

SVENMIX.D

DRY POLYMER MIXING SYSTEM



Sioux Valley Environmental

CHEMICAL MIXING SYSTEMS

SINCE 1978

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SVENMIX.D DRY POLYMER MIXING SYSTEM

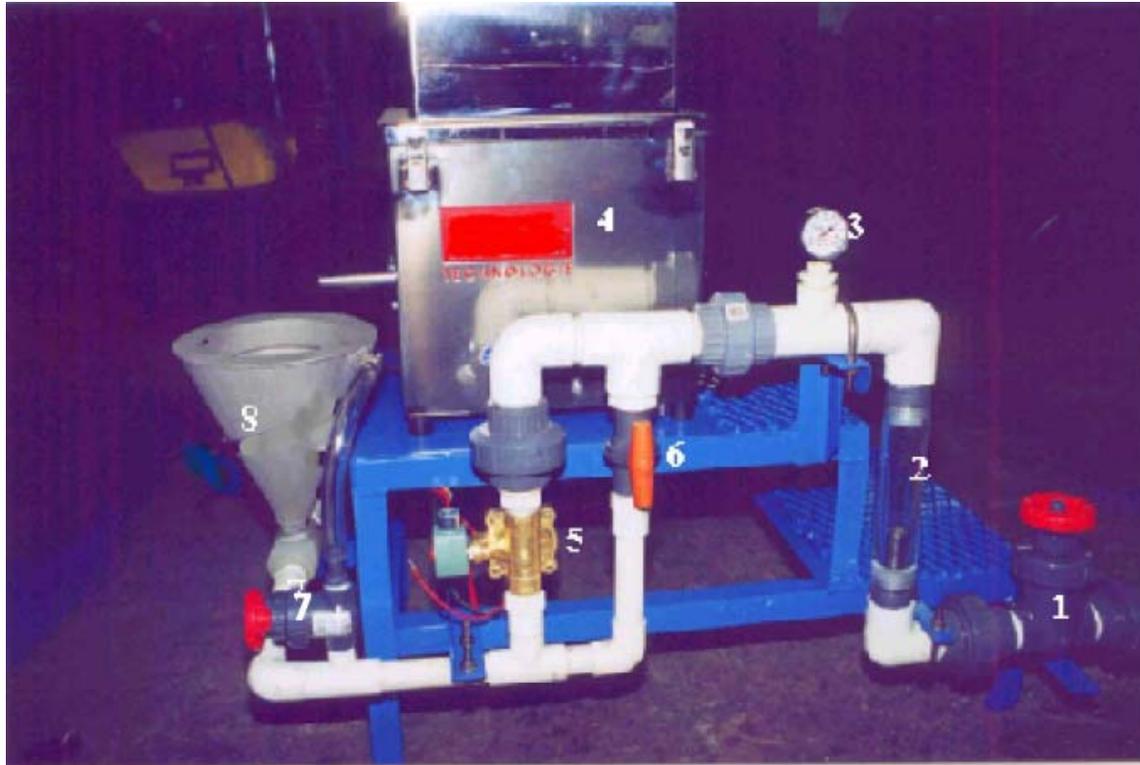
Pictured is a SVENMIX.D Dry Polymer Mixing System. In the background left is a SVENMIX.D Model 3325 with a 2.1 cu.ft. hopper. In the foreground right is a SVENMIX 1100 Gallon Polyethylene Tank with a ¼ HP 60 RPM SVENMIX LS Mixer. Mounted in the foreground bottom is a progressing cavity pump.

The air tight hopper on the SVENMIX.D is filled with polymer. The polymer is fed into the eductor funnel where it is wetted. Water flow carries the wetted polymer to the mixing/aging tank where it is mixed into solution. The progressing cavity pump delivers the solution to the point of injection. The feeder on the SVENMIX.D and the progressing cavity pump are controlled via VFD's. Water flow is controlled by a flowmeter and gate valve.



