PolyBlend M Series
With Polymer Dosage Controller

USFilter
A Siemens Business

Installation, Operations & Maintenance Manual

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CONGRATULATIONS ON PURCHASING YOUR NEW POLYBLEND!

PolyBlend® changed the way the world feeds polymer. Today, more than 16,000 PolyBlends have been installed - almost 10 times the installed base of the nearest competitor.

PolyBlend is engineered to be adaptable to new polymers as they become available, making the benefits of new chemistries immediately available to PolyBlend owners.

End users, polymer suppliers and plant managers agree - innovation, efficiency and flexibility make PolyBlend the best choice for virtually any polymer feed application.

- ✓ PolyBlend benefits include: drier sludge, better solids capture, less heavy metal carryover – whatever the needs of the application.
- ✓ PolyBlend uses less polymer and makes less mess.
- ✓ PolyBlend runs longer without attention.
- ✓ When PolyBlend does need care, it's the easiest to maintain.

How to use this manual:

This manual provides step-by-step instructions for easy installation and maintenance of your new PolyBlend.

If at any time you need assistance with your unit, feel free to contact us at 800-882-6466. We would be glad to assist you!

Enjoy your PolyBlend!

What's Included

Your shipping package should contain these items:

1. The PolyBlend unit and Warranty Registration Form.

2. Plastic bags containing parts specific to your application. (Check these contents against individual packing list.)

Examine package contents for damage. Report any to freight forwarder.

NOTE: Disregard any moisture inside the unit. The unit was wet-tested at the factory prior to shipment.

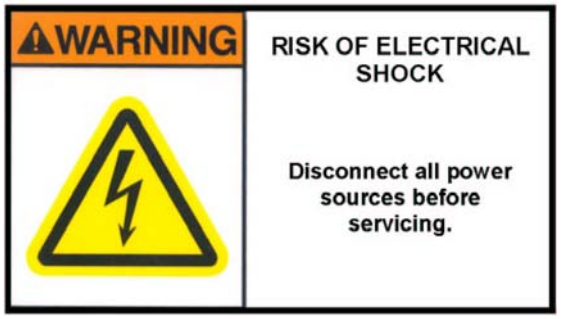
Introduction

The PolyBlend unit will perform the following functions: meter polymer dosage, regulate mixing water, provide uniform dilution and activation, operate on-line continuously, and feed solution to the point of use.

Neat polymer from the metering pump and dilution water controlled by the solenoid valve meet in the mixing chamber. Dilution and activation then occur, which yields a prepared solution ready for use.

Neat polymer dosage rate can be adjusted from the pump or the electronic controller. The primary dilution and post dilution water can be adjusted by the Rate Control / Flow Splitter Valve.

General Safety Precautions



Line voltage (120/240 or 480/600VAC) can be present inside the PolyBlend feeder and caution should be used to prevent electrical shock, burns or electrocution. Be sure electric power is disconnected before opening the cover of any PolyBlend. Follow all local safety policies, procedures and electrical codes, to prevent injury from electrical hazards, before opening the cover of this feeder. If you are not trained and comfortable performing work on electrical equipment, contact a licensed electrician to perform the work.

1. Ensure that the control panel is grounded to avoid possible electrical shock or damage to equipment.

2. Before servicing, turn off all power and assure power "lock-out" to avoid possible electric shock.

3. Disconnect external power to the control panel before removing or replacing fuses.

PART I

INSTALLATION

Step 1 — Selecting Location

Before you can start-up the unit, you must decide where to best locate it. Select a location that provides:

- Electrical supply
- Potable water (clean)
- Proximity to the point of use
- Easy handling and storage of polymer
- Access to unit
- Protection against severe weather

Step 2 — Connecting the Unit

Follow these guidelines when connecting the unit:

- Use Teflon® tape on threads. Use joint compound (pipe dope) in small amounts and only if necessary.
- Do not over-tighten fittings.
- Ensure that supply water pressure is less than 100 psi.
- Install water isolation valve with unions.
- Ensure that the neat polymer feed line has a flooded suction.

NOTE: To enhance performance, reduce the number of piping turns and elevation changes.

PART II

POLYMER DOSAGE CONTROLLER

Standard Operation:

Flow Proportional Pacing

The output of the unit is determined by the parameters set at the Polymer Dosage Controller. The controller has been programmed at the factory and only a few field settings are required for normal operation.

The system is designed to maintain a preset concentration regardless of the dilution water flow. The system can be programmed to have either the water flow or the polymer flow set as the controlled source. Whichever source is selected, the other will adjust automatically to maintain a consistent concentration. This flow rate setpoint can be set locally, or remotely from another piece of equipment via an analog input. The system will also adjust the water flow automatically to maintain the desired or calculated flow rate if the incoming water pressure causes the water flow to change.

NOTE: Feed water fluctuations should affect both primary and post-dilution water flow rates equally so no re-adjustment is necessary. The controller will disable the polymer feed pump if insufficient flow exists in either control mode.

