

PULSAFEEDER



Emulsion Polymer Blending System

POLYFEEDER

Pulsafeeder Technology

Since 1936, Pulsafeeder has been the global leader in fluid handling technology and innovation in chemical dosing. As a single source system supplier, we have built a strong reputation with thousands of polymer installations in a variety of end user applications. Our extensive product knowledge in complete polymer activation and injection systems allows us the expertise to accurately supply our customers with the most efficient polymer system available.

Polymer Blending System

Designed to meet the requirements of our customers, the Polyfeeder Emulsion Polymer Blending System revolutionizes the industry with innovations. Our three pass mixing chamber thoroughly hydrates polymer molecules without damaging existing polymer chains, achieving the proper hydration level required for a fully activated polymer. Our mixing chamber is completely visible so your operators can easily and quickly monitor the blending operation. Maintenance is simplified with well placed unions and no special tool requirements. As the original pump manufacturer, we can offer an outstanding two year warranty. Simply put, the Polyfeeder Emulsion Polymer Blending System is the most effective, robust and reliable emulsion polymer blending system in the industry.

Product Scope

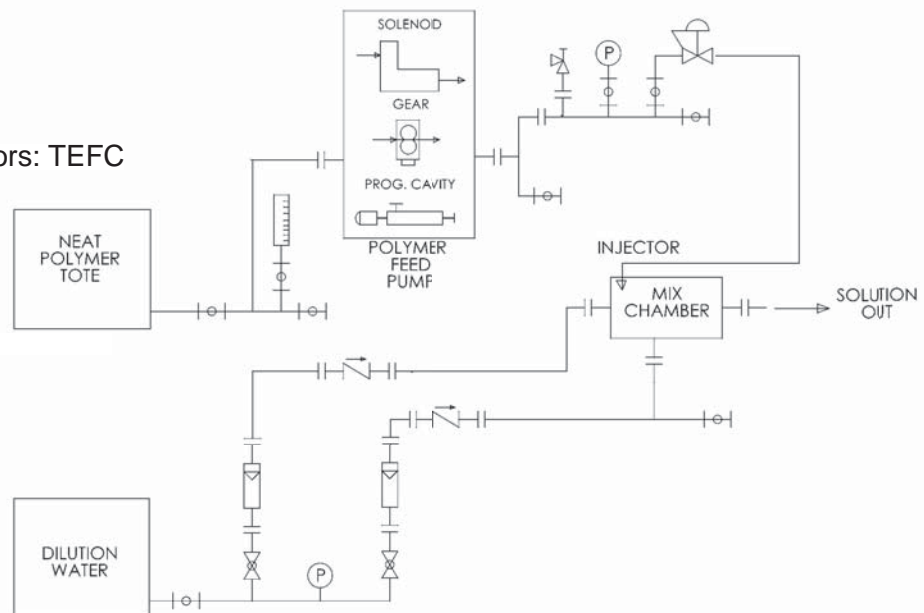
- *Three Pump Choices: Solenoid, Gear Pump or Progressive Cavity*
- *Input Voltage: 115 VAC, 230 VAC 50 or 60 Hz*
- *Current Requirements: 20 A @115VAC, 10 A @ 230VAC*
- *Basic Dimensions: (model dependent) 36"- 40" Width, 24" Depth 60"-68" Height*
- *Environmental Rating: Controls: NEMA 4X, Motors: TEFC*
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- *Stainless Steel Frame*

