BURT | PROCESS EQUIPMENT

Partners In Global Water Quality

# POLYMERPLUS

Advanced Activation System

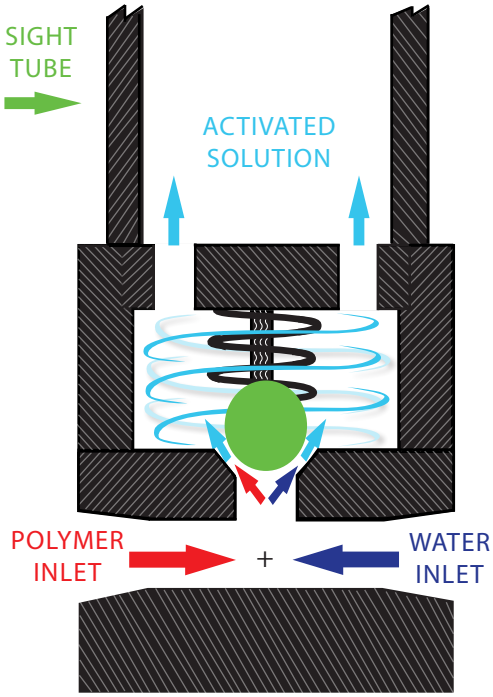
# Polymer Plus Activation System

POLYMER SYSTEMS

**The Polymer Plus Activation System** activates polymers through a patented, motorless, high energy, activation chamber. The chamber uses the energy available in the dilution water flow to activate all types of liquid polymers.

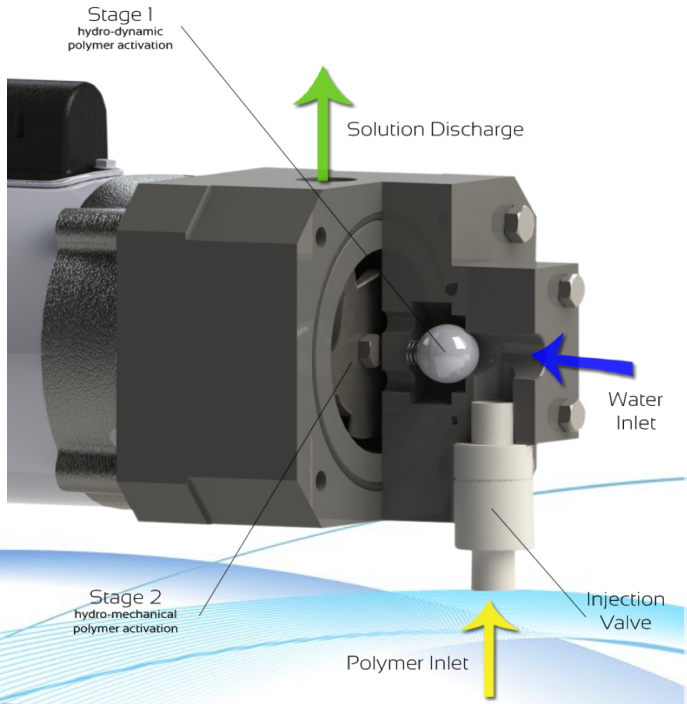
The polymer is activated as it passes through the high turbulence generated by the patented orifice. The pressure required to operate the chamber is less than 10 psi. The orifice opening automatically compensates for solution flow changes. This assures that the polymer activation energy level remains adequate for the flow range of the feeder.

The Polymer Plus Activation Chamber components are made of corrosion resistant thermoplastics. The system is assembled with O-rings and stainless steel fasteners.




**Single Stage Activation**

## Dual Stage Activation




**Dual Stage Activation** combines the patented hydro-dynamic activation system with the more traditional hydro-mechanical operated system. In the first stage of activation, the polymer is injected into the dilution water stream and immediately passes through a low pressure, high activation nozzle.

This stage operates like a low pressure homogenizer. The polymer is activated as it passes through the annular nozzle orifice.

The orifice opening self-compensates for solution flow changes, ensuring the polymer activation energy remains adequate for the flow range of the feeder. The pressure drop across the nozzle is only 10 psi.

