AmeriWater®
The Water Purification Specialists

Installation and Troubleshooting Guide

Acid Distribution System

For 250 Gal. Model(s)

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Manufactured With Pride in the USA

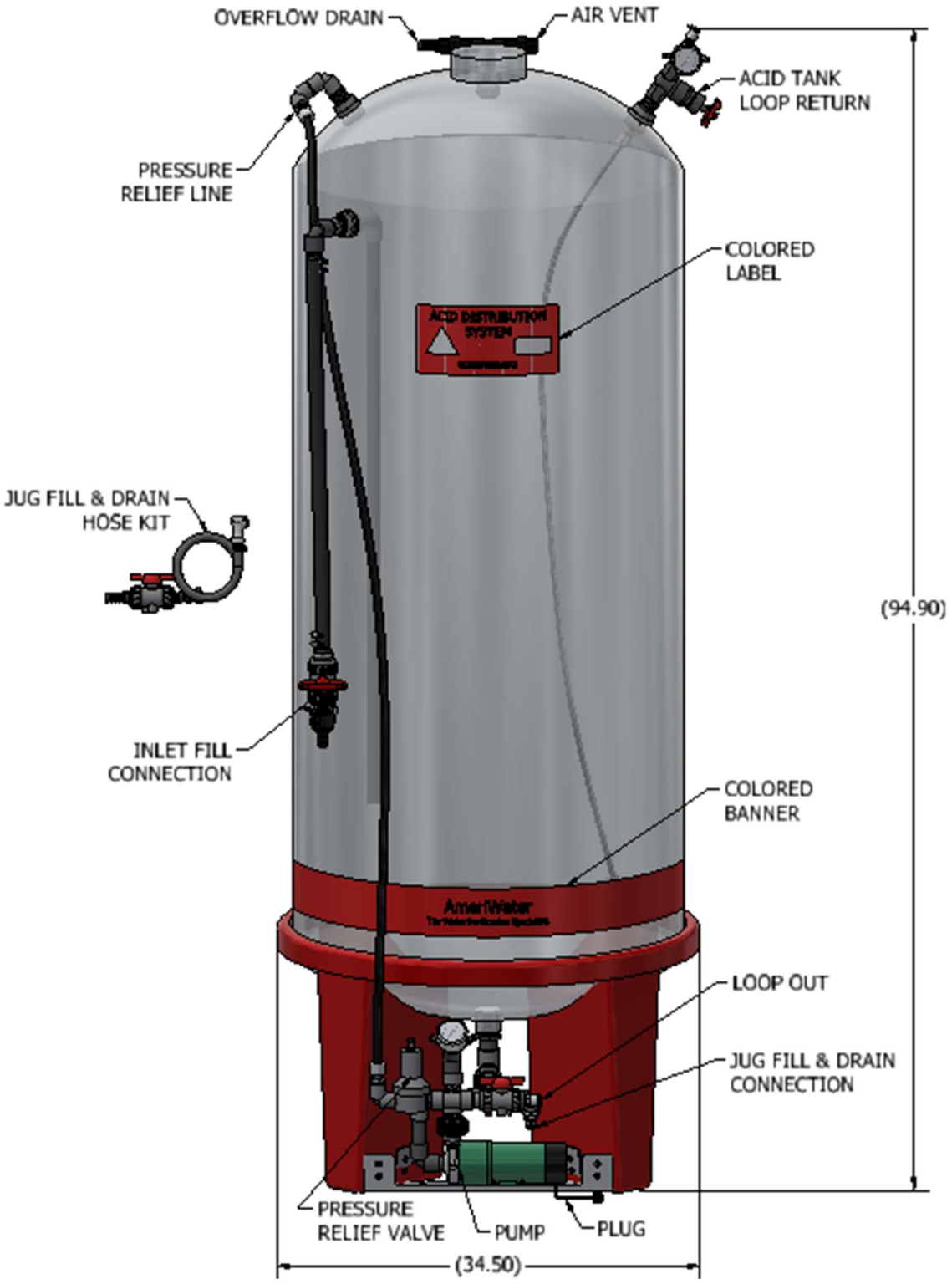
98-2008 Rev B

The AmeriWater Acid Concentrate Distribution System is designed to maintain storage and distribute the acid concentrate used for hemodialysis. The system features a virgin polyethylene tank with a conical bottom complete with connections for fill, pump feed, drain/jug fill and loop return. The piping, true union valves, and pressure reducing valve are PVC schedule 80. The pump is a magnetic drive, medium head, poly design, with a mounting frame. A stainless-steel pressure gauge shows the loop pressure both on the loop out and loop return. The lightly pressurized distribution and recirculation provide steady, consistent delivery, and decreases air lock potential. The AmeriWater Acid Concentrate Distribution System is available in a red, yellow, and orange labels to accommodate different concentrates.

The goal of the Acid Distribution System is to operate the distribution pump in a manner that provides protection to the distribution pump and allows the pump to operate within its normal temperature range during continuous operation. The permissible liquid temperature of this system is: 32-176°F (0 – 80°C). In order to control the loop pressure within the system, a pressure relief valve has been designed for use to supply the loop circuit and return back to the storage tank. This pressure relief valve is designed to bypass the loop when the inlet pressure exceeds the set valve range of 5-8 pounds per square inch. The acid which bypasses the loop returns to the tank through the pressure relief line and tank bulkhead. The overall pressure range of the relief valve is 0-30 pounds per square inch.

CAUTION: When using chemical pumps, always follow basic safety precautions to reduce the risk of fire, electric shock, and personal injury. Failure to follow any of these instructions could result in death or serious injury. Read instructions before use.

WARNING: FEDERAL LAW RESTRICTS THIS DEVICE TO SALE BY OR ON THE ORDER OF A PHYSICIAN FOR USE IN DIALYSIS APPLICATIONS!