Optional Accessories

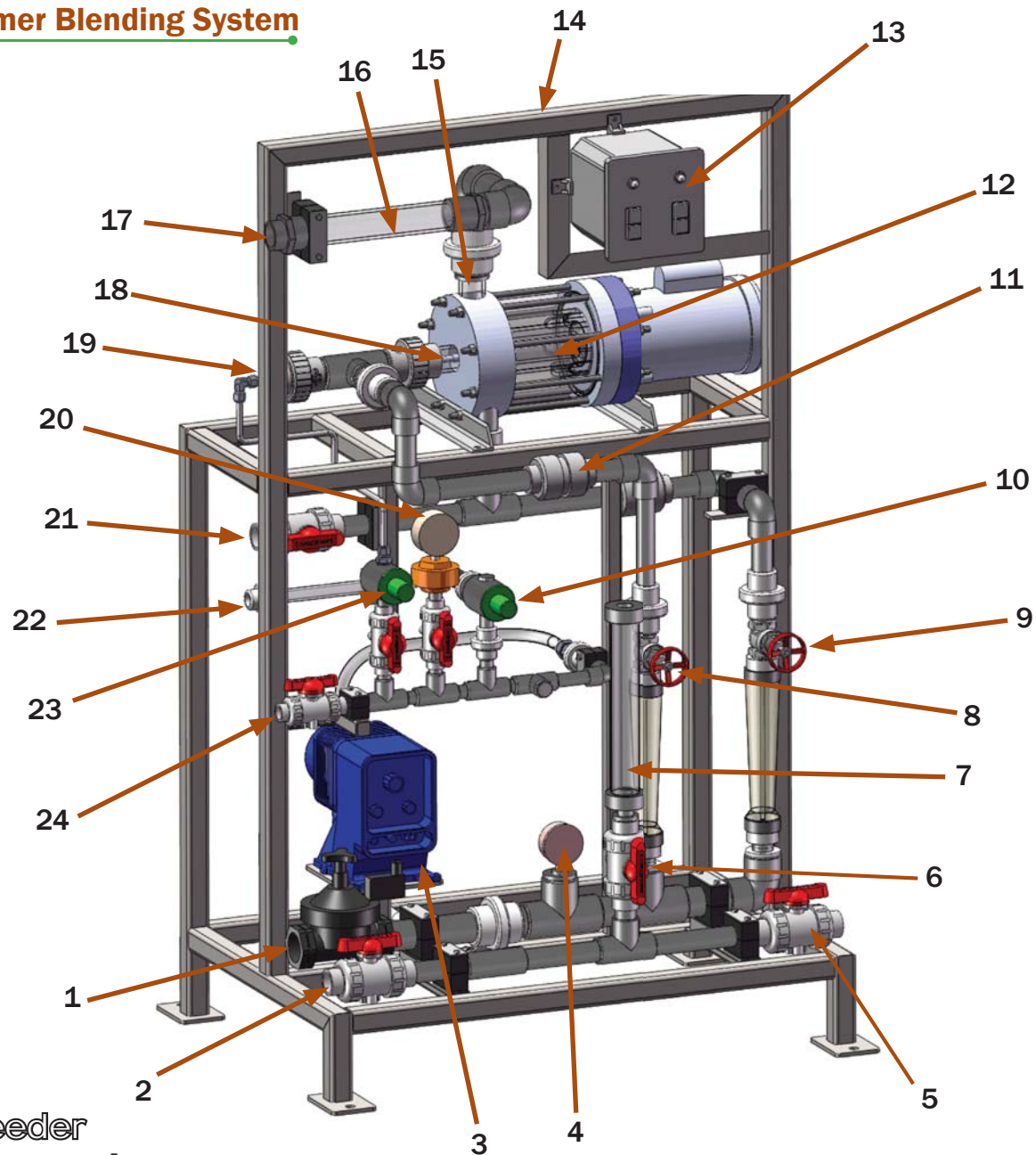
- Loss of Water Flow Switch
- Loss of Polymer Flow Switch
- Polymer Flow Transmitter
- Remote Level Control
- Stainless Steel Piping
- Automatic Water Control Valve
- UL Listed Control

Typical Applications

- Coagulation
- Flocculation
- Sludge Dewatering
- Sludge Thickening
- Filtration
- Clarification



