WATER PROCESS SOLUTIONS

PolyBlend® Dry Polymer Feed System Model DP500

Sales Literature No. WPSSL350406

Polymer Feed System

The PolyBlend® DP500 System is a member of the family of reliable dry polymer feed systems for use in water and wastewater applications. The DP500 is an integrated equipment package capable of automatically preparing a homogeneous polymer solution.

The DP500 consists of the DD4 dry polymer disperser, a fiberglass mix tank, and a gravity fed fiberglass hold tank.

The DP500 is specially designed to provide uniform mixing. Dry polymer and water are initially mixed in the DD4 polymer disperser exposing the solution to a high shear agitation via mechanical mixing. The high shear agitation ensures proper activation of the polymer and prevents unwanted agglomerations. After brief exposure, the solution exits the high shear mixer and flows into the mix tank.

The second stage mix is a longer, low shear mix. The rotating impeller in the secondary mix tank is a patented “hollow-wing” design and covers over half the width of the tank. The low shear mixing continuously and uniformly moves the solution vertically and horizontally resulting in no agglomerations or broken polymer chains.

When a low level is sensed in the hold tank, a valve is automatically opened and the prepared solution is gravity fed into the holding tank. From the holding tank, the homogenous polymer solution can be transferred to the process with an optional feed pump skid.

Key Benefits:

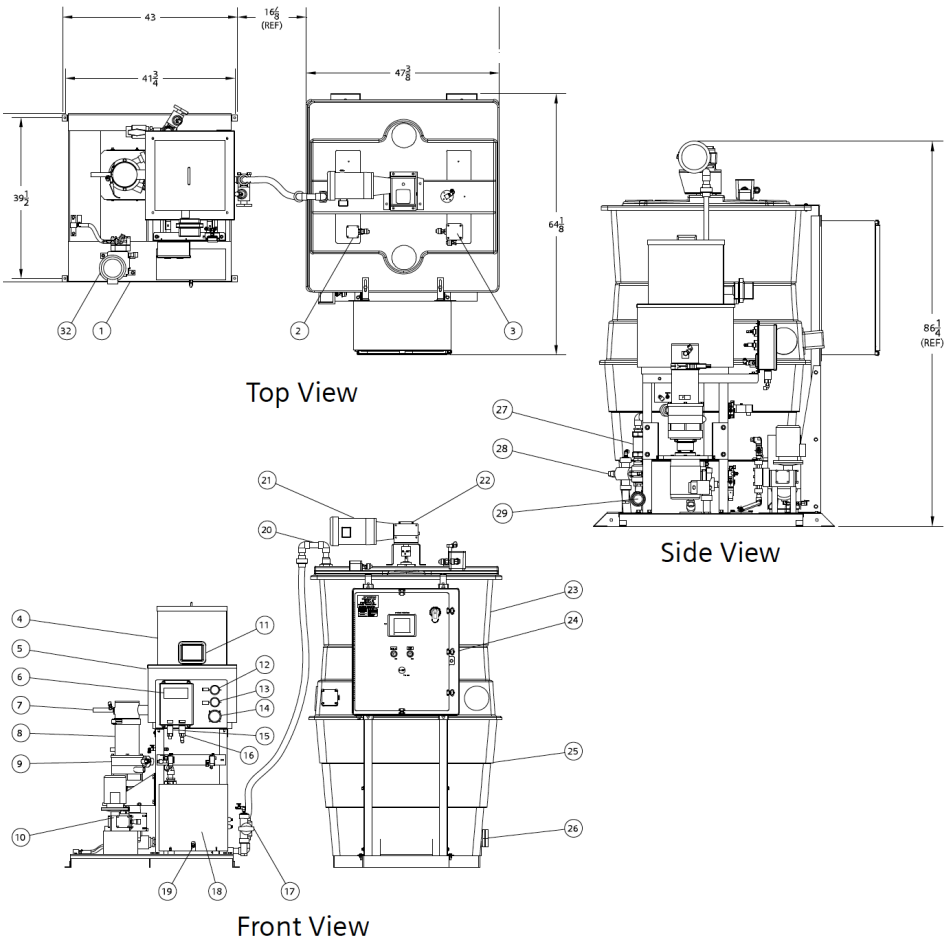
- Consistent and reliable performance
- Fiberglass mix and holds tank
- Reduced polymer consumption
- Fully automated operation
- Operator interface controls
- Improved safety features
- Easy to operate

Specifications:

Electrical	208VAC/ 50-60 Hz/ 1 Ph 240VAC/ 50-60 Hz/ 1 Ph 240VAC/ 50-60 Hz/ 3 Ph 480VAC/ 50-60 Hz/ 3 Ph 575VAC/ 50-60 Hz/ 3 Ph
Water Supply	75.7-113.6 LPM (20-30 GPM)
Tank Size	605.7 L (160 USG)
***Polymer Feed**	Up to 9.1 kg (20 lbs)/hr dry polymer based on a 0.75% solution and two batches per hour
Control Panel	NEMA 4X PLC based with colour touch screen

*Note: Consult Water Process Solutions, Ltd. with regards to dosing amount and your application.

General Layout



Available Options:

- Diaphragm metering Pump
- Progressive cavity metering pump
- SS gear metering pump
- Batch tanks / single or tandem
- Integral compressor
- 0.07 m^3 (2.5 ft^3) hopper
- 0.57 m^3 (20 ft^3) hopper)
- Bulk bag frame
- Bulk bag frame with hoist
- Bag dump hopper
- Low powder level indication
- Over-sized feeder screw auger
- Supply water pressure
- Final feed pumps
- Final feed pumps
- Final feed post dilution
- Large hold tanks
- Transfer pumps

Key	Description
1	Support Frame and Base
2	Mix Tank Level Assembly, Conductivity Probes, High Low and Ref.
3	Mix Thank Overflow Switch Assembly
4	Hopper 0.07 cu/m (2.5 cu/ft)
5	Volumetric Feeder
6	Junction Box, Interconnections, NEMA 4X
7	Pneumatic Cylinder, Isolation Plunger Actuator
8	Wetting Bowl
9	Wetting Impeller Housing
10	Motor, Impeller, 1 HP, 3450 RPM, TENV
11	Hopper Low Level Switch
12	Pressure Guage Compressed Air
13	Pressure Guage Water
14	Differential Pressure Switch/Guage
15	Pressure Switch, Static Supply Water
16	Pressure Switch, Static Supply Air
17	Solution Discharge, Pneumatic Ball Valve

Key	Description
18	Condensation Drain, Air Compressor, 12.7mm (1/2") FNPT
19	Air Compressor with Tank and Cover (Optional)
20	Solution Inlet, Mix Tank
21	Motor Tank Mixer, 1-1/2 HP, 1725 RPM, TEFC
22	Speed Reducer, Worm Gear, 15:1
23	Mix Tank, 605.7 L (160 Working Gallons)
24	System Control Panel, NEMA 4X
25	Hold Tank 605.7 L (160 Working Gallons)
26	Tank Discharge, 50.8 mm (2") FNPT
27	Automatic Flow Control Valve, 75.7 L (20 GPM)
28	Water Inlet Valve, Pneumatic Ball Valve 25.4mm (1")
29	Water Inlet Valve, Manual Ball Valve 38.1 mm (1-1/2")
30	Hold Tank Overflow Switch*
31	Hold Tank Level Switch, High, Low*
32	Diaphragm Pump, Emulsion Polymer (Optional)
*	Not Shown

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