OVERFLOW DRAIN
AIR VENT
ACID TANK
LOOP RETURN
PRESSURE
RELIEF LINE
COLORED
LABEL
ACID DISTRIBUTION
SYSTEM
JUG FILL & DRAIN
HOSE KIT
(94.90)
INLET FILL
CONNECTION
COLORED
BANNER
LOOP OUT
JUG FILL & DRAIN
CONNECTION
PRESSURE
RELIEF VALVE
PUMP
PLUG
(34.50)

Installation

1. Install the Acid Distribution System on a firm, level floor within a contained area for acid.

2. Connect acid loop tubing (1/2” OD X 3/8” ID) to fitting on outlet of the pump (Loop Out).

3. Connect Acid Loop Return tubing to the Acid Loop Return fitting (top of tank).

4. **CAUTION: Ensure the acid loop tubing color matches the color of the acid tank label.**

5. Connect the loose 0.75” hose (10 ft) to the Overflow Drain (right side of tank label) using the provided hose clamps and route to the nearest drain.

6. Fill the tank with the desired acid solution by connecting the hose from the acid mixer to the Fill Connection.

7. Set-up and install the 7-Day Programmable timer used to control the ON/OFF cycles of the distribution pump (see pg. 5 & 6).

1. Make sure that the 7-Day Programmable Timer is plugged into a properly grounded, 120V 20A GFCI protected outlet with the distribution pump plugged into the bottom of the timer and turned OFF.

   NOTE: To avoid the pump screws loosening over time, check periodically and tighten when necessary.

2. Close/Disconnect all acid supplies to dialysis machines at each wall box on the loop.

3. Fully open the Inlet valve to the pump (from the base of the storage tank).

4. Open Loop valve on the pump assembly.

5. Turn ON the timer for the pump and allow acid to flow through the loop and the Pressure Relief Valve, back into the Storage Tank.

6. Purge each acid line on every wall box on the loop.

7. Adjust the Pressure Relief Valve so that each station on the loop has sufficient pressure to meet your requirements.

   NOTE: Use a 9/16 wrench on locknut, 3/16 hex wrench on adjusting screw.

8. Adjust the Globe Valve so that the loop return has sufficient pressure to meet your requirements.

9. Attach the 0.5" CPC connector end of the hose kit to the Jug Fill/Drain Connection (located before the pump) as needed.