In the second stage of activation, the polymer solution is directed through a high energy impeller. The impeller housing is designed to minimize the time that the polymer is exposed to the impeller. This ensures complete polymer activation, without the damaging effects that can be associated with traditional motor activated systems.

# POLYMERPLUS Advanced Activation System — Liquid Activation System

## D-Series - Diaphragm Metering Feed Pump

**The Polymer Plus 100-D Liquid Activation System** is designed for mid-range polymer feed applications. It activates all types of emulsion polymers through the Burt Process Equipment patented motorless, high energy, dual-stage activation chamber.

The self-cleaning sight tube provides visual confirmation as to how the system is operating.

- The Polymer Plus 100-D system has a solenoid operated diaphragm metering pump.
- The system operates with potable or filtered process dilution water at 30 to 100 psi.
- A water flow switch stops the polymer pump whenever the water flow drops below a minimum setting.
- The frame is welded stainless steel. Components are modular and easy to access. Basic system dimensions are: 15” deep x 15” wide x 21” tall.
- The external injection valve is accessible without disturbing the activation chamber.
- Operating voltage is 120 VAC. Power consumption is less than 200 watts.

**Polymer Plus D-Series**

| MODEL | FEED RATE | FLOW RATE |
|---|---|---|
| 101-D | 0.1 - 10 GPD (0.02 - 1.6 LPH) | 10 - 60 GPH (40 - 230 LPH) |
| 102-D | 0.6 - 24 GPD (0.1 - 3.8 LPH) | 15 - 150 GPH (57 - 570 LPH) |
| 103-D | 1.2 - 48 GPD (0.2 - 7.6 LPH) | 30 - 300 GPH (115 - 1,140 LPH) |
| 104-D | 1.5 - 60 GPD (0.24 - 9.4 LPH) | 60 - 600 GPH (230 - 2,270 LPH) |
| 105-D | 3 - 108 GPD (0.5 - 17 LPH) | 120 - 1,200 GPH (450 - 4,500 LPH) |
| 106-D | 4 - 192 GPD (0.6 - 30 LPH) | 180 - 1,800 GPH (680 to 6,800 LPH) |
| 107-D | 5 - 240 GPD (0.6 - 38 LPH) | 240 - 2,400 GPH (900 - 9,000 LPH) |

# POLYMERPLUS Advanced Activation System Liquid Activation System

## PS Series - Peristaltic Feed Pump

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**Polymer Plus PS Series**

**The Polymer Plus 100-PS Liquid Activation System** is designed for low polymer feed applications. It activates all types of emulsion polymers through the Burt Process Equipment motorless, high energy, patented activation chamber. The metering pump is a peristaltic type pump. It is self-priming and can run dry.
The self-cleaning sight tube provides visual confirmation as to how the system is operating.

- The Polymer Plus 100-PS has a one gallon aging blending tank.
- Secondary dilution water is available.
- The system operates with potable or filtered process dilution water at 30 to 65 psi.
- A water flow switch stops the polymer pump whenever the water flow drops below a minimum setting.
- The frame is welded stainless steel. Components are modular and easy to access. Basic system dimensions are: 16” deep x 18” wide x 24” tall.
- The external injection valve is accessible without disturbing the activation chamber.
- Operating voltage is 120 VAC. Power consumption is less than 200 watts.

| MODEL | FEED RATE | FLOW RATE |
|---|---|---|
| 101-PS | 0.1 - 5 GPD (0.02 - 0.8 LPH) | 10 - 60 GPH (40 - 230 LPH) |
| 102-PS | 0.5 - 12 GPD (0.1 - 1.9 LPH) | 10 - 120 GPH (40 - 460 LPH) |
| 103-PS | 1 - 20 GPD (0.2 - 3.2 LPH) | 15 - 150 GPH (75 - 570 LPH) |
| 104-PS | 2 - 43 GPD (0.4 - 6.8 LPH) | 15 - 300 GPH (75 - 1,140 LPH) |

# POLYMERPLUS Advanced Activation System Liquid Activation System

## PC Series - Progressing Cavity Feed Pump

**The Polymer Plus Liquid Activation System** is designed to feed all types of polymers at all feed rates. It activates the polymer through the Burt Process Equipment motorless, high energy, patented activation chamber.

