cleanwater1®

POLYBLEND®
DYNABLEND™
POLYMER FEED SYSTEMS

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Proper Polymer Activation is the Key

Proper Polymer Activation Systems Maximize Effectiveness and Helps Reduce Costs

Backed by decades of scientific research and field experience gained from more than 10,000 installations, Polyblend® mechanical and Dynablend™ hydraulic polymer activation systems deliver significant operational savings by reducing the consumption of polymers used for the treatment of water and wastewater.

Polymers vastly improve the operation of water and wastewater plants by accelerating the settling of particles and improving sludge dewatering. ***Polymer costs are one of the largest operating expenses at a plant. Even a small reduction in polymer consumption can result in meaningful savings.*** Proper polymer activation is the key to maximizing polymer effectiveness.

How We Achieve Optimal Results

To get optimal "uncoiling" of polymer chains without damaging or shortening the polymer chain, different levels of energy must be applied to the polymers at different times. High energy mixing is required to prevent agglomerations, but over-mixing can damage the polymer. ***The key is to shift mixing energy over time to get optimal results.***

Following the science of polymer activation, our hydraulic and mechanical mixing technologies employ two-zone mixing regimens of applying high energy at the moment of initial wetting (MOIW) followed by a transition to a low-energy quiescent zone. As a result, our Polyblend® and Dynablend™ polymer mixing systems can consistently achieve high activation levels and viscosities.

We Follow the Science

Our Polyblend®and Dynablend™ systems are designed to optimize polymer performance because they follow the latest in polymer science: Two stage mixing with the highest energy applied first at the moment of initial wetting (MOIW) followed by a "quiescent" zone allowing for more gentle activation. ***This two-zone mixing regimen is widely recognized by polymer experts and manufacturers as the proper mixing methodology to optimize polymer activation.***

Polyblend® and Dynablend™, The De-Facto Standard for Water and Wastewater Professionals

cleanwater1 is proud to offer the most comprehensive line of both mechanical and hydraulic polymer activation feeders. With thousands of installations around the world, Polyblend® and Dynablend™ polymer activation systems not only represent the best science of polymer blending, but they are the de-facto standard for serious water and wastewater professionals focused on the best polymer efficiencies.

The Science of Efficient Polymer Activation

High Energy at MOIW + Transition to Low-Energy "Quiescent Zone" + Adequate Residence Time = Fully Activated Polymer Solution at Desired Concentration

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Emulsion Polymer Activation Technologies

Polyblend® M Series

POLYBLEND®

Mechanical Mixing

- Highly efficient mixing process leads to polymer savings
- Excels at handling high molecular weight polymers
- Quantifies the energy input and relates it to G value. This is important for high molecular weight polymers or polymers with a tight tolerance for activation.
- Low maintenance cost
- Wide variety of size options
- Large installation base

Polyblend® Mechanical Activation (Emulsion Polymer)

Series	Water Flow Rate GPH/(LPH)	Polymer Output Range
PB Series	1.6 - 1200 / (6 - 4540)	0.005 - 8 / (0.015 - 30.2)
M-Low Series	3 - 120 / (11.4 - 454.2)	0.5 - 2.5 / (1.5 - 9.5)
MM-Series	240 - 3200 / (912 - 22,800)	0.5 - 660 / (1.5 - 2508)
M-Series	240 - 12,000 / (912 - 45,600)	0.5 - 660 / (1.5 - 2508)

Achieve Greater Savings with Two-Stage Mixing

cleanwater1's industry-leading emulsion polymer activation technologies use two-stage mixing to achieve superior results. We frequently see higher polymer savings with two-stage mixing compared to single-stage mixing. Optimizing mixing energy ensures consistent performance. This allows us to handle new polymer developments, ultra-high molecular weights, different charge densities and new chemistries. Our compact size and open-frame designs enable easy installation, access, and maintenance in confined spaces. Control options range from simple manual to full PLC-based automatic control with complete SCADA interface.

DYNABLEND™

Hydraulic Mixing

- Performs well with wide range of molecular weight polymers
- No moving parts in the mixing chamber
- Low operating cost
- Low maintenance cost
- Multiple mixing chamber sizes
- Highly reliable

Dynablend™

Dynablend™ Hydraulic Activation (Emulsion Polymer)

Series	Water Flow Rate GPH/(LPH)	Polymer Output Range
Miniblend™	12 - 1200 / (45 - 4543)	0.0125 - 5 / (.05 - 18.9)
L4	12 - 1200 / (45-4543)	0.125 - 20 / (.05 - 75.7)
L6	180 - 3000 / (681 - 11,356)	0.125 - 20 / (.05 - 75.7)
L8	360 - 6000 / (1363 - 22,712)	1.5 - 300 / (5.7 - 1135)
L12	900 - 21,000 / (3407 - 79,494)	1.5 - 300 / (5.7 - 1135)

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Dry Polymer Activation Technologies

POLYBLEND®

Mechanical Mixing

To create the ideal environment for the first stage of dry polymer dissolution, crucial initial wetting occurs in the DD4 disperser, where polymer and water are subjected to high energy created by mechanical mixing.

The dry polymer is precisely metered into the high-energy mix chamber and properly activated with water.

After brief exposure, the solution exits the high-energy disperser. The point of initial polymer / water contact is visible to the operator through a clear, acrylic interface.

Polyblend® DP2000

Dynajet™

DYNAJET™

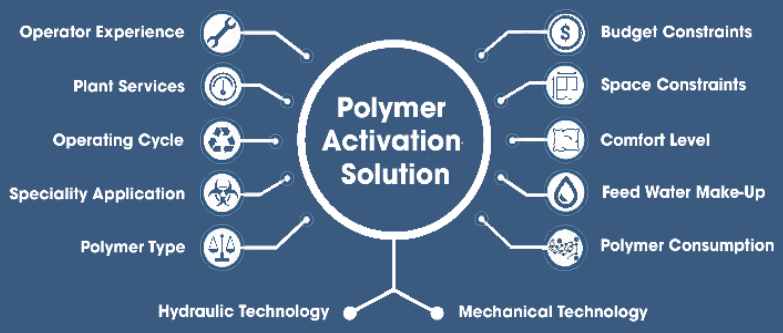
Pneumatic Conveyance System

The Dynajet™ technology uses a blower-induced pneumatic conveyance system to transfer up to 12 lbs of polymer per minute from the volumetric feeder to the wetting head with higher capacity custom systems available. The polymer is naturally dispersed in the conveyance air before introduction to the dilution water for optimum polymer-particle wetting.

Polymer and water come together in a high flow shower of water produced by specially designed waterjets to ensure complete polymer-particle wetting. The solution that's created enters the mix tank where the polymer solution is ready for the mixing and aging process.

We Provide Custom Solutions For Every Application

Our experts will guide the equipment selection process based on your particular application. Listed below are the various factors we take into account when creating your custom solution. Ask about our demo programs.



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