10. **CAUTION: Ensure that the 0.5" Ball Valve (located on the hose kit) is in the CLOSE position before attaching it and be careful to not spill/splash the acid when turning the valve to OPEN.**

11. To fill an individual jug, attach the hose kit and place the opposite end at the opening of the jug, then turn the 0.5" Ball Valve (located on the hose kit) to the OPEN position. When the jug is full, CLOSE the Ball Valve and disconnect the hose kit.

12. To drain the tank, attach the hose kit and place the opposite end to the designated floor drain, then turn the 0.5" Ball Valve (located on the hose kit) to the OPEN position. Once the tank is empty, CLOSE the Ball Valve and disconnect the hose kit.

13. **CAUTION: DO NOT LOSE HOSE KIT!! Keep in safe location near the tank that's easily visible.**

14. **WARNING: NEVER RESTRICT SUCTION - DO NOT ALLOW THE ACID PUMP TO RUN DRY!**

Mounting Instructions

1. Mount the timer on a wall near a GFCI receptacle using a mounting screw at least 3/16" out from the wall and hanging the timer from the slot located on the back of the unit.

2. **CAUTION: The timer MUST be mounted vertically with the receptacle facing downward and the receptacle at least 1.4 meters above the ground level.**

3. Plug the timer supply cord into the wall outlet for at least 30 minutes to charge the internal backup battery (this will save all programming in case of a power failure).

4. **CAUTION: The batteries are NOT rechargeable and must be disposed of properly when they are used.**

5. **NOTE: Plug timer into an outlet at least once every 3 months to keep the battery charged. Battery type: NI-MH battery 80H80mAh (1.2V)**

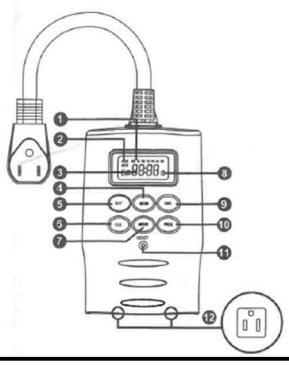
Start-Up

1. Reset the timer by inserting a thin non-conductive object into the reset hole located under the dashboard. The display should be as follows:

2. Set the Time by pressing and holding the CLK button while pressing the HOUR and/or MIN button(s). Change Am to PM by pressing and holding the CLK button while pressing the HOUR button until the display changes. Set the Day by pressing and holding the CLK button while pressing the DAY button until the correct day is displayed.

Product Description

1. Day display
2. Timer mode display
3. Clock display
4. Hour set button
5. Day set button
6. Clock set button
7. Timer mode button
8. AM/PM display
9. Minute set button
10. Program button
11. Reset (memory erase) button
12. Timer receptacles (2)



Programming

1. Set first ON cycle by pressing the PROG button to display the 1 ON setting. The display should be as follows:

2. Press the HOUR and MIN buttons to set the ON time (ensure AM/PM display is correct). Press the DAY button to select the desired day(s) for the first ON time.
3. Set first OFF cycle by pressing the PROG button to display the 1 ON setting. The display should be as follows:

4. Press the HOUR and MIN buttons to set the OFF time (ensure AM/PM display is correct). Press the DAY button to select the desired day(s) for the first OFF time.
5. Repeat the same procedure for all ON/OFF cycles (programming 2 ON setting to program the 1 OFF setting). Once all cycles are programmed, press the CLK button to exit the programming menu.

6. Review ON/OFF cycles by pressing the PROG button and scroll through the cycles. Stop on any cycle you want to change or exit the menu by pressing the CLK button.

7. Change cycles by pressing the HOUR, MIN, and DAY buttons as needed to revise an individual cycle

8. **CAUTION: When updating the cycle day/time, ensure it does NOT interfere with current cycles.**

Modes

1. Plug the pump into the bottom of the timer (ensure the pump is in the ON position).

2. Press the MODE button until AUTO appears on the left side of the display (must be in AUTO mode to initiate the programmed setting).

