VeloBlend™

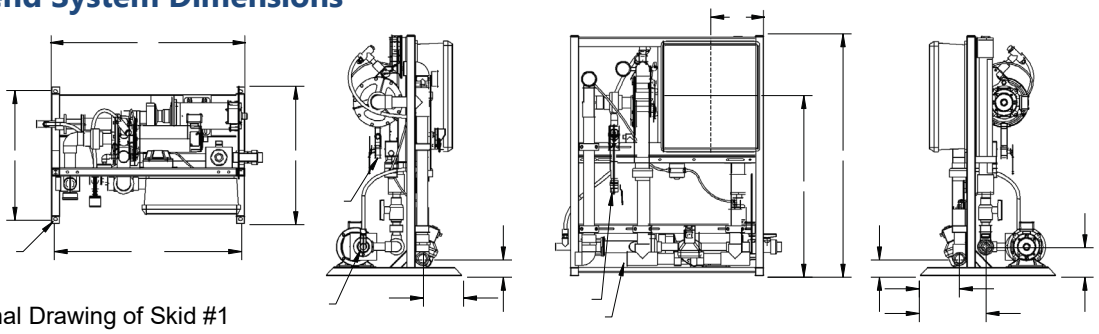
Advanced Liquid Polymer Activation Technologies

While the rest of the polymer equipment industry was engaged in a mechanical versus non-mechanical system debate, VeloDyne developed the next generation of advanced polymer activation technologies, a hybrid of the two approaches.

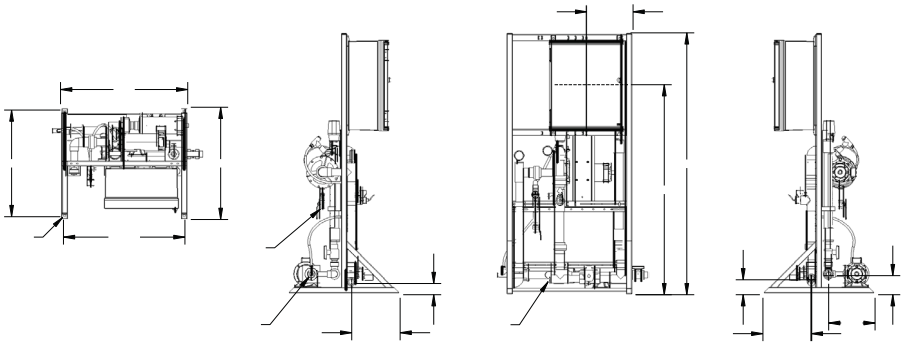
Key Benefits

- ***Dependable and Reliable Feeding***
- ***Choice of Control Arrangements***
- ***Economical Feeder Installations***
- ***Wide Range of Capacities***
- ***Chemical Reistant Construction***