PART II A

PROGRAMMING THE POLYMER DOSAGE CONTROLLER

The Polymer Dosage Controller controls the entire system. It consists of a four-line by 20-character, backlit LCD display, three function keys and a display key. The following is a description of each screen along with a menu diagram.

'Main Display Loop'

The main display loop is display only. No setpoints are available through these screens.

This screen displays the status of the major components of the system.

```
SOLENOID VALVE CLOSED
MIXER MOTOR STOPPED
PUMP STOPPED
```

This screen displays the current alarms on the system. See the alarm section for more detail.

```
        ALARMS
LOSS OF WATER FLOW
MIXER MOTOR OVERLOAD
 PRESS  [→] TO RESET
```

This screen displays the current time and date.

```
      SYSTEM RTC

FRIDAY
02:12:06   07/30/2004
```

This screen displays the actual water flow and the water flow setpoint. The water flow setpoint can either be the actual setpoint or the calculated setpoint depending on which variable is the controlling factor (water or polymer).

```
WATER FLOW
XX.X GPM
WATER SETPOINT
XX.X GPM
```

This screen displays the actual polymer flow and the polymer flow setpoint. The polymer flow setpoint can either be the actual setpoint or the calculated setpoint depending on which variable is the controlling factor (water or polymer).

```
POLYMER FLOW
XX.XX GPH
POLYMER FLOW SETPOINT
XX.X GPH
```

This screen displays the % concentration that is set locally or via an analog input. This screen also displays the actual pump speed in percent.

```
% CONCENTRATION
XX.XX %
PERCENT PUMP SPEED
XX.XX %
```

This screen shows the totalized gallons of water and polymer since the last time the totalizers were reset, which can be accessed in the logic settings sub menu.

```
TOTAL WATER FLOW
XXXXXX GALLONS X 100
TOTAL POLYMER FLOW
XXXXX GALLONS
```

NOTE: The water flow is displayed in gallons x 100.

'Logic Settings' Submenu

Selects the pacing reference:
This screen selects which variable (water or polymer flow) will be the controlled source. Whichever one is selected, the other will be controlled automatically to maintain the preset concentration.

```
FLUID CONTROL MODE
1=WATER 2=POLYMER
      1
      [->] SELECT
```

Water Flow Mode: The system will maintain a desired water flow either by a manual entry in GPH or via a 4-20mA input. The polymer pump will adjust automatically to maintain the desired concentration strength.

Polymer Flow Mode: The system will maintain a desired polymer flow either by a manual entry in GPH or via a 4-20mA input. The water flow will automatically adjust to maintain the desired concentration strength.

Selects the pacing source:
This screen selects whether the flow setpoint will be entered locally on the controller or via an analog input.

```
FLOW PACING MODE
1=SETPOINT 2=4-20
      1
      [->] SELECT
```

In the setpoint mode, the user manually enters the desired flow to maintain. In the 4-20mA mode, the system will pace via 4-20mA input. The 4-20mA input is scaled based on the maximum water or pump flow entered in later screens.

Sets the desired water flow setpoint:
This entry is the water flow that is to be maintained if 'WATER' is selected as the fluid control mode. This entry is only active if the setpoint mode is selected as the pacing source.

```
WATER FLOW PACING
SETPOINT

      XXX.X GPH
```

Sets the desired polymer flow setpoint:
This entry is the polymer flow that is to be maintained if 'POLYMER' is selected in the fluid control mode. This entry is only active if the setpoint mode is selected as the pacing source.

```
POLYMER FLOW PACING
SETPOINT

      XX.XX GPH
```

Selects the polymer pump control:
In the hand mode, the pump will be powered as long as the system is above the minimum water flow level and the pump speed will be determined by a manual setpoint entry on the next screen. In the auto mode, the pump will sequence and pace with the system automatically.

```
PUMP POWER CONTROL
1=HAND 2=OFF 3=AUTO
      1
      [->] SELECT
```

Selects the pump speed while in the "HAND" mode. Sets the pump speed in percent.

```
"HAND" PUMP SPEED

      XX.X %
      [->] SELECT
```

Selects the solution concentration source:
In the setpoint mode, the user enters the desired solution concentration on the next screen. In 4-20mA mode, the concentration is set remotely via a 4-20mA input. The input can be scaled in a later screen.

```
CONCENTRATION MODE
1=SETPOINT 2=4-20ma
      1
      [->] SELECT
```

Sets the solution concentration:
This entry is the polymer to water ratio to maintain if in the setpoint mode in the previous screen.

```
% CONCENTRATION
SETPOINT
      XX.XX
      [->] SELECT
```

Sets the 4-20mA scale for concentration 4-20mA mode:
This number represents 20mA for the 4-20mA input and is adjustable from 0-9.99%.

```
4-20ma CONCENTRATION
SCALE
      XX.XX %
      [->] SELECT
```