3. Press the MODE button until ON appears to bypass the programmed settings and have the pump to remain ON.

4. Press the MODE button until OFF appears to bypass the programmed settings and have the pump to remain OFF.

5. Press the MODE button until RDM appears to bypass the programmed settings and have the pump to randomly operate +/- 30 minutes of the programmed settings.

Item #	Part #	Description
1	80-0014	PUMP 1/4HP, 115V, 3/4 NPT
2	43-0006	GAUGE, 0-30, .25, CBM, U-CLAMP, 2.5, LF, SS/SS
3	45-0005	VALVE, PRESSURE RELIEF, .5" IN/OUT, PVC, 1-15 PSI
4	041531812	VAL, BALL, .5, TU, PVC80
5	041530841	VAL, BALL, .75, TU, PVC80
6	45-0007	VAL, GLOBE, .5, THRD, PVC
7	55-0018	VAL, CHECK, .5FPT, PP, Buna-N SEAL, 1/3# 302SS DISC POPPET
8	041531836	BULKHD, .75, T X S, PVC80 EPDM GASKET
9	041531850	BULKHD, .5, T X T, PVC80, LIGHT DUTY
10	041720559	UNION, .75, SOC, PVC80
11	141-0003	UNION, .75, SOC X THD, PVC80
12	08-0008	TUBE, 5/8 OD X .062 WALL, BLACK, 119 PSI, 70 DEGREE, LLDPE
13	08760164	TUBE, .5, 33-150F, 230PSI, LDPE, BLACK
14	12677130	HOSE, MEDICAL, .75, STYLE 5000
15	12677125	HOSE, MEDICAL, .5, -4-65C, 200PSI, PVC
16	14520110	ADPT, .5MPT X .75HB, PVC80
17	14730014	ADPT, .75MPT X HB, PVC80
18	14720829	ADPT, .5MPT X .5HB, PVC80
19	15650038	CLAMP, HOSE, .38, SST
20	15650075	CLAMP, HOSE, .75, SS#10
21	10520205	JACO, CON, .5MPTX.5T, PPG
22	10-0042	JACO, CON, 5/8 OD X 1/2 MPT, STRAIGHT
23	10-L006	LEGRIS MALE CON, 0.5T X 0.5MPT
24	10-L107	ADPT, EL, LEG, SWIV, .5, MNPT X TUBE, CLIP, PP
25	16-0010	Q-CON, .75, MPT X COUPLG, P0LYGLASS, SST
26	16-0013	Q-CON, .75, HB X INS, POLYGLASS
27	16-0016	Q-CON, .75, PLUG, POLYGLASS
28	16-0063	Q-CON, CPC, MALE COUP INSERT, WITH SHUT OFF X .5 MPT
29	16-0089	Q-CON, CPC, 1/2 HOSE BARB VALVED IN-LINE COUPLING BODYT, POLYSULFONE
30	64-0058	TIMER, 7-DAY, OUTDOOR, 1.2V