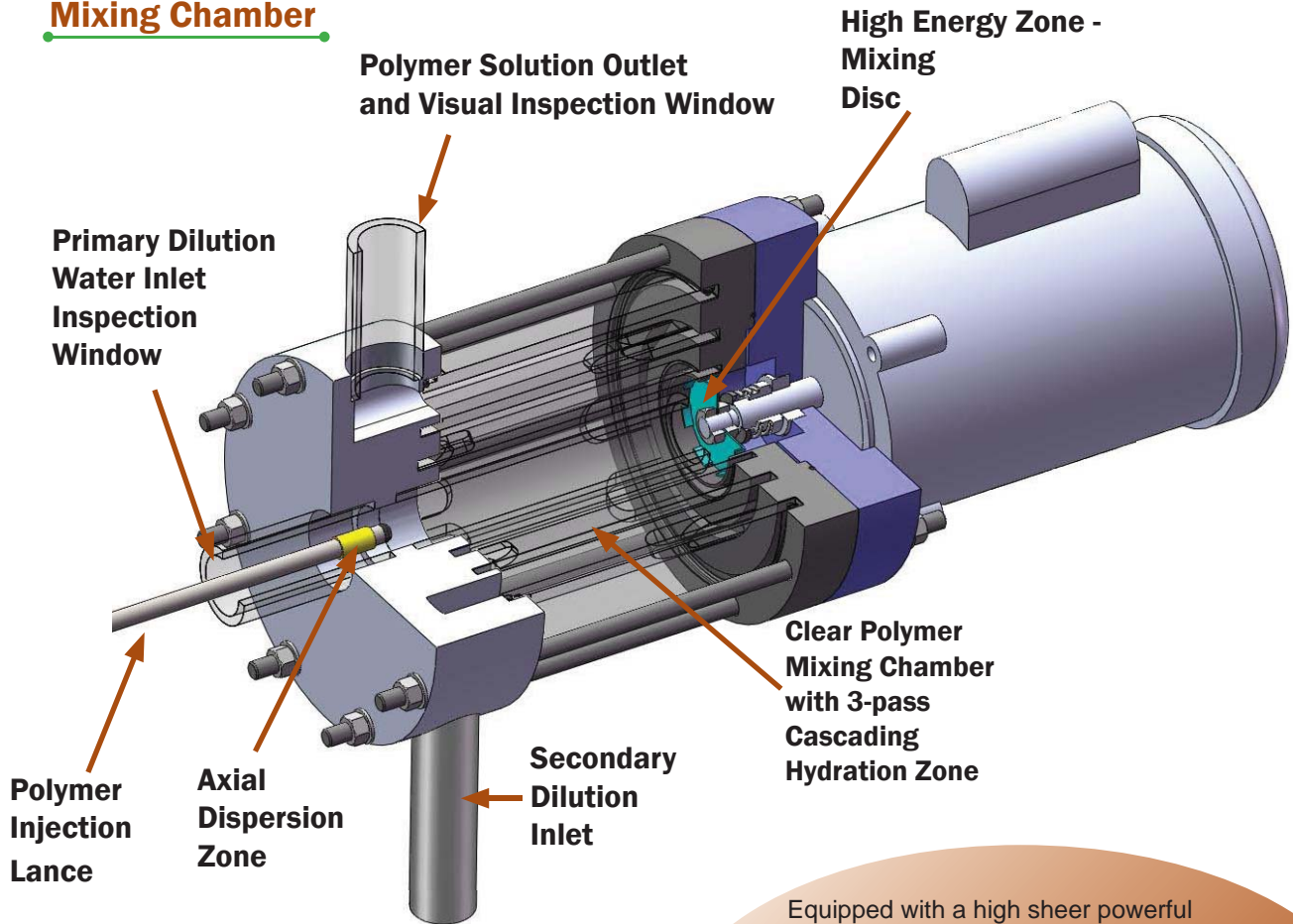
Polymer Blending System



Polyfeeder Components:

- | | |
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| 1. Inlet Water Solenoid Valve with Manual Bypass and Adjustable Flow Regulator | 12. Mixing Chamber |
| 2. Neat Polymer Inlet | 13. System Control Panel, NEMA 4X |
| 3. Neat Polymer Pump (Solenoid, PC or Gear) | 14. Robust Stainless Steel Frame |
| 4. Dilution Water Pressure Gauge | 15. Polymer Solution Inspection Window |
| 5. Neat Polymer Suction Side Drain Valve | 16. Static Mixer-Optional |
| 6. Calibration Column Isolation Valve | 17. Polymer Solution Outlet |
| 7. Neat Polymer Calibration Column | 18. Polymer Inspection Window |
| 8. Primary Dilution Water Rotameter with Globe Valve | 19. Polymer Injection Lance (location only, not visible) |
| 9. Secondary Dilution Water Rotameter with Globe Valve | 20. Neat Polymer Pressure Gauge |
| 10. Neat Polymer Pressure Relief Valve | 21. Mix Chamber Drain Valve |
| 11. Primary and Secondary Dilution Water Spring Loaded Check Valves | 22. Neat Polymer Pressure Relief Port |
| | 23. Neat Polymer Backpressure Valve |
| | 24. Neat Polymer Prime and Drain Valve |

Mixing Chamber



Equipped with a high sheer powerful motorized energy mixing chamber, the Polyfeeder efficiently mixes and hydrates molecules without damaging existing polymer chains.

