AmeriWater
The Water Purification Specialists

DISTRIBUTION PUMP SYSTEM
OPERATION & MAINTENANCE MANUAL

Manufactured With Pride
In The USA

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P/N 98-0036C

TABLE OF CONTENTS

DISTRIBUTION PUMP

THEORY OF OPERATION

The AmeriWater distribution pump takes the water from the storage tank, pumps it through the distribution loop to the points of use for dialysis and re-circulates water back through the piping to the storage tank. This provides pressurized water to each dialysis wall box in addition to re-circulating the water. Re-circulating the water keeps it “fresh” by minimizing bacteria growth by the constant movement of water.

When the water is at the minimum level (always controlled by the lowest float switch on the storage tank), the distribution pump is not allowed to automatically operate through the distribution controller. When the water level is below the minimum level, the distribution pump will not operate in “AUTO”, but may be operated in “HAND” (manual operation). The distribution pump should only be placed in “HAND” to empty the storage tank. It should not be left unattended during this process. Running the distribution pump for an extended period without water will result with overheating and damage to the pump.

The distribution pumps are available as a single pump or a dual pump. All distribution pumps are available in 220V single phase, 208V 3 phase, 230V 3 phase and 460V 3 phase. The distribution pumps use an L pump and have a capability of running at rated volume up to 60 PSI.

The distribution pump controllers have either fuses or overloads to protect the pumps and wiring from overload damage.

The controllers for the dual distribution pumps have an alternating feature that will allow the pumps to alternate from #1 pump to #2 pump that is controlled by a timer set at 5 hours.

WARNING: Both pumps need to be in auto mode for normal operation. If one pump is taken down, ensure that the second pump is set to manual mode. If this is not done, the controller will attempt to cycle between them. The system should only be run in manual mode for the length of time it will take to bring the second pump back on line.

Another AmeriWater standard feature for the dual distribution pump controller is to have an overload sensor for each pump. If a pump has an overload condition, the controller will automatically switch to the pump that does not have an overload. This will prevent a possible water delivery shutdown during the dialysis procedure. An indicator light is on the front panel of the controller to show which pump has an overload failure.

INSTALLATION

The following guidelines should be met at installation.

1. Customer is to provide properly sized wiring to the distribution pump control enclosure.

2. Place the pump system on firm, level floor and anchor to the floor to prevent movement from vibration or bumping.

3. Inlet piping and / or hoses from the storage tank to the pump system should be equal to or greater in diameter than the inlet piping on the pump system.

4. Outlet piping and / or hoses of the pump system should be equal to or greater in diameter than the outlet piping on the pump system.

5. Locate the pump control on a wall as close to the pump system as possible. When installing a distribution pump along with an AmeriWater Central Water System, refer to the Plumbing and Instrumentation Diagram (P&ID) for the best location and where connections are made.

6. Follow all local plumbing and electrical codes.

7. After guidelines have been met, connect the distribution pump wiring to the motor contactor located in the control panel (refer to the control wiring diagram provided in this manual and with the distribution pump control). Connect the three phase or single phase power source to the Main ON/OFF disconnect switch located inside the control panel.

START-UP

1. Open the inlet and outlet valves to the pump and allow the water in the storage tank to “flood” the inlet of the distribution pump. If the storage tank does not have water in it, fill it to above the lowest float switch before attempting to use the pump.

2. Verify that the rated current on the pump matches what is indicated on the overload of the motor starter.

3. Once the power source has been connected, check the rotation of the pump. Turn the disconnect to the ON position. Jog each pump by momentarily turning the pump power switch to the HAND position. A second person may be needed to see which way the motor armature is turning just before it coasts to a stop. If the rotation is backwards, turn power off to the unit, switch any two of the three non-ground pump wires on the motor contactor inside the panel. Turn power back on and verify rotation.

4. After rotation has been verified, turn the switches on the controller to HAND. Allow water to flow to re-circulate through the loop and back in to the storage tank for a few minutes. Water flow can be verified by observing the flow meter on the return header of the storage tank. If this is a dual pump system, place pump #1 into HAND mode to ensure that there is adequate flow through the system at the holding tank flow meter. Once verified, repeat this for pump #2.

5. Place the system into auto mode to verify that the low level cut off switch operates correctly. For a dual pump system, this will need to be done for each pump.

