the discs. The boundary-layer drags adjacent layers gently mixing while simultaneously pumping without mechanical shear or damage to the wastewater floc or to the polymer.

Non - Impingement Design

Handles Both Abrasive & Viscous

Gentle Pull-Through Pumping

1/2 - 7% Sludge

Laminar Flow

P6 PolyMix® System

P6 PolyMix®

Zero Maintenance

10-Year
Wear Warranty

Reduce Polymer
Consumption

Increase Cake Solids

Gentle Mixing

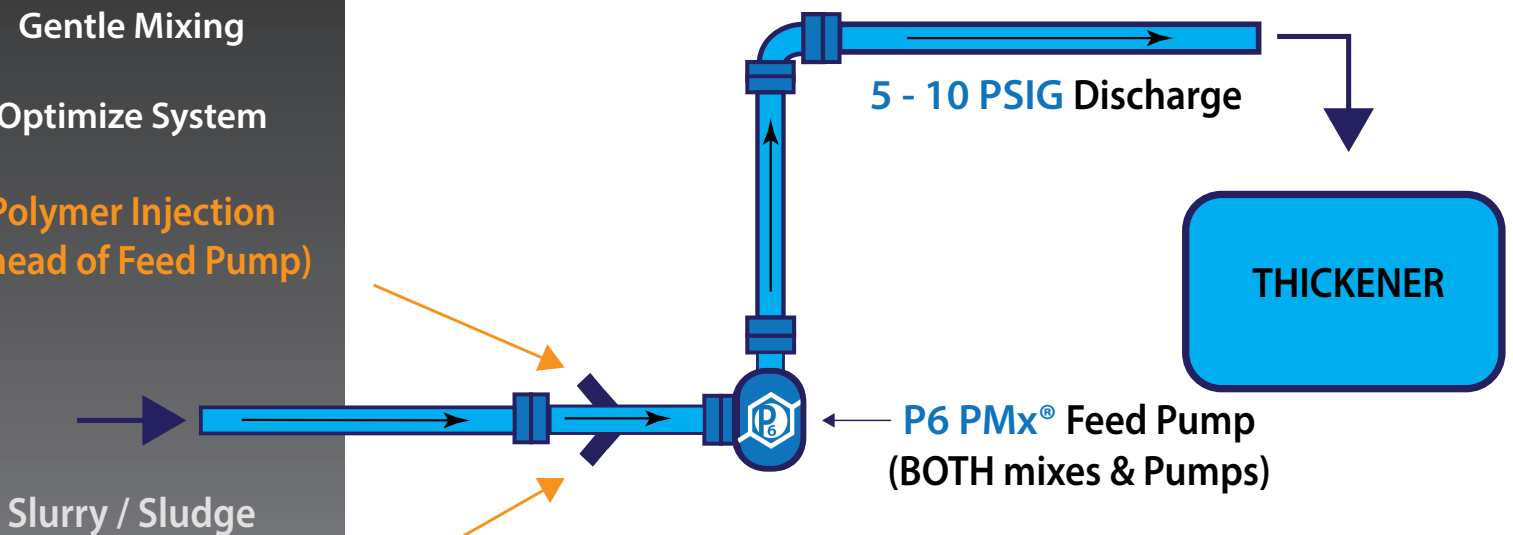
Optimize System

Polymer Injection
(Ahead of Feed Pump)

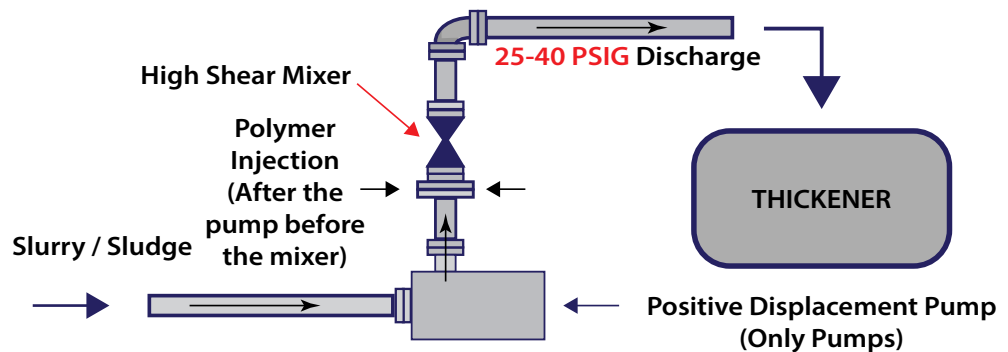
Slurry / Sludge

- Polymer Usage Reduction of 20% and Higher
- Drier Cake; Hauling Cost Reduction
- Mixing Optimized
- No Shear or Damage to Polymer or Floc

P6 PolyMix® Feed Pump operates on Boundary Layer Viscous Drag non-shear, gentle pumping principles.



Outdated HIGH SHEAR Polymer Pumping



Breaks Polymer-sludge chain, making floc smaller, requiring more polymer for dewatering

Drawbacks:

- Higher Polymer Consumption
- Wetter Cake
- High Pump Maintenance

P6 PolyMix® Case Studies



P6 PolyMix®

1. North Carolina WWTP
Aerobic Digested Sludge
Belt Filter Press Feed
System

2. South Carolina WRF
Aerobic Digested Sludge
Screw Press Feed System

3. Florida WTP
Ferric Sludge
Belt Filter Press Feed
System



P6 InjEX™ Chamber with P6 PolyMix® feed pump

The polymer savings ranged from 44% to 63% and the sludge concentration increased from 16.5% with their existing positive displacement feed pumps to 25% with the P6 PolyMix® System. Customer advised they had not been able to produce over 19% with the existing positive displacement feed pumps. In addition, the customer experienced increased flow rate capacity to their belts effectively doubling the amount of sludge that could be processed through their belt filter press when fed by the P6 PolyMix® System.



The two (2) P6 PolyMix® systems at SC WRF feeding two Screw Presses are producing 23% Cakes solids versus 19% as expected by Screw Press manufacturer.



P6 PolyMix® demonstration setup at FL WTP. The city was able to double the flow to BFP and saved well over 50% in polymer usage. City bought 3 new P6 PolyMix® units.