The clear Polyfeeder mixing chamber is a 3 pass mixing system where polymer is introduced into the center of the primary dilution flow stream via the Polymer Injection Lance.

Features & Benefits

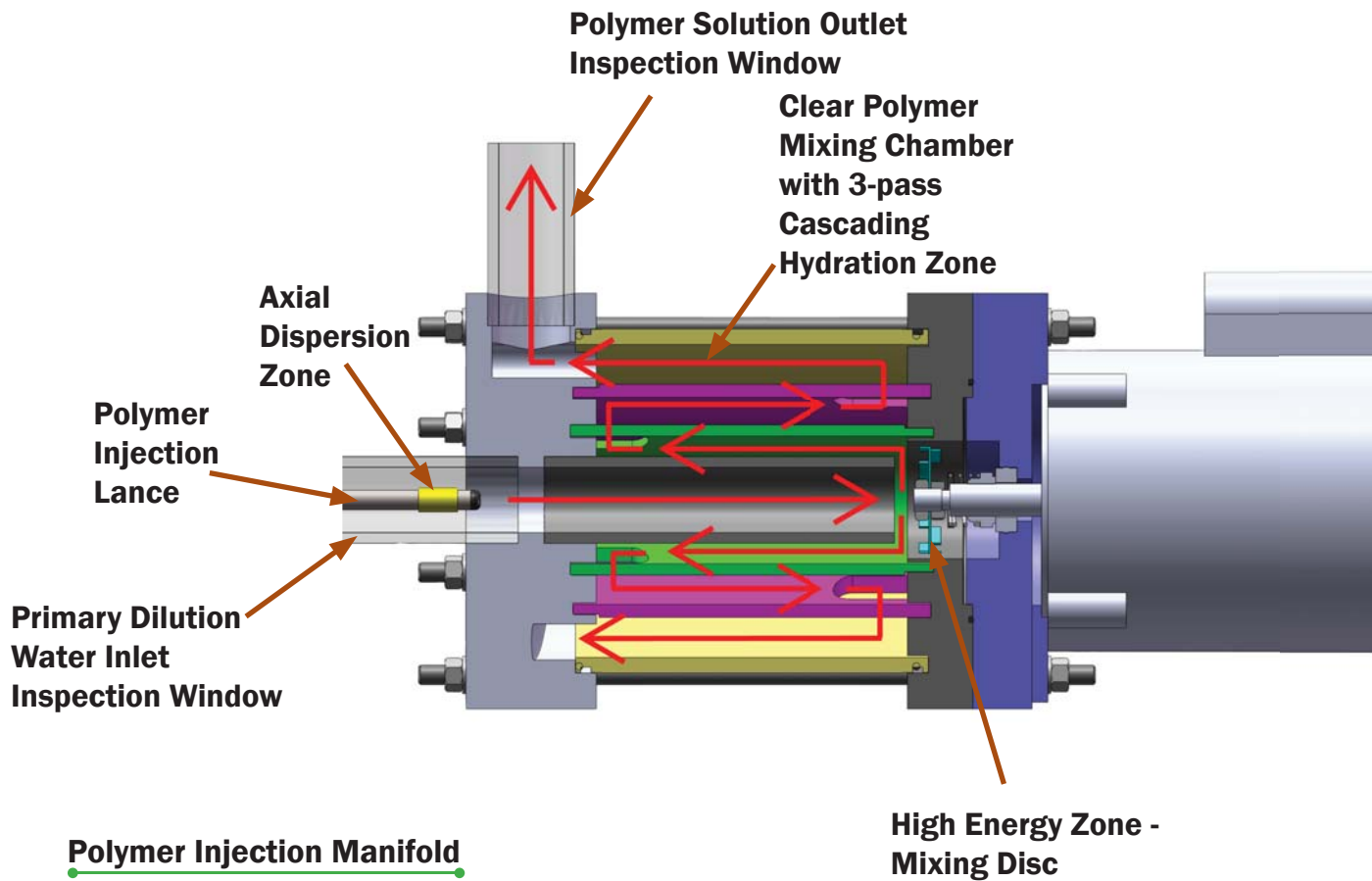
Anti-Clog & Anti-Siphon Polymer Injection Lance