Sets the duration, after shutdown, that the system will run water only to flush out any residual polymer.

```
FLUSH TIME AFTER
SHUTDOWN
      XXXX SECONDS
      [->] SELECT
```

Sets the maximum water flow at which the unit is rated.
This entry will be set at the factory and determines the water flow capacity of the unit. This capacity is determined at the factory. This parameter also sets the 20mA scale if in the water flow pacing mode.

```
MAXIMUM WATER FLOW

      XXX.X GPH
      [->] SELECT
```

Sets the maximum flow that is achieved by the polymer pump.
This entry tells the system the maximum capacity of the polymer pump. A pump draw-down should be done at start-up, and whenever the polymer type is changed. This number is then entered into this field. This parameter also sets the 20mA scale if in the polymer flow pacing mode.

```
MAXIMUM POLYMER FLOW

      XX.XX GPH
      [->] SELECT
```

Sets the water flow rate at which the polymer pump and mixing chamber motor are disabled.
This setpoint is a protection feature that prevents the mixing chamber from filling with polymer if the water flow is inadequate. This should be set at 5% of the maximum flow of the system.

```
LOW WATER FLOW ALARM
SETPOINT
      1
      [->] SELECT
```

Sets the +/- deviation from the flow setpoint at which the control valve will stop:

```
WATER FLOW
DEADBAND
      XX.X GPH
      [->] SELECT
```

Control valve calibration factor:
This entry is a tuning parameter that will help control the valve under different flow and pressure conditions.

```
VALVE CALIBRATE
TIMER 0-4.9 SEC
      X.X
      [->] SELECT
```

```
WATER FLOW SAMPLE
RATE
      X SECONDS
      [->] SELECT
```

Water flow sample rate:
This setting is the duration in which the water flow input is sampled and averaged before the system will adjust the water flow automatically. This entry is used to help

smooth out erratic water flow and helps the motorized valve control the water flow.

'Unit Calibration' Submenu

```
FLOW SENSOR #1
K FACTOR CALIBRATION
      XX.XX %
      [->] SELECT
```

The K-Factor is unique for each unit and is set at the factory. This value should not change unless the PVC sensor fitting is replaced. The K-Factor for each PVC sensor fitting is listed on the PVC sensor fitting label. This parameter sets this K-Factor. Be sure that the value listed matches the value listed on the sensor label.

Alarms

```
        ALARMS
LOSS OF WATER FLOW      <-- Line #1
MIXER MOTOR OVERLOAD    <-- Line #2
 PRESS  [→] TO RESET
```

The system has three possible alarms displayed on two lines of the alarm screen. When an alarm occurs, the alarm screen is automatically called up:

Line #1:
The first line is dedicated to loss of water flow. If the water flow has fallen below the low flow setpoint, the message is displayed. The message will automatically clear if water flow is re-established.

Line #2:
The second line will display one of two alarms, mixer motor overload or auto flow fall. The mixer motor overload alarm will shut-down the system and requires the overload to be cleared and the enter button to be pressed to clear the alarm. The system will then resume operation. See the Troubleshooting Section of the manual for issues pertaining to the mixer motor overload. Auto flow fail is an alarm that signals that the water flow cannot achieve the current setpoint. This alarm displays a message only and will clear if the water flow is restored to match the setpoint. If any alarm is active, the Alarm LED will also flash to indicated that an alarm is present.

LED Indicators

The controller has four LED indicators for monitoring:

- **Alarm:** This LED will blink anytime an alarm is present.
- **Run:** This LED will light continuously if the water solenoid is open and the mixer and pump are operating.
- **Water Flow** ⇧ or ⇩ : These LEDs indicate that the motorized valve is either increasing or decreasing the water flow. These LEDs will blink often. They indicate that the system is automatically adjusting the valve orifice to maintain the desired water flow.

Main Display Loop

(Power up Screen)

U.S.FILTER/STRANCO

POLYBLEND
V1.0

DISPLAY

SOLENOID VALVE CLOSED
MIXER MOTOR STOPPED
PUMP STOPPED

DISPLAY

ALARMS
LOSS OF WATER FLOW
MIXER MOTOR OVERLOAD
PRESS [→] TO RESET

DISPLAY

SYSTEM RTC

FRIDAY
02:12:06 07/30/2004

DISPLAY

WATER FLOW
XX.X GPM
WATER SETPOINT
XX.X GPM

DISPLAY

POLYMER FLOW
XX.XX GPH
POLYMER FLOW SETPOINT
XX.X GPH

DISPLAY

% CONCENTRATION
XX.XX %
PERCENT PUMP SPEED
XX.XX %

DISPLAY

-------WARNING-------
DO NOT EXCEED A 1%
CONCENTRATION IF
USING EMULSION POLY!