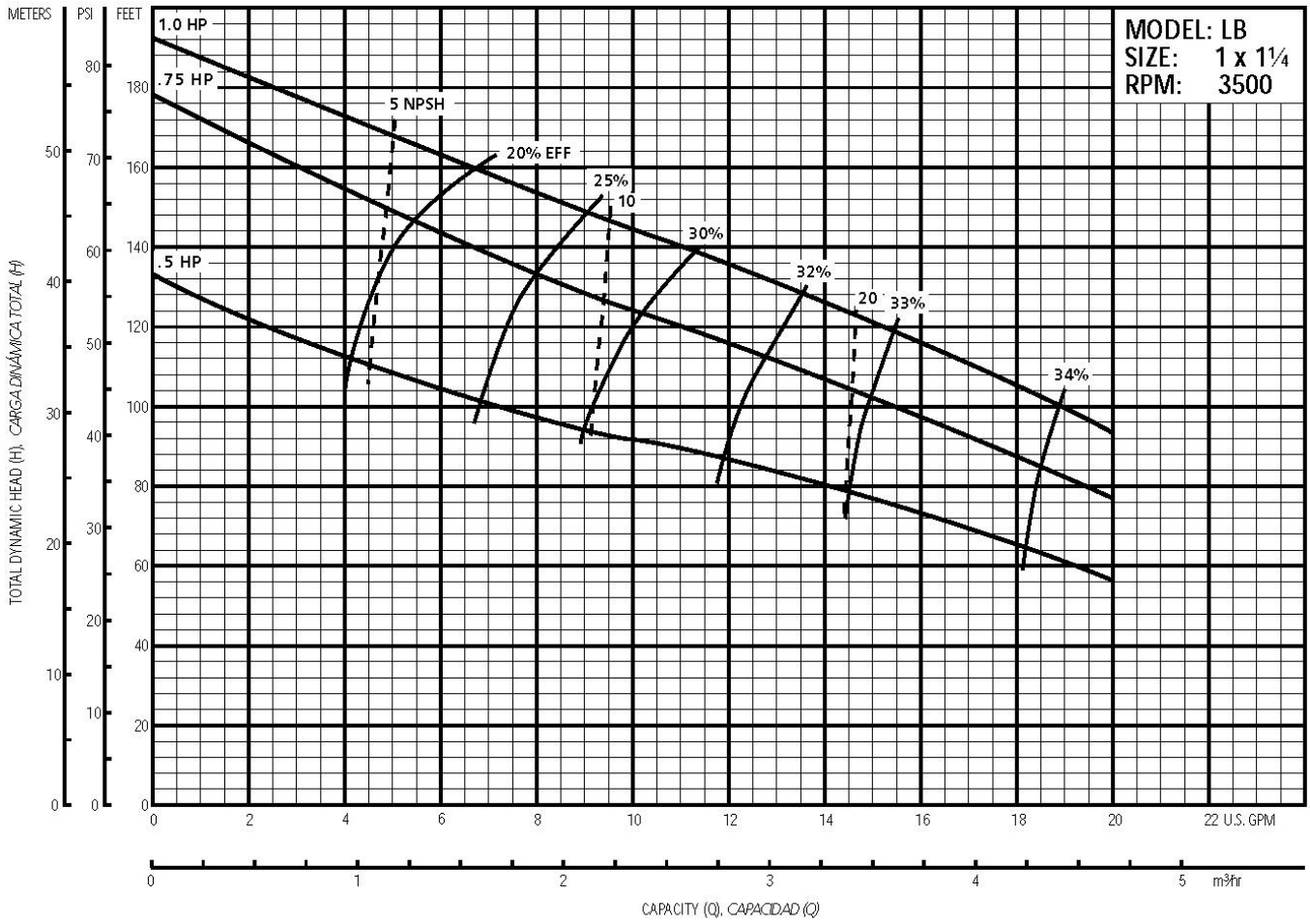
6. For the dual pump system only, the timer will need to be verified. This is accomplished by setting the timer to its minimum value and ensuring that the system is alternating between the pumps. See page 5 for details on adjusting the set-point. Set timer back to original settings when complete.

7. The inlet and outlet valves are provided to allow for isolation of each pump if maintenance is needed. During operation, leave all of the inlet and outlet valves open.