The metering pump is a progressing cavity type pump. The self-cleaning sight tube allows the operator to see how the system is operating.

- The system operates with potable or filtered process dilution water at 30 to 100 psi.
- A water flow switch stops the polymer pump whenever the water flow drops below a minimum setting.
- The frame is welded stainless steel. Components are modular and easy to access. Basic system dimensions are: 16" deep x 24" wide x 30" tall.
- The external injection valve is accessible without disturbing the activation chamber.
- Operating voltage is 120 VAC. Power consumption is less than 1,000 watts.

**Polymer Plus PC Series**

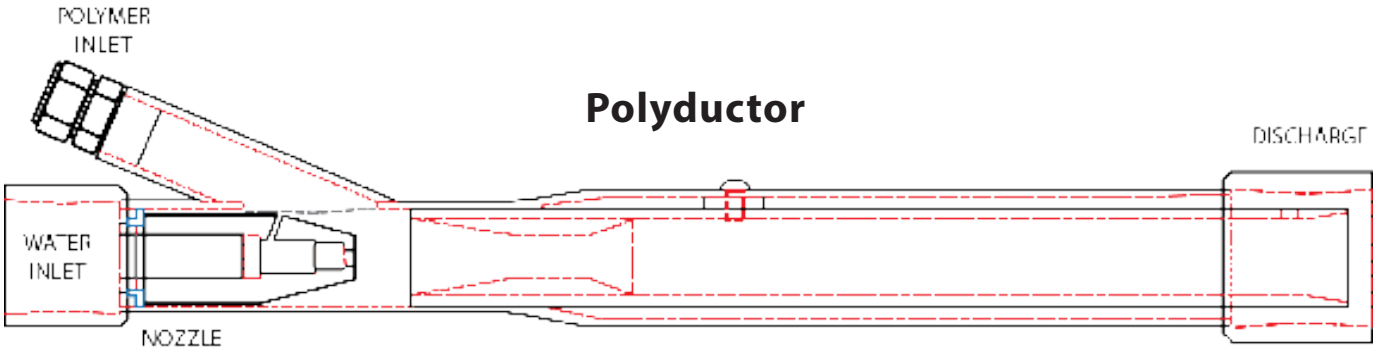
| MODEL | FEED RATE | FLOW RATE |
|---|---|---|
| 101-PC | 1 - 16 GPD (0.2 - 2.5 LPH) | 30 - 300 GPH (110 - 1,140 LPH) |
| 102-PC | 5 - 70 GPD (0.8 - 11 LPH) | 60 - 600 GPH (230 - 2,270 LPH) |
| 103-PC | 10 - 150 GPD (1.6 - 24 LPH) | 120 - 1,200 GPH (460 - 4,500 LPH) |
| 104-PC | 15 - 216 GPD (2.4 - 34 LPH) | 180 - 1,800 GPH (680 - 6,800 LPH) |
| 105-PC | 40 - 576 GPD (6.3 - 91 LPH) | 240 - 2,400 GPH (900 - 9,000 LPH) |

# Dry Polymer System

POLYMER SYSTEMS

**The Polyductor** is a high energy eductor engineered by Burt Process Equipment. It is designed specifically for dry polymer feed applications. The Polyductor educts, disperses, and hydrates the polymer. The suction air flow causes the polymer to enter the Polyductor wetting sections with a very high velocity. This results in finer dispersions and a faster hydration. The dilution water continuously rinses the interior walls to prevent build-up.

## Polyductor



- System capacities range from 50 to 3,000 GPH of 0.5% solution with 30 minutes of aging.
- Dry polymer feed capacities range up to 250 lbs/hr (113 kg /hr.) Dilution water feed capacities range up to 100 GPM (380 LPM).
- The Standard hopper has a 2.7 $ft^3$ (75L) capacity. A vibrator assures consistent polymer flow. The top of the hopper is only 33" (84 cm) above grade. It provides a comfortable working height without the use of platforms. Larger hoppers are available.
- The system frame and enclosure are welded stainless steel.
- Proximity, non-contact sensors monitor the polymer level on the disc.
- The system runs on 120 VAC power, and the consumption is less than 1,000 watts.
- A dehumidifying system provides low humidity air to the hopper and the feeder enclosure.