The SVENMIX.D DRY POLYMER MIXING SYSTEM is a fully automated polymer mixing system that produces a thoroughly mixed solution for any application. Precise control of water flow and polymer feed provides the capability to produce the exact solution concentration for the particular application. The washdown eductor funnel wets the polymer and provides initial mixing that avoids the formation of “fish eyes.” Single or multiple mixing tanks with SVENMIX LS Mixers complete the solution preparation. Chemical injection pumps deliver the polymer solution to the point of application. The SVENMIX.D SYSTEM reduces the labor intensive, time consuming job of polymer mixing to a simple automated task.

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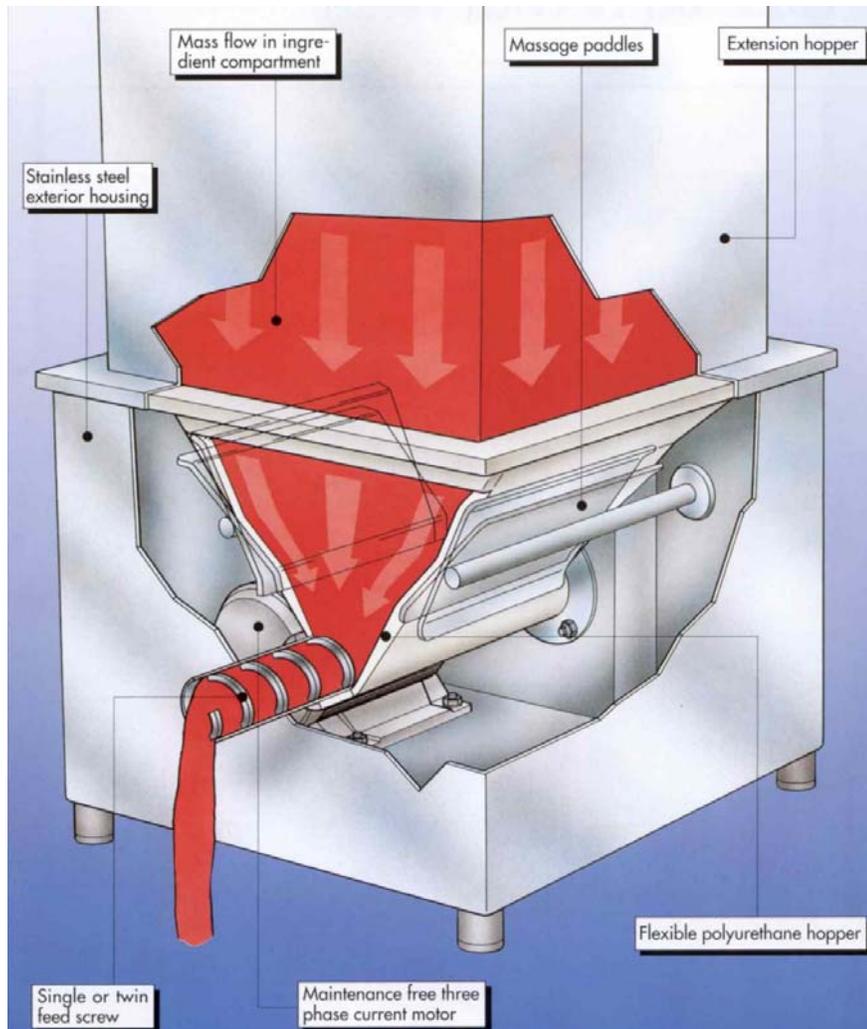


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|--------------------------------|---------------------------------|
| 1] Flow Control/Shut-Off Valve | 5] Solenoid Valve |
| 2] Flowmeter | 6] By-Pass Valve |
| 3] Pressure Gauge | 7] Washdown Water Control Valve |
| 4] Volumetric Feeder | 8] Eductor/Mixing Funnel |

Water flow through the SVENMIX.D is initiated by actuating the solenoid valve [5]. Adjusting the gate valve [1] in front of the Flowmeter [2] controls the water flow. The polymer is stored in the sealed hopper above the Volumetric Feeder [4], which keeps the polymer dry to avoid bridging and clumping. The Volumetric Feeder's flexible Polyurethane receiving hopper with massaging paddles prevents bridging and insures a continuous flow of chemical to the feed screw. The Volumetric Feeder's touch pad controller allows precise control of the polymer feed into the Eductor Funnel [8] where it is wetted and primary mixing takes place. The wetted polymer is carried by the water flow to the Mixing/Aging Tank(s) where the mixing process is completed to produce the polymer solution and where the solution is aged. Following aging the solution is ready to be pumped to the point of application with the Polymer Solution Pump.