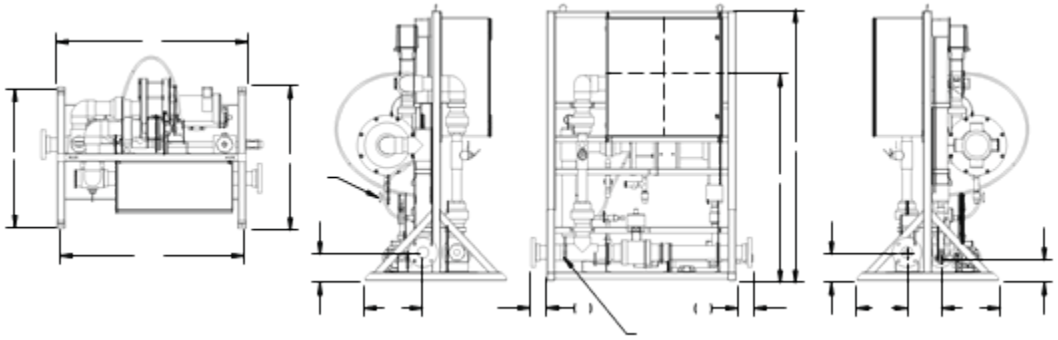
Veloblend System Dimensions



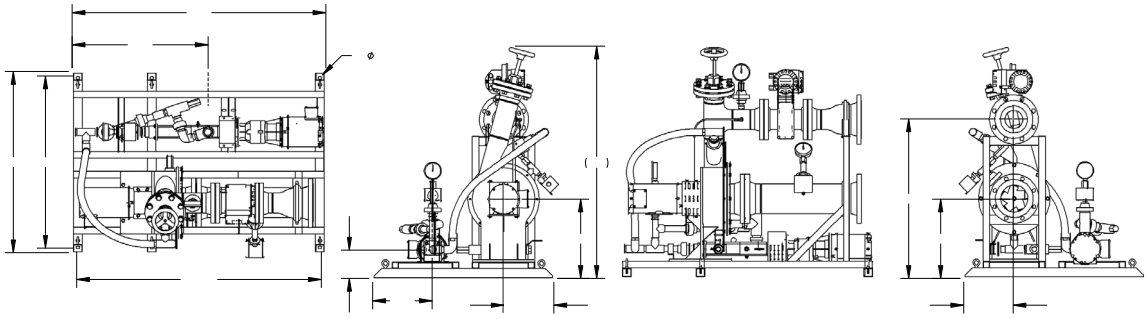
Dimensional Drawing of Skid #1



Dimensional Drawing of Skid #2



Dimensional Drawing of Skid #3



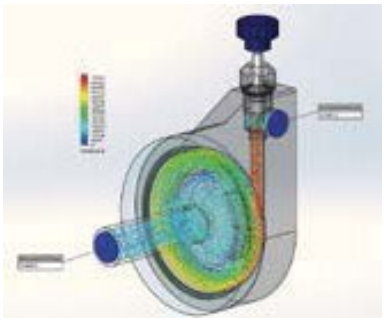
Dimensional Drawing of Skid #4

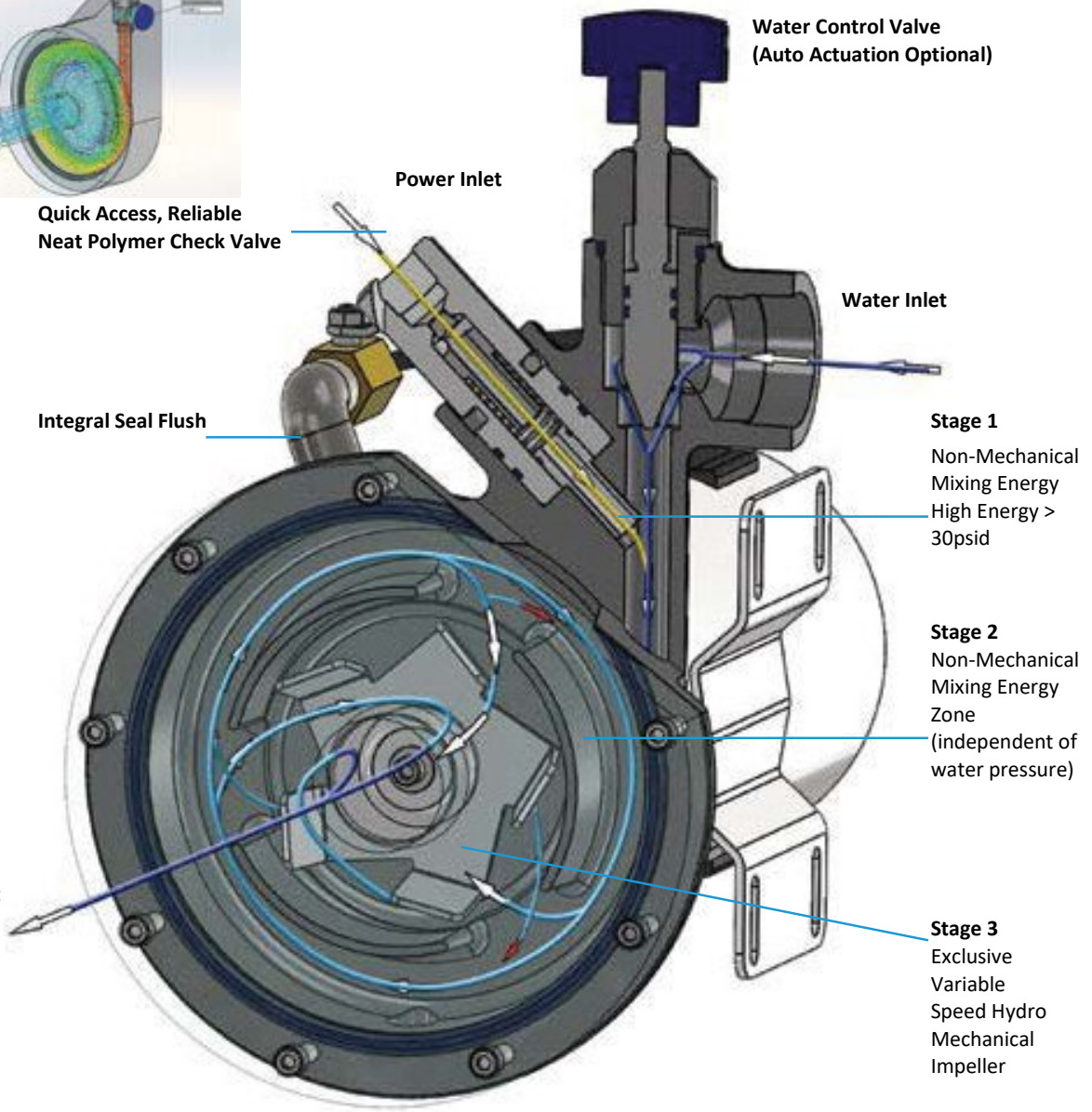
Features

EXCLUSIVE HYBRID ACTIVATION TECHNOLOGY

We started by perfecting hydro-dynamic, non-mechanical mixing energy. Bom from thirty years of experience, the VeloBlend VH series optimizes the use of non-mechanical mixing energy, exceeding the performance and reliability over existing technologies.

We then eliminated the biggest drawback to non-mechanical blending its reliance on water pressure. The VeloBlend™™™ hybrid polymer activation technology combines the reliability of hydro- dynamic, non-mechanical mixing energy with controllable, variable speed hydro-mechanical mixing energy. This process allows for precise control of mixing conditions, allowing optimal performance of any polymer available





US Patent No. 7,267,477

Blending Technology:	
VM	Hydro-Mechanical
VH	Hydro-Dynamic
VMM	Hydro-Mechanical Mannich

Pump Flow Range:			
Diaphragm		**Progressive Cavity**	