DISPLAY

Loops back to first screen

Hold for 2 seconds

DISPLAY

Main Setpoint Loop

USER ACCESS CODE

ENTER CODE? **CODE IS 1**
USE [UP] [DWN] [->]

▽

MAIN MENU
Index >0
LOGIC SETTINGS
[UP] [DWN] THEN [->]

▷ **To Logic Settings Sub Menu**

▽

MAIN MENU
Index >1
UNIT CALIBRATION
[UP] [DWN] THEN [->]

▷ **To Unit Calibration Sub Menu**

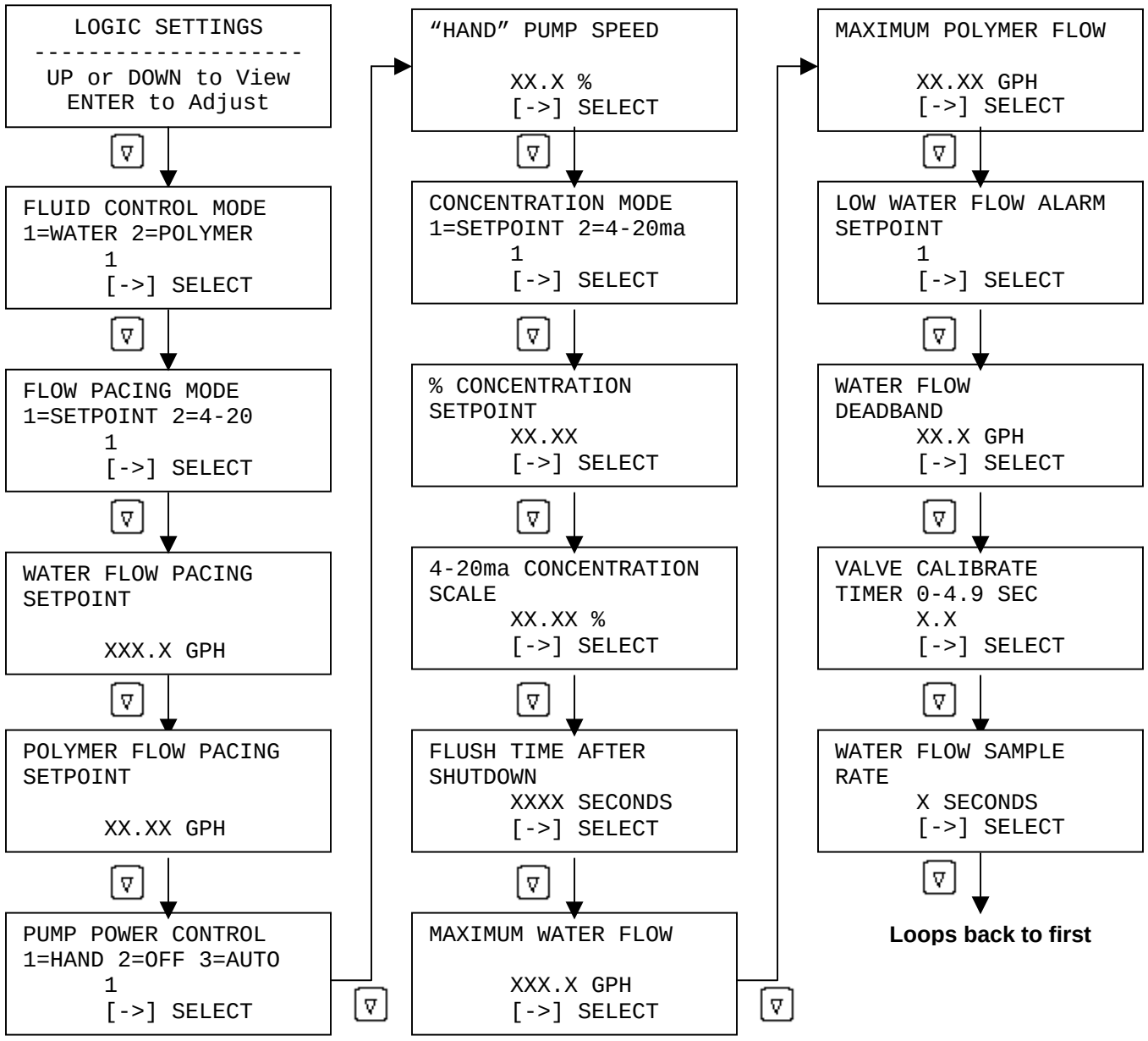
▽

To other setpoint sub menus not used and loops back to Logic Settings

Hold for 2 seconds at any time to go back to main display loop

DISPLAY

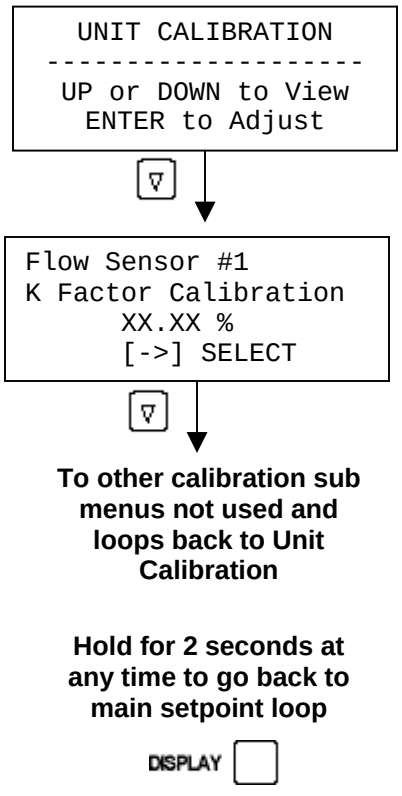
Logic Settings Sub Menu



Hold for 2 seconds at any time to go back to main setpoint loop

DISPLAY

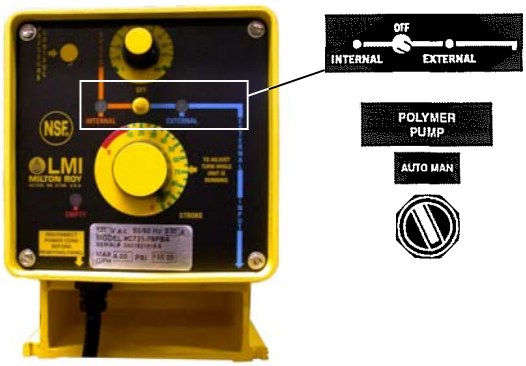
Calibration Sub Menu



PART III
START-UP

Step 1

Switch Pump to External / Auto Mode.



Step 2

Prime polymer pump using priming kit provided with unit.

Step 3

Open Water Supply Valve.

Step 4

Select Desired Water Ratio using the rate control / flow splitter valve.

Step 5

Energize power circuit that feeds unit.

Step 6

Access Polymer Dosage Controller for polymer output adjustment. Output can also be adjusted at pump face by varying the stroke length.

Step 7

Place unit start / stop control to HAND position at unit control panel. Solenoid opens and water flow is established.

Step 8

After water flow is established, mixing chamber motor and polymer pump start.

Step 9

Adjust the parameters in the Polymer Dosage Controller as necessary for desired operation.

NOTE: Do not run polymer pump unless water flow is established. Polymer alone can plug discharge plumbing.

Step 10