The SVENMIX.D is a simple system that rapidly wets and solubilizes polymer to produce a homogeneous and aged solution.

The entire system operates on 120v 1ph 60Hz power.



VOLUMETRIC FEEDER

The SVENMIX.D Volumetric Feeder is manufactured of corrosion resistant materials for long life in harsh environments. The sealed hopper keeps the chemical dry. The Polyurethane Feed Hopper with Massaging Paddles prevents bridging and ensures even, "first in – first out" chemical flow to the Feed Screw. The Feed Screw delivers the chemical into the Eductor Funnel.

Simple and quick disassembly and reassembly provides for easy maintenance.



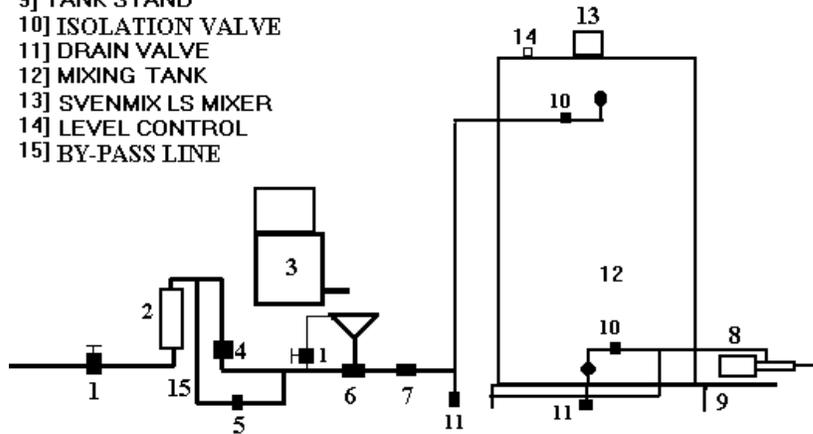
EDUCTOR FUNNEL

The Eductor Funnel provides the primary mixing of the chemical with water. As the chemical from the Volumetric Feeder is delivered to the Funnel the tangential flow of water into the upper rim of the funnel swirls around and down the sides of the funnel until it contacts the deflectors near the bottom of the funnel. The deflectors produce a cross spray that is drawn into the vortex by the vacuum created by the flow through the Eductor. As the flow is drawn in and through the Eductor the solution is diluted and continues to mix as it flows to the Mixing/Aging Tanks.

SVENMIX.D POLYMER MIXING SYSTEM

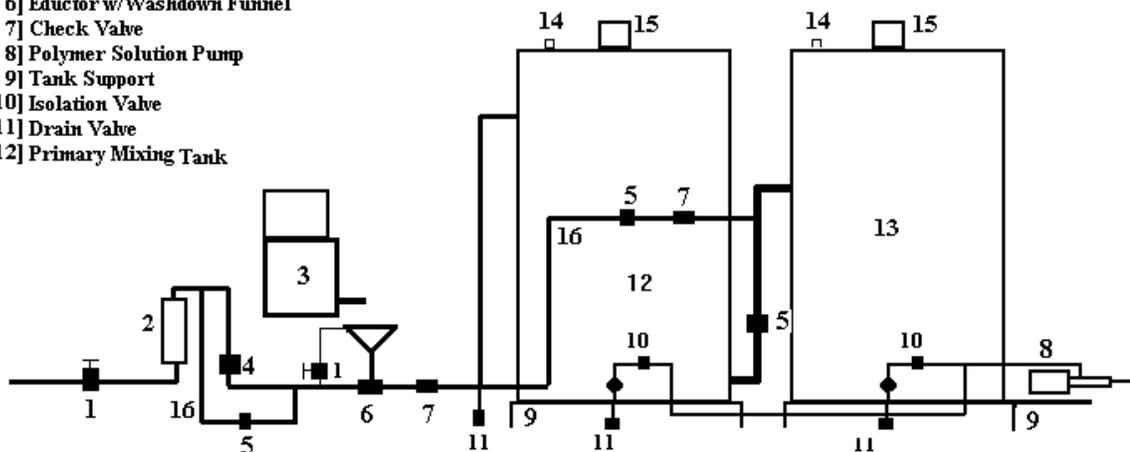
- 1] GATE VALVE
- 2] FLOWMETER
- 3] DRY CHEMICAL FEEDER
- 4] SOLENOID VALVE
- 5] BALL VALVE
- 6] EDUCTOR w/MIXING FUNNEL
- 7] BALL CHECK VALVE
- 8] CHEMICAL SOLUTION PUMP
- 9] TANK STAND
- 10] ISOLATION VALVE
- 11] DRAIN VALVE
- 12] MIXING TANK
- 13] SVENMIX LS MIXER
- 14] LEVEL CONTROL
- 15] BY-PASS LINE

