

THEORY OF OPERATION

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 flat bottom complete with connections for fill, pump feed, drain 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 mounting frames. A stainless steel pressure gauge shows the loop pressure. The lightly pressurized distribution and recirculation provides steady, consistent delivery, and decreases air lock potential. The AmeriWater Acid Concentrate Distribution System is available with different tank sizes to accommodate the customer's needs.

The goal of the Acid Distribution System is to operate the distribution pump in a manner that provides for 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 1-15 pounds per square inch.

Caution:

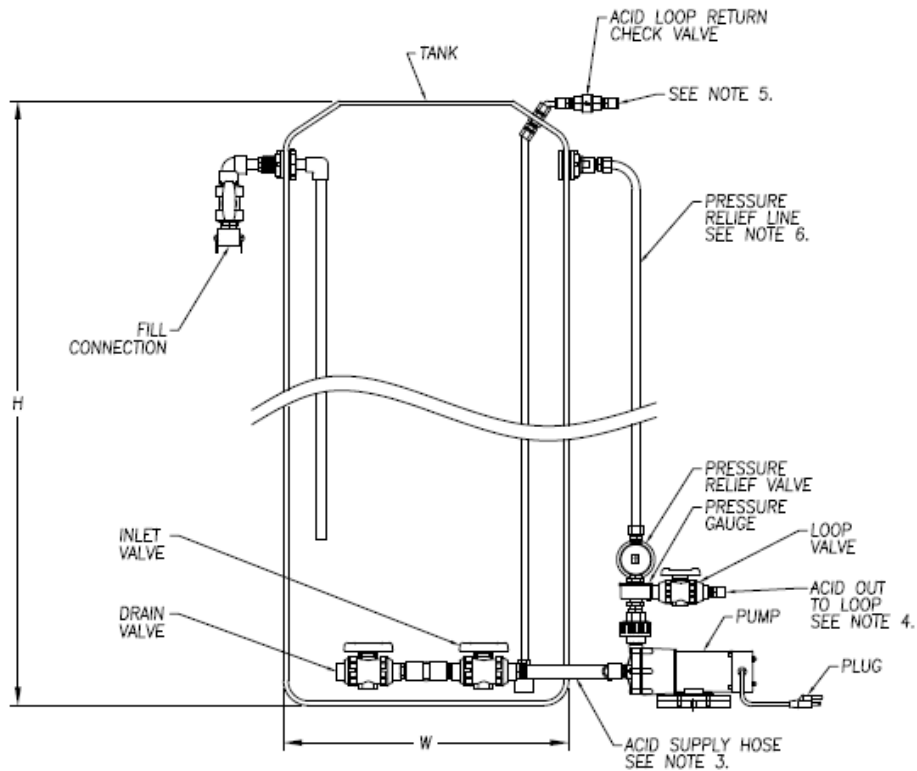
When using chemical pumps, always follow basic safety precautions to reduce the risk of fire, electric shock, and personal injury. Failure to follow any of these instructions could result in death or serious injury. Read instructions before use.

WARNING:

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

INSTALLATION INSTRUCTIONS

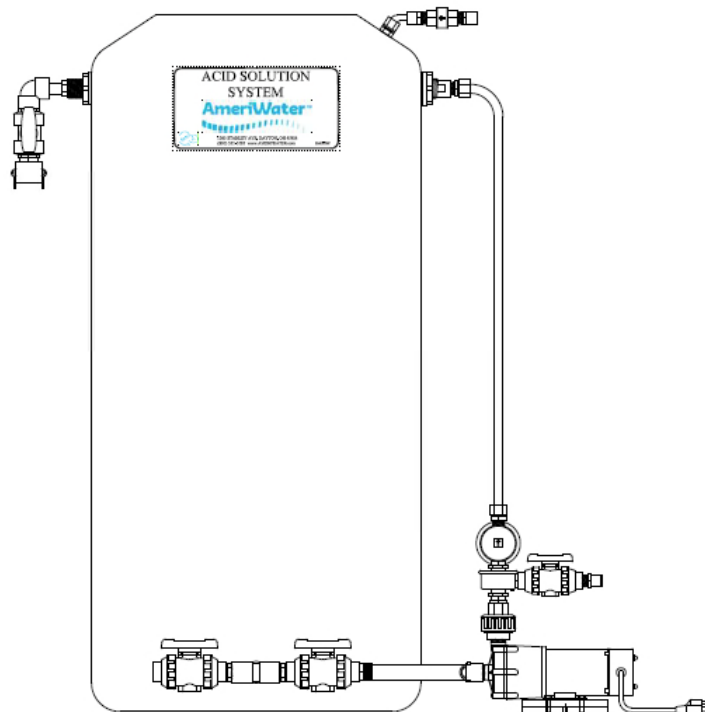
1. Install the Acid Distribution System on a firm, level floor within a contained area for acid.
2. Fasten the pump mounting plate to the floor with bolts to minimize vibration.
3. Connect the acid supply hose to the hose barb fittings on the storage tank and pump.
4. Connect acid loop tubing (1/2"od X 3/8" id) to fitting on outlet of the pump (Acid out to Loop).
5. Connect Acid Loop Return tubing to the Acid Loop Return fitting (top of tank).
6. Connect the Pressure Relief Line tubing to the fitting on the side of the tank.
7. Fill the tank with the desired acid solution by connecting to the Fill Connection and pumping the solution into the tank.
8. Plug the pump power cord into a dedicated 120 Volt, 20 amp, GFI receptacle (controlled by a single wall switch). This receptacle shall be located within 6 feet of the pump motor. Use appropriate wiring materials and abide by local and national standards for electrical codes.
9. Adjust the Pressure Relief Valve to the desired loop pressure (check on Pressure Gauge)
USE A 9/16 WRENCH ON LOCK-NUT, 3/16 HEX WRENCH ON ADJUSTING SCREW.



| ACID TANK DIMENSIONS | W | x | H |
|----------------------|----|---|----|
| 130 GALLONS | 23 | x | 76 |
| 300 GALLONS | 35 | x | 85 |
| 500 GALLONS | 46 | x | 76 |
| 300 GALLONS | 64 | x | 60 |

START-UP AND OPERATION PROCEDURE

1. Make sure that the distribution pump is plugged into a properly grounded, 120v 20a GFI protected outlet (turned OFF by a single wall switch).
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 wall switch for the pump and allow acid to flow thru 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. Use a 9/16" wrench on the locknut, and a 3/16" hex wrench in the adjusting screw.
8. **NEVER RESTRICT SUCTION - DO NOT ALLOW THE ACID PUMP TO RUN DRY!**