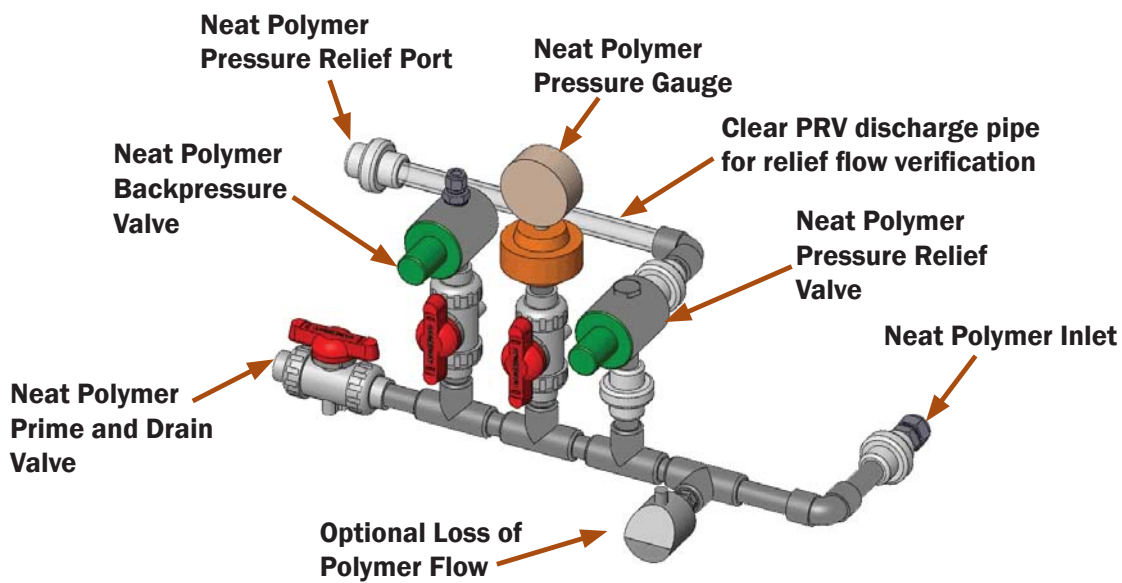
The Polyfeeder employs a patent pending anti-clog and anti-siphon injection lance which effectively separates the polymer from the water interface. The water flow helps close the valve instead of trying to force it open, while still being a membrane that can accommodate the occasional solid. A four hole injection path ensures inline axial dispersion prior to the high energy mixing disc.

Inlet Water Solenoid Valve with Manual Bypass and Adjustable Flow Regulator





Polymer Injection Manifold



**Other
Special
Features**

- Serviceability Without Special Tools
- Mag Drive Gear Pump Options
- Adjustable Metering Energy

Dilution Water Check Valves



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Solenoid Pump

Neat Polymer Capacity (GPH)	Type of Pump	Primary Dilution Range (GPM)	Secondary Dilution with Static Mixer (GPM)	Control Option	Water Inlet Pipe Size	Polymer Suction Pipe Size	Solution Discharge Pipe Size	Maximum Pump Pressure	Viscosity Limits (cPs) **
0.05-0.5	Solenoid LVB3SA-VTTS-XXX	0.24-2.4	Optional	Manual Control Remote Poly Concentration Level	1"	3/4"	1"	110	20000
0.1-1.0	Solenoid LVF4SA-VTTS-XXX	0.5-5.0	Optional	Manual Control Remote Poly Concentration Level	1"	3/4"	1"	110	20000
0.2-2.0	Solenoid LVG4SA-VTSK-XXX	1.0-10.0	Optional	Manual Control Remote Poly Concentration Level	1"	3/4"	1"	100	20000
0.4-4.0	Solenoid LVG5SA-VTSK-XXX	2.0-20.0	Optional	Manual Control Remote Poly Concentration Level	1-1/2"	3/4"	1-1/2"	100	20000
1.0-10.0	Solenoid LVH7SA-WTSK-XXX	4.0-40.0	Optional	Manual Control Remote Poly Concentration Level	1-1/2"	1"	1-1/2"	80	20000