SVENMIX.D with Single Mixing/Aging Tank and SVENMIX LS Mixer.



SVENMIX.D Continuous Batch Mixing

- 1] Flow Control Gate Valve
- 2] Flowmeter
- 3] Volumetric Feeder
- 4] Electrically Actuated Valve
- 5] Ball Valve
- 6] Eductor w/Washdown Funnel
- 7] Check Valve
- 8] Polymer Solution Pump
- 9] Tank Support
- 10] Isolation Valve
- 11] Drain Valve
- 12] Primary Mixing Tank
- 13] Secondary Mixing Tank
- 14] Level Controller
- 15] SVENMIX LS Mixer
- 16] ByPass Line



SVENMIX Systems can be built to accommodate bags, super sacks or bulk handling systems. Both Single Dual Mixing/Aging Tank Systems have a small footprint. The Mixing/Aging Tanks are separate components from the SVENMIX.D Unit. This means the SVENMIX.D can be mounted as a single assembly or the Mixing/Aging Tank(s) can be sited remote from the SVENMIX.D Unit. All that is required is the interconnecting pipe. The system is constructed of corrosion resistant materials. Standard support structures are coated steel. Stainless steel is available.

SVENMIX D

SPECIFICATIONS AND CAPACITIES

Model 3325

Equipment Specifications Max. Cap.

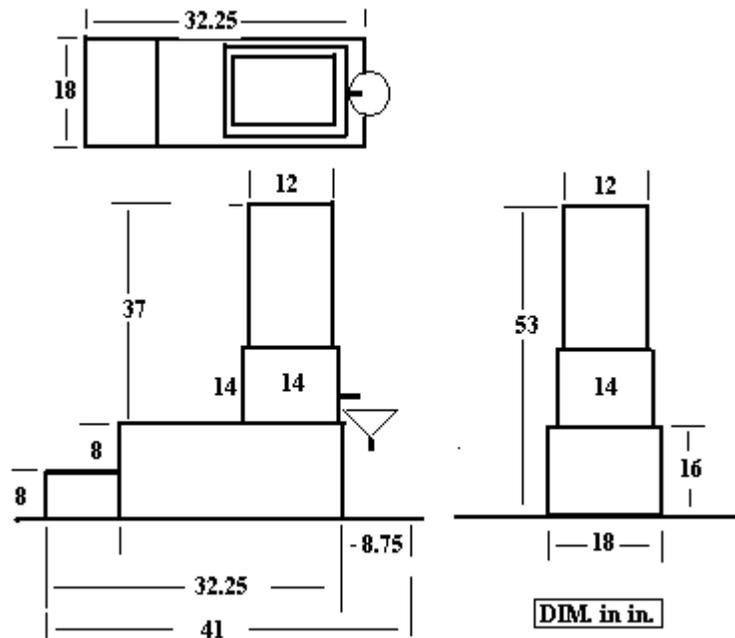
Water Flowmeter	50 GPM	3000 GPH
Volumetric Feeder	8.0 cu.ft./hr.	
Polymer Hopper (Std.)	2.1 cu.ft.	

Operational Data

Typical Applications

Solution Concentration	0.5%	
Dilution Water	50 GPM	3000 GPH
Polymer Feed	2.0 lbs/Mn.	120 lbs/Hr.