8. When performing a start-up of your distribution pump that is connected to a central system storage tank, adjust the pressure relief valve on the storage tank header so that the pressure gauge at the pump is no higher than 60 PSI. Refer to the manual that was provided with your storage tank system for proper adjustments. Pump curves have been provided on page 4.

LB Pump Curve

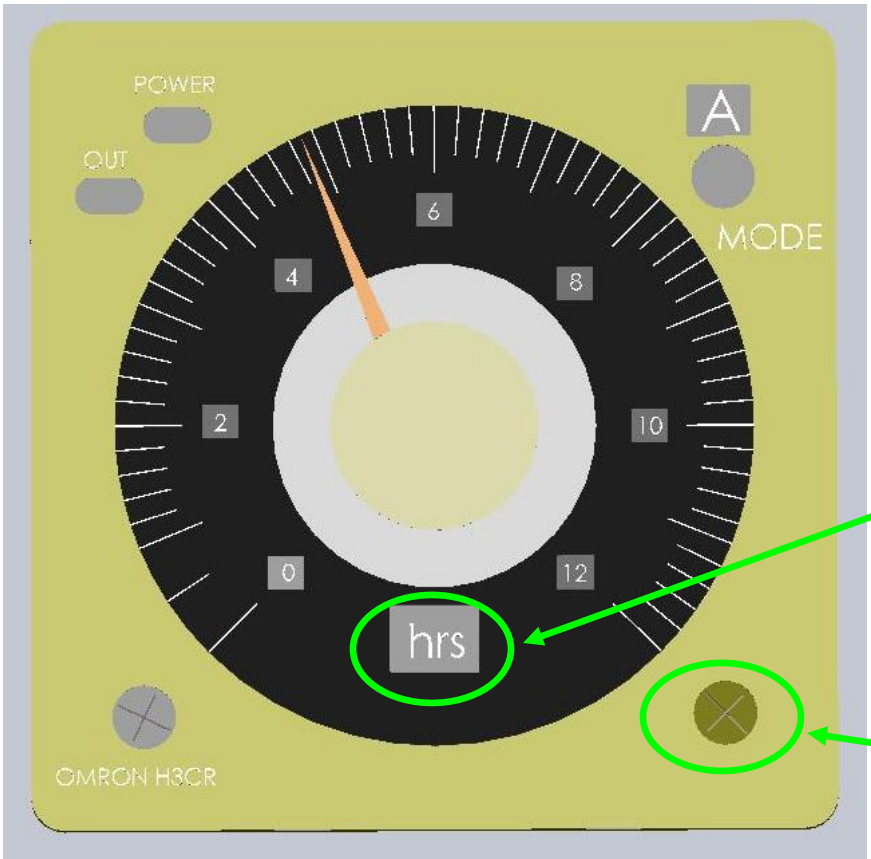
LB Performance Coverage (60 Hz)
Campo de operación de las bombas LB (60 Hz)



Adjusting the Timer

With the power off and the system properly locked out, open the control panel. In the middle of the box, you will see the OMRON timer as shown below. To adjust the timer, simply insert a small screwdriver into the screw lower right hand face of the timer. Rotating this will toggle between the time interval modes which are displayed on the face of the timer.

Adjust Time Interval to 3 mins to ensure alternation between the pumps, on a dual pump system.



Time Interval

Adjustment Screw

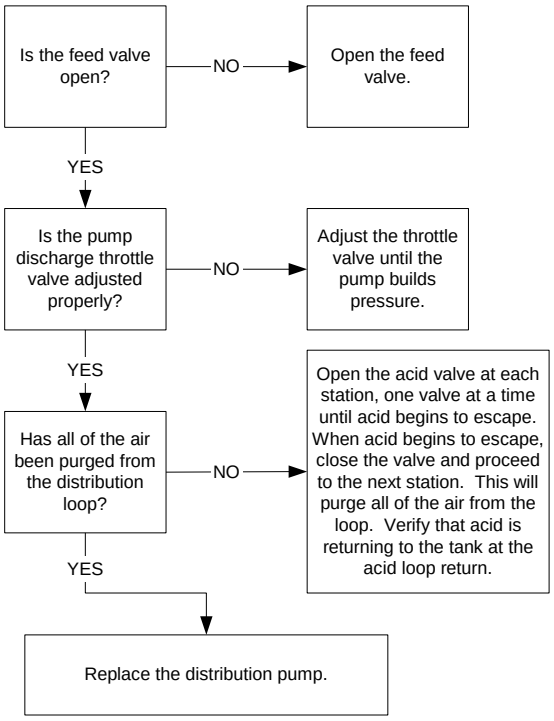
Once all validation of your set-up is complete, you must re-set the timer to 5 hours to meet the AAMI standards.