** For higher viscosities, please consult the factory

***Optional Rotameter selections available



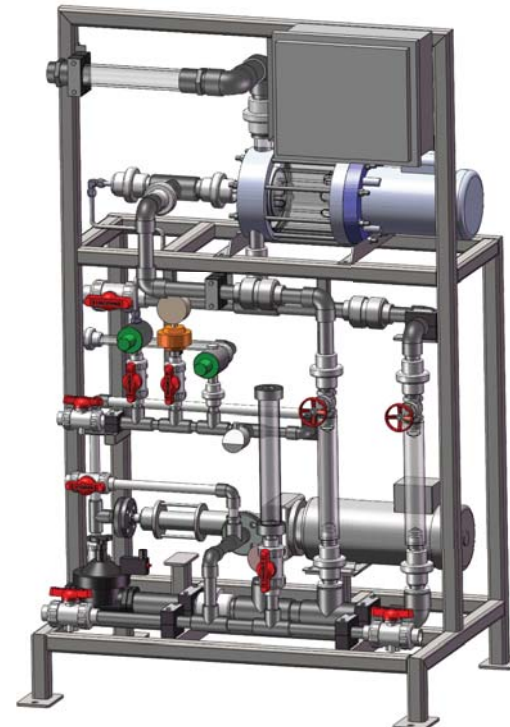
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Progressive Cavity Pump

Neat Polymer Capacity (GPH)	Type of Pump	Primary Dilution Range (GPM)	Secondary Dilution with Static Mixer (GPM)	Control Option	Water Inlet Pipe Size	Polymer Suction Pipe Size	Solution Discharge Pipe Size	Maximum Pump Pressure	Viscosity Limits (cPs) **
0.25-2.5	Progressive Cavity 0005-24 MD	2.0-20.0	Optional	Remote Poly Concentration Level	1"	3/4"	1"	175	30000
0.58-5.8	Progressive Cavity 0015-24 MD	2.0-20.0	Optional	Remote Poly Concentration Level	1-1/2"	3/4"	1-1/2"	175	30000
1.42-14.2	Progressive Cavity 003-12 MD	4.0-40.0	40	Remote Poly Concentration Level	2"	1"	2"	175	30000
2.64-26.4	Progressive Cavity 006-12 MD	8.0-80	80	Remote Poly Concentration Level	2"	1"	2"	175	30000
5.68-56.8	Progressive Cavity 012-12 MD	10.0-100.0	100	Remote Poly Concentration Level	2"	1"	2"	175	30000