0.4D	0.004 to 0.4 GPH	1.0P	0.05 to 1 GPH
1.0D	0.01 to 1 GPH	2.5P	0.12 to 2.5 GPH
2.0D	0.02 to 2 GPH	5.0P	0.25 to 5 GPH
2.5D	0.025 to 2.5 GPH	10P	0.5 to 10 GPH
4.5D	0.045 to 4.5 GPH	15P	0.75 to 15 GPH
8D	0.08 to 8 GPH	20P	1.0 to 20 GPH
10D	0.1 to 10 GPH	30P	1.5 to 30 GPH
		50P	2.5 to 50 GPH

Pump Style:	
D	Diaphragm
P	Progressive Cavity
PS	Peristaltic

Water Rate:	
20	2 to 20 GPH
60	6 to 60 GPH
120	12 to 120 GPH
300	0.5 to 5 GPM
600	1 to 10 GPM
1200	2 to 20 GPM
1800	3 to 30 GPM
2400	4 to 40 GPM
3600	6 to 60 GPM
4800	8 to 80 GPM
6000	10 to 100 GPM
12000	20 to 200 GPM
21000	35 to 350 GPM

Blending Technology
Polymer Pump Flow Range
Pump Style
Water Rate
Control Level
PLC/HMI Option
Power Option
Skid Size

VELOBLEND

X = *Modification from standard options*

PLC/HMI Option:											
		Color Touchscreen HMI Options							Skid Size	Control
		C-More		Allen Bradley			Magelis			
		8"	10"	7"	10"	12"	7"	10"		
PLC Options		A	B	C	D	E	F	G		
VeloDyne Controller	1	Integral 6" Color TFT Touchscreen							≥ 15P	D, E
Allen Bradley MicroLogix	2	●	●	●	●	●			≥ 30P	D,E,Rw, Rp, RpSB
Allen Bradley CompactLogix	3	●	●	●	●	●			≥ 60P	D,E,Rw, Rp, RpSB
Modicon Momentum	4	●	●				●	●	≥ 150P	D,E,Rw, Rp, RpSB
No PLC/HMI Option	0									