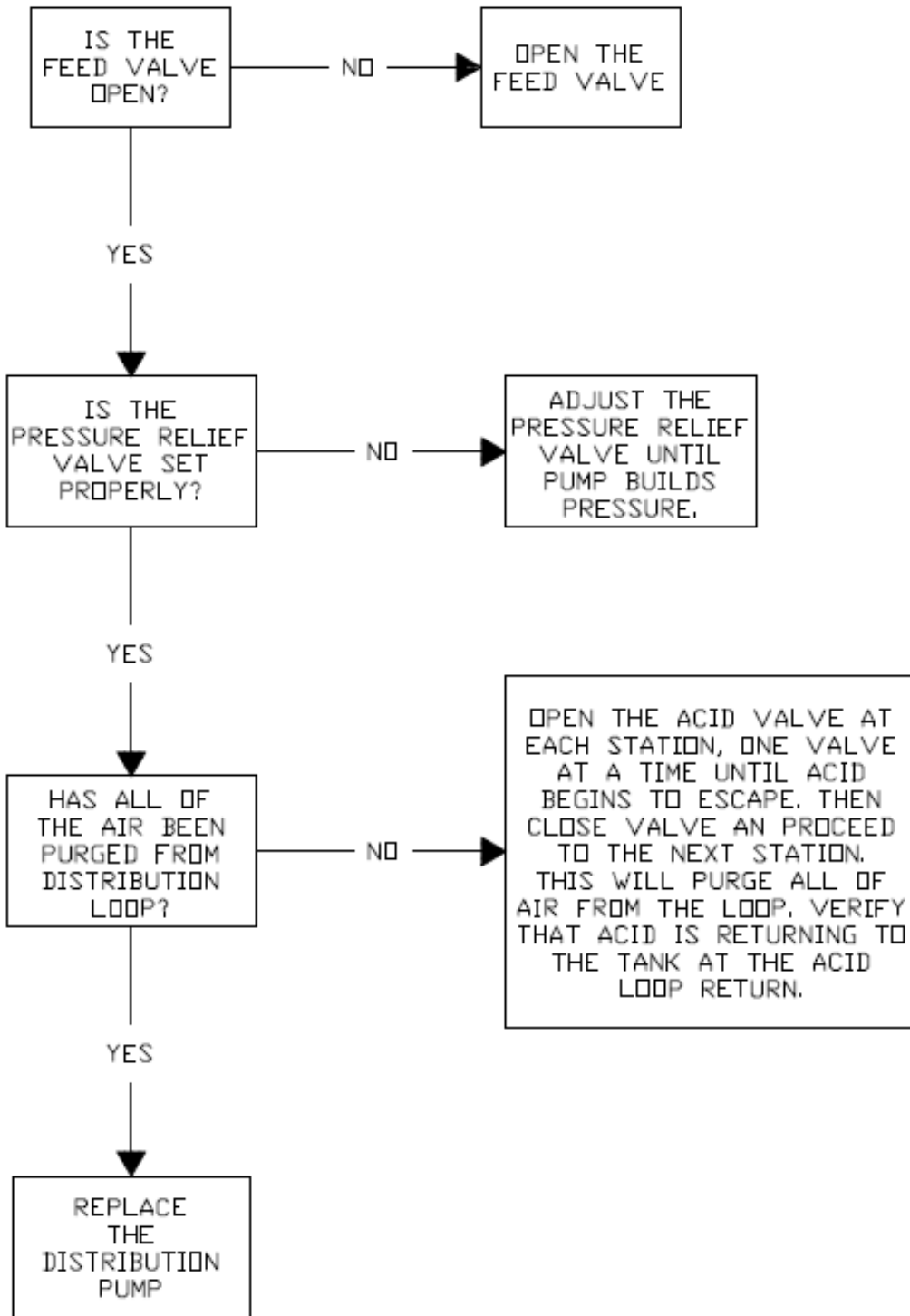


REPLACEMENT PARTS LIST

| | |
|-----------|---|
| 80-0014 | PUMP 1/4HP, 115V, 3/4 NPT |
| 45-0005 | VALVE,PRESSURE RELIEF,.5" IN/OUT,PVC,1-15 PSI |
| 43-0003 | GAU,0-15,.25,BM,2.5,LF,SS/SS |
| 55-0019 | VAL,CHECK,.5FPT,PP,1/3#,HASTELLOY |
| 041531812 | VAL,BALL,.5,TU,PVC80 |
| 041530841 | VAL,BALL,.75,TU,PVC80 |
| 041531836 | BULKHD,.75,TXS,PVC80 EPDM GASKET |
| 041531850 | BULKHD,.5,TXT,PVC80,LIGHT DUTY |
| 041720560 | UNION,.75,THD,PVC80 |
| 12677130 | HOSE,MEDICAL,.75,STYLE 5000 |
| 14570115 | ADPT,.75MPTx.75HB,PP |
| 15650075 | CLAMP,HOSE,.75,SST |
| 10-0042 | CON,5/8 OD x 1/2 MPT,STRAIGHT |
| 10-L006 | LEGRIS MALE CON, 0.5T X 0.5MPT |
| 16-0010 | Q-CON,.75,MPT X COUPLG,P0LYGLASS,SST |
| 16-0013 | Q-CON,.75,HBXINS,POLYGLASS |
| 16-0016 | Q-CON, .75, PLUG, POLYGLASS |

TROUBLESHOOTING GUIDE

PROBLEM: DISTRIBUTION PUMP WILL NOT BUILD PRESSURE



PROBLEM: DISTRIBUTION PUMP NOT RUNNING