** For higher viscosities, please consult the factory

***Optional Rotameter selections available

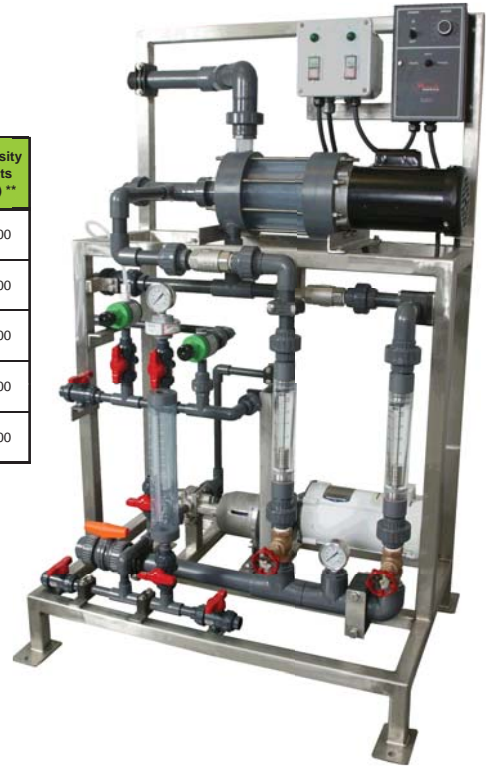


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Gear Pump

Neat Polymer Capacity (GPH)	Type of Pump	Primary Dilution Range (GPM)	Secondary Dilution with Static Mixer (GPM)	Control Option	Water Inlet Pipe Size	Polymer Suction Pipe Size	Solution Discharge Pipe Size	Maximum Pump Pressure	Viscosity Limits (cPs) **
5.2-5.2	Gear GC2 5:1 Reducer	2.0-20.0	Optional	Remote Poly Concentration Level	1-1/2"	3/4"	1-1/2"	100	40000
1.05-10.5	Gear GC2 5:1 Reducer	4.0-40.0	40	Remote Poly Concentration Level	2"	1"	2"	100	40000
2.1-21	Gear GC2 2:1 Reducer	8.0-80	80	Remote Poly Concentration Level	2"	1"	2"	100	40000
4.2-42	Gear GC2 2:1 Reducer	10.0-100.0	100	Remote Poly Concentration Level	2"	1"	2"	100	40000
5.6-56	Gear GC2 2:1 Reducer	10.0-100.0	100	Remote Poly Concentration Level	2"	1"	2"	100	40000

** For higher viscosities, please consult the factory
 ***Optional Rotameter selections available



Basic Specs

- Input Voltage: 115 VAC, 230 VAC, 50 or 60 Hz
- Current Requirements: 20 A @ 115VAC, 10 A @ 230VAC
- Basic Dimensions: Width 36"-40", Depth 24", Height 60"-68" (model dependent)
- Controls: NEMA 4X, Motor: TEFC

- Secondary Dilution with Static Mixer
- Inlet Water Strainer
- Stainless Steel Piping
- Loss of Water Switch
- Loss of Polymer Switch
- Remote Level Transmitter-Concentration Level Only
- Dilution Water Transmitter-Concentration Level Only
- Polymer Flow Transmitter-Concentration Level Only
- Dilution Water Control Valve-Concentration Level Only

OPTIONS



Control Options

- Manual Controls
- Remote Controls
- Concentration Level Controls

Control Features	Manual Controls	Remote Poly Controls	Concentration Level Controls
NEMA 4X FRP Enclosure	•	•	•
Local On/Off Mixer and Water Solenoid	•	•	•
Selector Switch with Indicator	•	•	•
Local On/Off Control Circuit for Neat Polymer	•	•	•
Feed Pump with Indicator	•	•	•
Built in Thermal Protection	•	•	•
Flow Pacing for Neat Polymer Feed Pump	•	•	•
Thermal overload protection	•		
Open Loop Neat Polymer Control with User Defined Water Flow Rates		•	
Microprocessor Based Polyfeeder Control System with backlit 2 x 16 character LED display		•	
Local/Remote Start and Stop Control		•	•
Local/Remote Start Stop Control with Analog Input for Neat Polymer Feed Rate Control		•	•
Automatic Start Up Sequence		•	•
Automatic Shut Down Flush Sequence		•	•
Discrete Outputs for System Run, Remote Status and Failure		•	•
Fused Circuit Protection		•	•
Process Diagram with LED Sequence or display animation on Control Panel Cover		•	•
User Programmable Inputs and Outputs		•	•
Control features for Loss of Polymer Switch		•	•
Analog Output Related to Pump Flow/Speed		•	•
Control features for Loss of Water Flow Switches		•	•
Touchscreen Interface Unit, 5.3" with White on Blue Monochrome Graphics			•
Local/Remote Concentration or Level/Batch Control			•
Six Modes of Operation:			
• Direct Feed/Open Loop/Ratio Poly to Water			•
• Direct Feed/Closed Loop/Ratio Water to Poly			•
• Direct Feed/Closed Loop/Ratio Poly to Water			•
• Batch Feed/Open Loop/Ratio Poly to Water			•
• Batch Feed/Closed Loop/Ratio Poly to Water			•
• Batch Feed/Closed Loop/Ratio Water to Poly			•
Open loop polymer control with polymer flow adjusted to water flow to maintain concentration			•
Polymer Flow Transmitter			Option
Dilution Water Flow Transmitter			Option
Remote Level Transmitter			Option
Dilution Water Automatic Control Valve			Option

- Manual Controls
Controls are adjusted manually via two control mounted switches. This allows the operator the ability to set the water flow requirements prior to making diluted polymer.

- Remote Controls
A microprocessor based Polyfeeder control system including all of the manual control options and a local remote start and stop control with analog input for neat polymer feed rate control. It also has an automatic start up sequence, automatic shut down flush sequence, and discrete outputs for system run, remote status and failure, and controls for optional loss of water flow switches. It is an open loop neat polymer control with user defined flow rates.

- Concentration Level Controls
A graphic touchscreen interface that contains all of the remote control features and offers six modes of operation.



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