For optimum electronic metering pump performance, keep stroke frequency as high as possible. This is done by decreasing the stroke length setting. More stroke repetition with a shorter length is better than fewer strokes with a long stroke length.

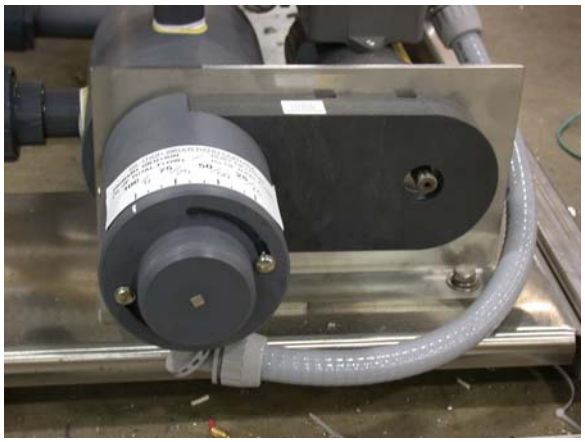
Step 11

Unit is now delivering a consistent polymer solution strength to the application. The PolyBlend will continue to run until placed into OFF mode.

PART IV

OPERATION

Water Control



Water flow through the unit is governed by the Rate Control / Flow Splitter Valve. This valve controls the amount of water flow through the unit, the total flow allowed, and the amount of the total flow that is diverted to the Primary and Post Dilution streams. By setting the valve Ratio Wheel, the total stream can be divided up in any ratio from the following range:

25-100% of the total flow through the primary stream, leaving 75-0% of the total flow going through the post dilution stream, respectively.

NOTE: At least 25% of the total flow MUST be diverted to the primary flow stream to ensure proper mixing chamber operation. Once the desired ratio has been selected, the total amount of water flow is set by positioning the valve, either manually or automatically.

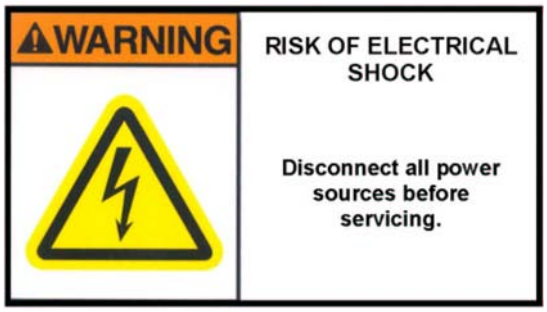
Flow Sensor

This M-Series unit is equipped with an inlet water flow sensor. The sensor monitors the total dilution water flowing through the unit and communicates this information to the Polymer Dosage Controller. The Polymer Dosage Controller uses this information to keep a consistent solution strength exiting the unit by controlling the polymer metering pump. The Polymer Dosage Controller also uses the water flow rate information to adjust the water rate as needed to maintain the desired water flow rate.