Control Level:						
CONTROL OPTIONS	C	D	E	Rw	Rp	RpSB
Local & Remote Start/Stop Discrete Input	●	●	●	●	●	●
4-20mA Pump Pacing Analog Input	●	●	●	●	●	●
4-20mA Solids Density Analog Input						●
System Running Discrete Input		●	●	●	●	●
System In Remote Discrete Input		●	●	●	●	●
Pump Rate Analog Output			●	●	●	●
Solution Rate Analog Output					●	●
Common Alarm Discrete Input		●	●	●	●	●
Manual Water Ratio Control	¥			●		
Auto Water Ratio Control					●	●
Smartblend ™ Ratio Control						●
Ethernet Communication				●	●	●

Power Option:		
A	120V/1PH/60HZ	
B	240V/1PH/60HZ	REQUIRED 200 GPM WATER & ABOVE
C	240V/3PH/60HZ	
D	480V/3PH/60HZ	
E	600V/3PH/50HZ	

Skid Size:				
		Width	Depth	Height
1	Compact	34"	24"	42"
2	Tall	34"	30"	72"
3	Full	48"	36"	72"

¥ *See PLC/HMI Options*

VELODYNE

The Versatile Veloblend System

1. **Activation Chamber**
   VeloBlend Advanced Liquid Polymer Activation Technology delivers unsurpassed performance and reliability
2. **Dilution Water System**
   Up to 600 GPM to meet your application requirements
3. **NEMA 4X Controls**
   Five standard control systems are available to meet your specific control requirements
4. **Neat Polymer Pump**
   Progressive cavity pumps standard. Other pump types optional
5. **Rugged Stainless Steel Skid**
   Available in 304 or 316 stainless steel. Open design for ease of maintenance. Designed to provide ideal pump suction conditions

Series 6000

- Skid Configuration #2
- Progressivee Cavity Pump
- 0.2 to 100 GPM Solution
- Control Level D thru RnSB

Series 12000

- Skid Configuration #3
- Progressive Cavity Pump
- .2 to 200 GPM Solution
- Control Levels D thru RnSB

Series 2400

- Skid Configuration #1
- Progressive Cavity Pump
- .2 to 50 GPM Solutiono
- Control Levels D & E

Series 36000

- Skid Configuration #4
- Progressive Cavity Pump
- 40 to 600 GPM Solution
- Control Levels D thru Rw

OPTIMIZING LIQUID POLYMER PERFORMANCE

There have been numerous technologies introduced over the last thirty years designed to activate liquid polymer. The advanced hybrid VeloBlend™ technology has proven to more efficiently induce ultra-high, non-damaging moong energy, delivering the highest polymer performance over any other technology in the industry

The VeloBlend is simply the best polymer activation technology ever developed.

-polymer consultant with over 30 years of industry experience

NEAT "AS-SUPPLIED POLYMER

Neat polymer, as suppliet, is primarily comprised of coiled-up polymer, oil, water, and inverting surfactant.

UNACTIVATED POLYMER MOLECULE- CAPABLE OF WITHSTANDING HIGH MIXING ENERGY

In its neat" las-supplied state, the polymer is coiled up like a spring and is capable of withstanding ultra-high maxing energy without damage to its molecular structure

DAMAGED POLYMER CAUSED BY EXCESSIVE SHEAR

Once the polymer uncoils the elongated polymer is now susceptible to damage caused by excessive shear. The result is increased polymer usage increased polymer cost and reduced process performance

PARTIALLY UNCOILED POLYMER-INSUFFICIENT MIXING ENERGY

If polymer is exposed to insufficient mixing energy. the polymer fails to fully activate with the same negative results in polymer cost and process performance as is seen with damaged polymer

FULLY ACTIVATED, UNDAMAGED POLYMER- DELIVERING OPTIMAL PERFORMANCE

When neat colled-up polymer is properly exposed to ultra-high mixing energy, the oil is effectively "scrubbed from the polymer, allowing it to become highly activated without damage The VeloBlend's hybrid technology more effectively induces ultra-high, non-damaging mixing energy over the system's full flow range than any other technology on the market.

The VeloBlend's hybrid technology mixes energy over the system's full flow range than any other technology on the market.

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