Solution Concentration	0.1%	
Dilution Water	50 GPM	3000 GPH
Polymer Feed	0.42 lbs/Mn.	25 lbs/Hr.

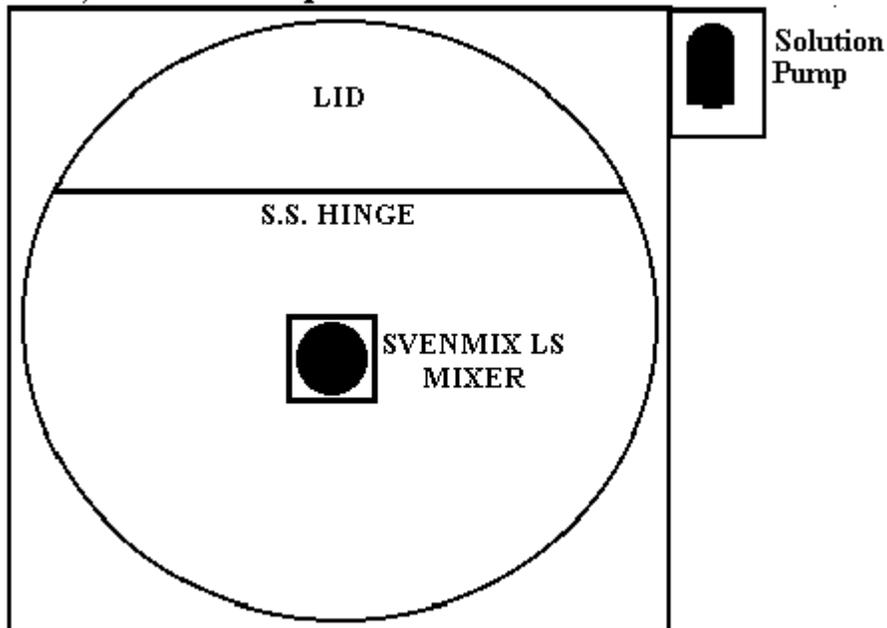


SVENMIX D

MIXING/AGING TANK SPECIFICATIONS

<u>Tank Cap.</u>	<u>DxH</u>	<u>Tank Stand</u>
150 Gal.	31 X 48 in.	33 X 33 X 4 in.
200 Gal.	36 X 48 in.	40 X 40 X 4 in.
350 Gal.	48 X 48 in.	52 X 52 X 4 in.
1000 Gal.	74 X 64 in.	76 X 76 X 4 in.
1200 Gal.	85 X 53 in.	88 X 88 X 4 in.

Tank, Mixer and Pump Stand



SVENMIX Mixing Tanks are manufactured from virgin Polyethylene or of high strength FRP. SVENMIX LS Mixers operate at 60-400 RPM, with ¼-1.0 HP Motors using either 120/240v 1ph or 240/480v 3ph power. SVENMIX LS Mixers employ single or multiple impellers of propeller, axial turbine or SVEN Multi-Directional design. Mixer shafts and impellers are manufactured from stainless steel. Polymer solution pumps are progressing cavity pumps, gear pumps or diaphragm pumps depending upon the application or specifications. Tank and pump stands are epoxy coated steel. Stainless steel support stands are available.

Materials of Construction

Volumetric Feeder is Stainless Steel w/Urethane lined hopper.

Mixing Funnel is Stainless Steel.

Eductor is PVC.

Mixing/Aging Tank is Polyethylene (FRP optional).

Mixer Shaft and Impellers are Stainless Steel.

Polymer Solution Pumps are Stainless Steel and Viton or PVC and EPDM.

Solenoid Valve is Brass.

Gate Valves and Ball Valves are PVC and Viton.

Piping and other Plumbing is PVC.

Volumetric Feeder Stand and Tank Stand are Epoxy Coated Steel (Stainless Steel optional).

Power Requirements

Solenoid Valve, Volumetric Feeder, SVENMIX LS motors, and Electrically Actuated Valves: 120v 60 Hz 1ph.

Polymer Solution Pumps

Diaphragm Pumps: 120v 60Hz 1ph

Progressing Cavity Pumps: 230v 3ph (480v 3ph optional)

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