16
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ACID DISTRIBUTION SYSTEM
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AmeriWater
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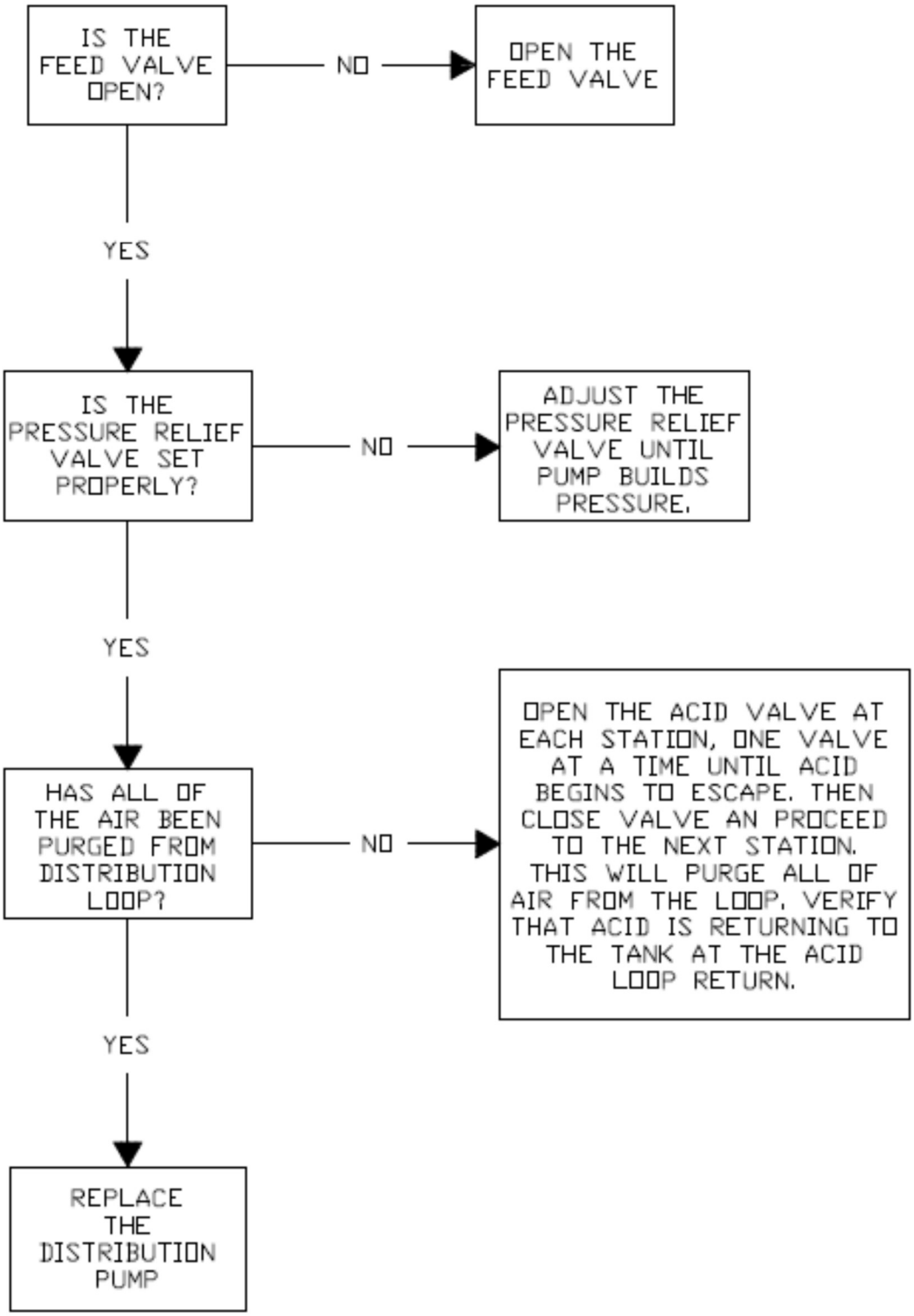
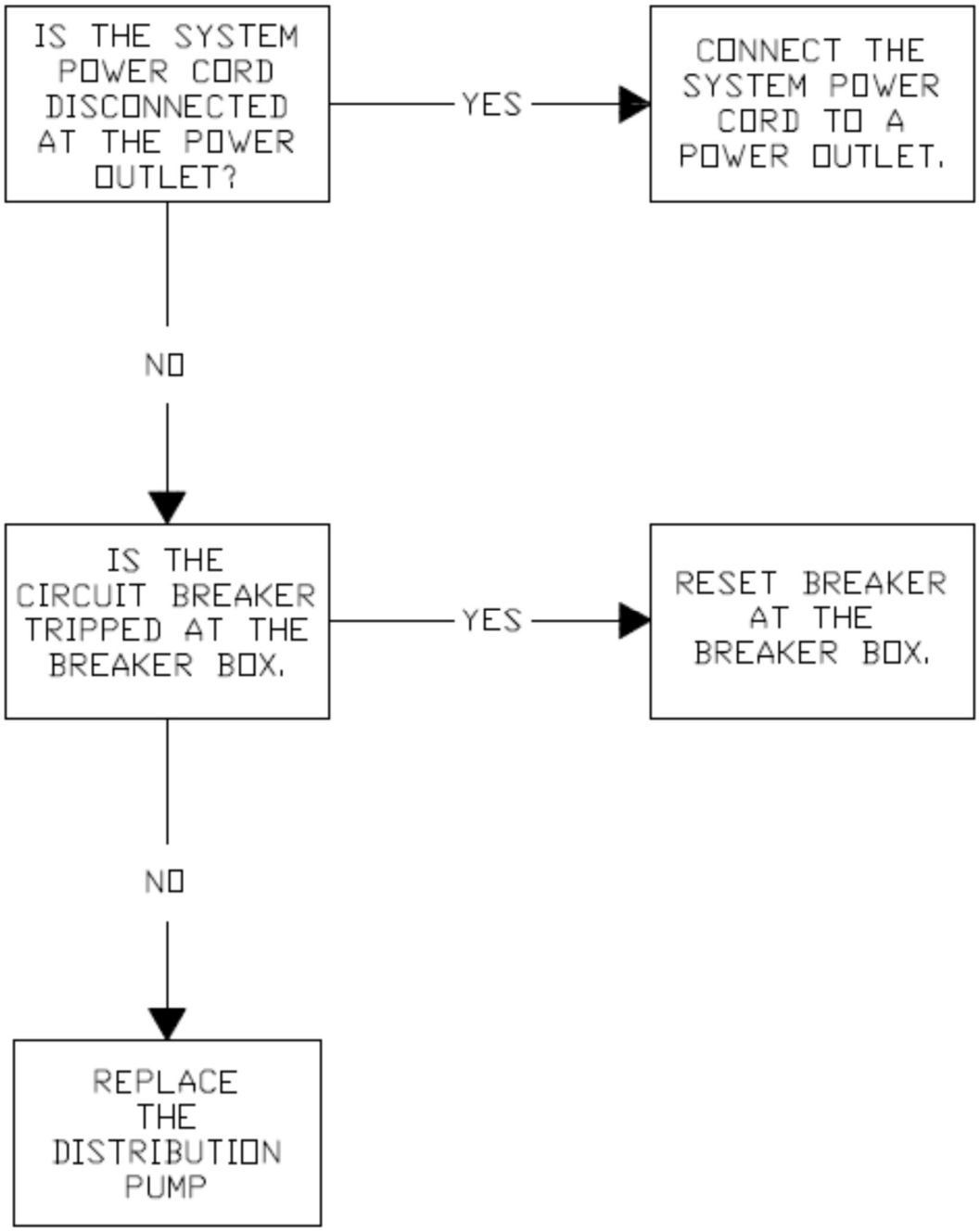
PROBLEM: DISTRIBUTION PUMP WILL NOT BUILD PRESSURE