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# Dry Polymer Systems

**The Polymer Plus Dry Auger System** is engineered to provide a reliable means of feeding dry polymers and other difficult to feed materials. The material being fed is vacuumed by the Polyductor suction air flow. This prevents polymer buildup. The feed rate is controlled by a variable speed gear motor. The feeder is easy to operate and simple to maintain.

## Dry Polymer Plus A-Series

**The Polymer Plus Dry Polymer Disc System** is engineered to prevent the problems associated with other dry polymer systems. The Disc Feeder reliably feeds the polymer which is vacuumed by the Polyductor suction air flow. This prevents polymer build up. The disc feed rate is controlled by a very low speed DC motor. It is reliable, quiet, and compact. The system is easy to operate and simple to maintain.

Both the Polymer Plus Dry Auger System and Disc System assemblies are modular. They are available complete with tanks and pumps and can also be adapted for use with existing tanks.

## Dry Polymer Plus DS Series

*Contact Burt Process for Dry Polymer System Application Assistance

| *SERIES | FEED RATE | FLOW RATE |
|---|---|---|
| 101-DRY | 1 - 25 lbs (0.5 - 11 Kg) | 480 - 600 GPH (1,800 - 2,270 LPH) |
| 102-DRY | 2 - 50 lbs (1 - 22 Kg) | 960 - 1,200 GPH (3,600 - 4,500 LPH) |
| 103-DRY | 3 - 75 lbs (1.5 - 33 Kg) | 1,440 - 1,800 GPH (5,450 - 6,800 LPH) |
| 104-DRY | 4 - 100 lbs (2 - 45 Kg) | 1,920 - 2,400 GPH (7,200 - 9,000 LPH) |
| 105-DRY | 8 - 200 lbs (4 - 90 Kg) | 3,840 - 4,800 GPH (14,400 - 18,000 LPH) |
| 106-DRY | 10 - 300 lbs (5 to 135 Kg) | 4,800 - 6,000 GPH (18,200 - 22,700 LPH |

# BURT | PROCESS EQUIPMENT

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## MANUFACTURER'S INDEX

### Pumps

- Albin
- Alfa Laval
- AMT
- Ansimag
- ARO
- Blue White
- Ebara
- Eastern
- Eclipse
- ECO
- Enviroflex
- EVO
- Finish Thompson
- Fluid-O-Tech
- Flux
- GRI
- Grundfos
- Hidrostal
- Isochem
- Iwaki
- Liberty Process
- Lutz
- LMI
- March
- Magnatex
- Masterflex
- Micropump
- MP Pump
- Neptune
- Netzsch
- Oberdorfer
- Pacer
- Price
- Pulsafeeder
- Pulsatron
- Sandpiper
- Travaini
- TruFlo
- Webster
- Wilden
- Yamada

### Instrumentation

- Aqua-Metrix
- Blue White
- Dwyer
- Flowline
- HF Scientific
- Icon
- Kobold
- Signet

### Tanks

- Assman
- Burt Process Equipment
- Chem-Tainer
- Nalgene
- Norwesco
- Peabody Engineering
- Saint Gobain

### Motors/VFD

- ABB
- Baldor
- Weg
- AC Tech
- Emotron

### Tubing, Hose & Fittings

- Colder
- Finger Lakes
- Masterflex
- Enviroflex
- Rubber Fab
- Saint Gobain
- Tygon
- TBL

### Pipe, Valves & Fittings

- Alfa Laval
- Asahi
- Georg Fischer
- Griffco
- Hayward
- Plast-O-Matic
- Sanitech
- Simtech

### Specialty Products

- ChemPlus
- Chemical Feed Systems
- Lightnin Mixers
- Flexicon
- Fusion Mixers
- PolymerPlus
- Polymer Feed Systems
- Process Technology Heaters
- Blacoh Pulsation Dampeners

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