The Polymer Dosage Controller (Basic Features)

Most controllers allow you to change the amount of polymer being fed only by changing the percentage of concentration. But the Polymer Dosage Controller has the ability to change the unit's volume output without affecting its concentration strength. The controls have been designed so that the water flow rate also controls the pump output and allows governing of the water / polymer volume remotely through a 4-20 mA signal.

Step 1 — The Disconnect Operating Handle



Line voltage (120/240 or 480/600VAC) can be present inside the PolyBlend feeder and caution should be used to prevent electrical shock, burns or electrocution. Be sure electric power is disconnected before opening the cover of any PolyBlend. Follow all local safety policies, procedures and electrical codes, to prevent injury from electrical hazards, before opening the cover of this feeder. If you are not trained and comfortable performing work on electrical equipment, contact a licensed electrician to perform the work.

This control is used to disconnect power to the unit for maintenance and service. To disconnect power, turn the handle counter-clockwise so that the handle is horizontal. To turn the power back on, turn the handle clockwise so that it is in the vertical position.

Step 2 – Unit Start / Stop Control

This controls the entire unit, turning it on or off. Turning it to the HAND position results in the unit running until the control is turned to the OFF position. Turning the control to the AUTO position enables the unit to be controlled by the remote switch. If the remote switch is in the OPEN position, the unit will be off. If the remote switch is in the CLOSED position, the unit will run.

Step 3 – Programming the polymer dosage controller. (See Part II A)

Emergency Operating Instructions

Emergency operating instructions do not apply to USFilter Stranco equipment. In case of an emergency, TURN OFF POWER.

Special Tools

No special tools are needed for operation, maintenance or repair of components.

PART V

MAINTENANCE

Normal Maintenance

Weekly:

1. Clean ancillary water and/or polymer strainers.

Monthly:

2. Flush system monthly following one week procedure (see shutdowns).
3. Refer to pg. 33-36 for specific information on drawings, part identification and components.

Lubrication:

For diaphragm pumps, no lubrication is required.

Shutdowns of Longer Duration

If the unit will be out-of-service for **more than one week**, the mixing chamber must be flushed prior to shutdown. Follow these two steps:

1. Turn pump off.
2. Place unit power switch in HAND position to establish water flow for five minutes.

If the unit will be out-of-service for **more than two weeks**, both the pump and the mixing chamber must be flushed prior to shutdown. Follow these steps:

1. Connect pump suction to a container of mineral oil (**not water**).
2. Place unit power switch in HAND position to establish water flow.
3. Turn pump on and run for three minutes to clean pump head and polymer plumbing.
4. Turn pump off.
5. Continue water flow for five additional minutes,
6. Drain water from chamber and piping to prevent freezing.

PART VI

TROUBLESHOOTING GUIDE

Polymer Dosage Controller Troubleshooting Guide

As with any mechanical or electrical device, disruptions in operation can occur. The following are recommended actions to be taken to correct possible problems or misunderstandings associated with the operation of the Polymer Dosage Controller.

If additional information is needed please call USFilter Stranco Products (see the back cover of this manual).

Symptom: The HAND-OFF-AUTO switch is in HAND position, but water does not flow.

NOTE: If the solenoid valve makes a "click" sound, then the solenoid is being energized. The problem is not electrical.

Recommended Action:

1. Check incoming water pressure. It must be higher than the discharge pressure. Open any valves in the supply water plumbing that may be preventing water flow. Do not exceed 100 psi inlet pressure.

2. Check discharge pressure. If discharge pressure is too high, water cannot flow through the PolyBlend. Open any valves in the discharge plumbing that may be preventing water flow.

3. a) If in the manual flow pacing mode, increase the water or polymer setpoint to cause the motorized valve to open more.

   b) If in the auto flow pacing mode, increase the 4-20mA input signal to cause the motorized valve to open more.

4. Disassemble solenoid valve. Remove any debris, re-assemble and recheck flow.

5. Replace solenoid valve.

Symptom: **The HAND-OFF-AUTO switch is in HAND position, but water does not flow.**

NOTE: If the solenoid valve makes a "click" sound, then the solenoid is being energized. The problem is not electrical.

Recommended Action:

1. Check panel disconnect switch. It should be in HAND position.

2. Check the power breaker that feeds the PolyBlend panel disconnect switch. It should be HAND. To be sure, check the control panel and/or the Polymer Dosage Controller. If any light or the LED display of the Polymer Dosage Controller is on, then the supply breaker is HAND.

3. Check manual motor starter located in control panel. If this starter is OFF or tripped, then the control power to the PolyBlend will be disabled.

   This will prevent the valve from opening. To reset the manual starter, press the STOP button and then the START button located on the manual starter.