PROBLEM: DISTRIBUTION PUMP NOT RUNNING



CALIFORNIA PROPOSITION 65

⚠ WARNING

This product can expose you to chemicals such as vinyl chloride (used in the production of PVC) or Nickel (used in the production of stainless steel), that are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Dear Valued Customer,

California Proposition 65 (Prop 65) is the Safe Water and Toxic Enforcement Act of 1986. The State of California began enforcing amendments to California Prop 65 at the end of August 2018. Prop 65 requires manufacturers to provide a clear and reasonable warning to residents of California about chemicals used in products that they purchase that are included on the Prop 65 Chemical List. The chemicals included on the list are chemicals that are known to the State of California to cause cancer, birth defects, or other reproductive harm. One such chemical is Vinyl Chloride, a compound used to produce Polyvinyl Chloride (PVC). The AmeriWater system you have purchased may contain PVC or stainless-steel parts.

While warnings are only required in the State of California, AmeriWater has initiated the use of Prop 65 labeling for all products to ensure compliance with California regulations. Please note that the above warning does not necessarily mean that the product that you have purchased is unsafe. Products that have been cleared for market by FDA have been determined to be safe and effective by the United States Food and Drug Administration. The warning is simply a requirement by the State of California. If you wish to obtain additional information, please visit: p65warnings.ca.gov. You may also contact your AmeriWater representative if you have any questions.

Thank you for your understanding and we look forward to continuing to serve you.