4. Have a qualified electrician check for proper power connection.

5. Have a qualified electrician check for power at the solenoid coil. If no power at the coil, have a qualified electrician check the internal fuse. See electrical drawing in appendix for fuse information.

Symptom: **The PolyBlend works when the HAND-OFF-AUTO switch is in the HAND position, but does not work in AUTO position.**

Recommended Action:

When the HAND-OFF-AUTO switch is in AUTO position, the PolyBlend is designed to operate from a remote switch closure. When the remote switch is closed, the PolyBlend will operate.

NOTE: The remote start feature is accomplished with a dry or non-powered contact (switch). The PolyBlend connection provides the voltage to the remote contact / switch.

DO NOT CONNECT TO ANOTHER SOURCE OR POWER OR DAMAGE TO THE CONTROLLER WILL OCCUR. ONLY CONNECT TO A NON-POWERED SWITCH.

1. Have a qualified electrician check continuity through the remote switch to verify proper operation.

2. Have a qualified electrician check wire connections at the remote switch and at the PolyBlend.

3. Call factory for assistance.

Symptom: **The HAND-OFF-AUTO switch is in HAND position, water flows through the unit, but the polymer pump and mixer motor will not start.**

Recommended Action:

This PolyBlend is equipped with water flow protection. If the water flow drops below the pre-programmed setpoint, the control logic will not allow the pump or mixer to operate.

1. Verify water flow rate by observing the Polymer Dosage Controller. The correct water flow will depend on the PolyBlend model you have purchased.

2. Check the low water flow alarm setpoint at the Polymer Dosage Controller. Low Alarm setpoint should be lower than the actual flow. Do not decrease the Low Alarm setpoint to zero. This will disable the protection and can lead to mechanical failure.

3. Have a qualified electrician check the internal fuses. See electrical drawing in appendix for fuse information.

4. Call factory for assistance.

Symptom: **Water flows through the unit, the mixer motor turns, but the polymer pump will not start.**

Recommended Action:

This PolyBlend is designed to control the speed of the polymer pump based on the program parameters in the Polymer Dosage Controller for the amount of polymer per gallon of water and by the flow rate (i.e. how many gallons of water are flowing per minute). These items should be checked first. If the pump responds correctly while in internal / manual control, the problem is likely to be Polymer Dosage Controller program parameters and/or inadequate water flow.

If polymer pump is a diaphragm type:

Diaphragm pumps will make a distinctive thumping sound when they are operating. If the pump is "thumping", then proceed to "Pump Will Not Move Polymer" section of this troubleshooting guide.

1. Check the mode switch on the pump face panel. Mode switch needs to be in EXTERNAL position.

2. Check cable connection located underneath the pump face panel. This connection controls the pump when it is in external mode.

3. Have a qualified electrician check for proper voltage at the pump.

4. Replace / repair pump.

If polymer pump is motor-driven type:

1. Check the mode switch on the control panel. Mode switch needs to be in AUTOMATIC position.

2. Check motor coupling on pump assembly. If the drive motor turns, but the pump does not, replace or tighten motor coupling.

3. Have a qualified electrician check for proper voltage at the pump motor. If voltage is not present, check internal fuses. If voltage is present and the motor does not turn, replace motor.

4. Replace SCR motor controller.

Symptom: **Water flows through the unit, the mixer motor turns, polymer pump operates, but it will not move polymer.**

Recommended Action:

1. Check to be sure polymer pump is primed. Follow priming instructions in this manual.

2. Check polymer pump discharge piping. If the pressure in this line is too high, the pump will not be able to overcome it.

   High pressure can be caused by a blocked mixing chamber check valve, a closed valve in the discharge line of the PolyBlend, etc.

   If the pump works with the discharge line disconnected but not with the discharge line connected, high pressure is likely to be the cause of the problem. Correct the cause of the high pressure.

3. Rebuild / replace the polymer pump.

Symptom: **Unit works well in SETPOINT mode. In 4-20mA mode, the water flow decreases to minimum and the water flow stays ON.**

Recommended Action:

1. Verify that the customer supplied a 4-20mA signal is present.

2. Verify that the 4-20mA signal is connected correctly. Check the polarity of this connection.

3. Consult factory.

Symptom: **Mixing chamber leaks water from the small hole in the end cap.**

Recommended Action:

The small hole in the mixing chamber end cap is a weep hole for the mechanical shaft seal. If water leaks from this hole, replace the mixer shaft mechanical seal.

Symptom: **Polymer pump leaks polymer around drive shaft.**

NOTE: This applies only to motor-driven pumps, such as gear and/or progressing cavity pumps.)

Recommended Action:

Replace the shaft mechanical seal.

Symptom: **Mixer Motor overload trips. PolyBlend will not operate.**

Recommended Action:

The PolyBlend unit is provided with mixer motor overload protection. If the overload trips, it can simply be reset by pressing the STOP button, then the START button located on the manual motor starter. Before the starter is reset, make sure the overload condition is not still present.

1. Check motor bearings.
2. Check mixing chamber bearings.
3. Check motor to chamber shaft coupling.
4. Check program parameters for solution strength. Do not exceed maximum concentration (by volume) in the mixing chamber. This will overload the motor. Maximum concentration: 1% for emulsion, 10% for solution / mannich.
5. Check motor rotation. Incorrect rotation can cause motor overload.

SAFETY TIP:

When repairing or performing maintenance on the PolyBlend M Series unit, it is recommended that you ***always*** *wear safety glasses, goggles, gloves and boots, approved for use with chemicals.*

USFILTER STRANCO PRODUCTS
(USFILTER STRANCO)
P.O.BOX 389
BRADLEY, IL 60915

TELEPHONE: 815-932-8154
800-882-6466
FACSIMILE: 815-932-0674

PolyBlend® Warranty

USFilter Stranco warrants equipment of its manufacture and bearing its trademark to be free of defects in workmanship and materials. If the customer gives USFilter Stranco prompt written notice of a breach of this warranty within the Warranty Period (as defined below), USFilter Stranco shall, at its sole option and as the customer's exclusive remedy, either repair or replace at no charge, or refund the purchase price paid with respect to, any part or product of its manufacture that is returned to the factory freight prepaid and found to be in breach of this warranty. If USFilter Stranco determines that any claimed breach is not, in fact, covered by this warranty, the customer shall pay USFilter Stranco's then customary charges for any repair or replacement. The foregoing warranty is conditioned upon the customer's (i) operating and maintaining the equipment in accordance with all applicable product instructions, (ii) not making any unauthorized repairs or alterations, and (iii) not being in default of any payment obligation to USFilter Stranco. This warranty does not cover damage caused by chemical action or abrasive material (including, without limitation, particulates in the makeup water), damage caused by handling or during transportation, or damage arising from misuse, installation or any other cause beyond USFilter Stranco's control. Standard units not in outdoor configurations are not warranted in outdoor applications.

Warranty Period – The warranty begins with the date of shipment and extends for a period of twelve (12) months. However, if start-up of the product by an authorized USFilter Stranco technician occurs within twelve (12) months after the date of shipment, and if a USFilter Stranco start-up report form is filed with USFilter Stranco within 30 days of start-up, the warranty period begins with the date of start-up. If a non-potable water source is used as primary or secondary dilution water to the PolyBlend unit, the warranty period shall not exceed ninety (90) days from the date of shipment.

PolyBlend HydroForce® Warranty

The PolyBlend HydroForce® mixing assembly is covered for the life of the product by the limited warranty set forth herein, provided that the limited lifetime warranty extends only to the original user of the product.

30-Day Guarantee -- Each product of USFilter Stranco's manufacture is covered by a 30-day 100% buy-back guarantee of customer satisfaction. If customer is dissatisfied with the product's performance for any reason, the product can be returned to USFilter Stranco for a full refund of the sale price. In order to take advantage of the 30-day guarantee the product must have received only normal use and care and the customer must request the refund prior to the expiration of thirty (30) calendar days from the date of shipment.

No representative has authority to change or modify the foregoing warranties in any respect. However, representatives are free to offer service contracts and preventive maintenance agreements on their own, acting independently of USFilter Stranco. **THE WARRANTIES SET FORTH ABOVE ARE USFILTER STRANCO'S SOLE AND EXCLUSIVE WARRANTIES. USFILTER STRANCO MAKES NO OTHER WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, AND ALL SUCH EXPRESS OR IMPLIED WARRANTIES ARE HEREBY DISCLAIMED.**

LIMITATION OF LIABILITY: NOTWITHSTANDING ANYTHING ELSE TO THE CONTRARY, USFILTER STRANCO SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, SPECIAL, PUNITIVE OR OTHER INDIRECT DAMAGES, AND USFILTER STRANCO'S TOTAL LIABILITY ARISING AT ANY TIME FROM THE SALE OR USE OF THE EQUIPMENT SHALL NOT EXCEED THE PURCHASE PRICE PAID FOR THE EQUIPMENT. THESE LIMITATIONS APPLY WHETHER THE LIABILITY IS BASED ON CONTRACT, TORT, STRICT LIABILITY OR ANY OTHER THEORY.

Whether in or out of warranty, a Return Materials Authorization number (RMA) is required and can be obtained by calling our customer service department telephone at 800.882.6466. Have the make, model, and serial number of the item being returned. Reference the RMA number on the outside of the shipping container.

PolyBlend M Series
With Polymer Dosage Controller

Installation, Operations &
Maintenance Instructions

1-800-882-6466
Fax: 815.932.0674

http://www.stranco.com
e-mail stranco@usfilter.com

To find out more about how to put USFilter to work for you, contact us at

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For more information, visit our web site at

www.stranco.com

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