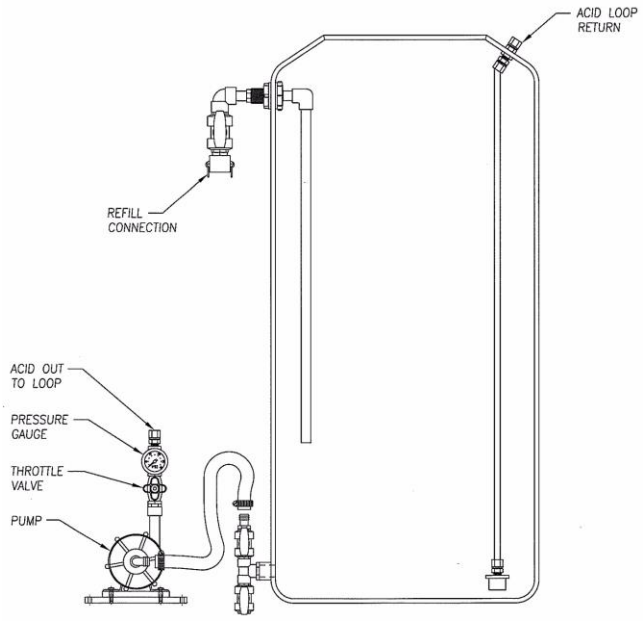
Spare Parts List

Part #	Description
80-LB03	Pump, 3/4HP, Single Phase, 16GPM
80-LB04	Pump, 3/4HP, Three Phase, 16GPM
80-LB05	Pump, 1HP, Single Phase, 20GPM
80-LB06	Pump, 1HP, Three Phase, 20GPM
041-0033	Check Valve, Ball Spring Loaded
43530710	Stainless Steel Pressure Gauge 0-100psi
61670245	Contactor, AB, 9 AMP, 3 Pole, 120V Coil
61760226	Motor Contactor/Overload 12 AMP Maximum
63760186	Fuse 15A FNW
63760133	Fuse, 2A, 250V
64760225	Timer, A/B, 8-Pin, 120V
64760108	Base, Timer, 8-Pin
61-0002	Relay, 30 AMP, 300V, SPST, NO, 120V-Coil

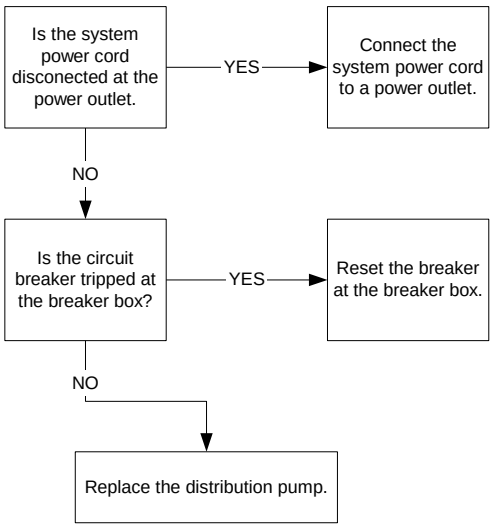
Troubleshooting Guide

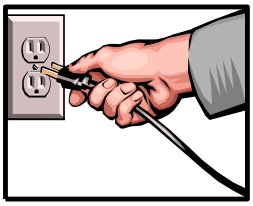
PROBLEM: DISTRIBUTION PUMP WILL NOT BUILD PRESSURE

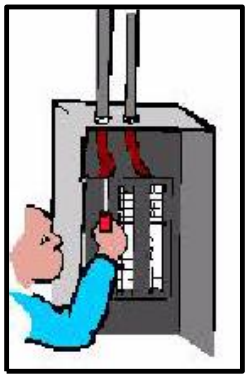




PROBLEM: DISTRIBUTION PUMP NOT RUNNING

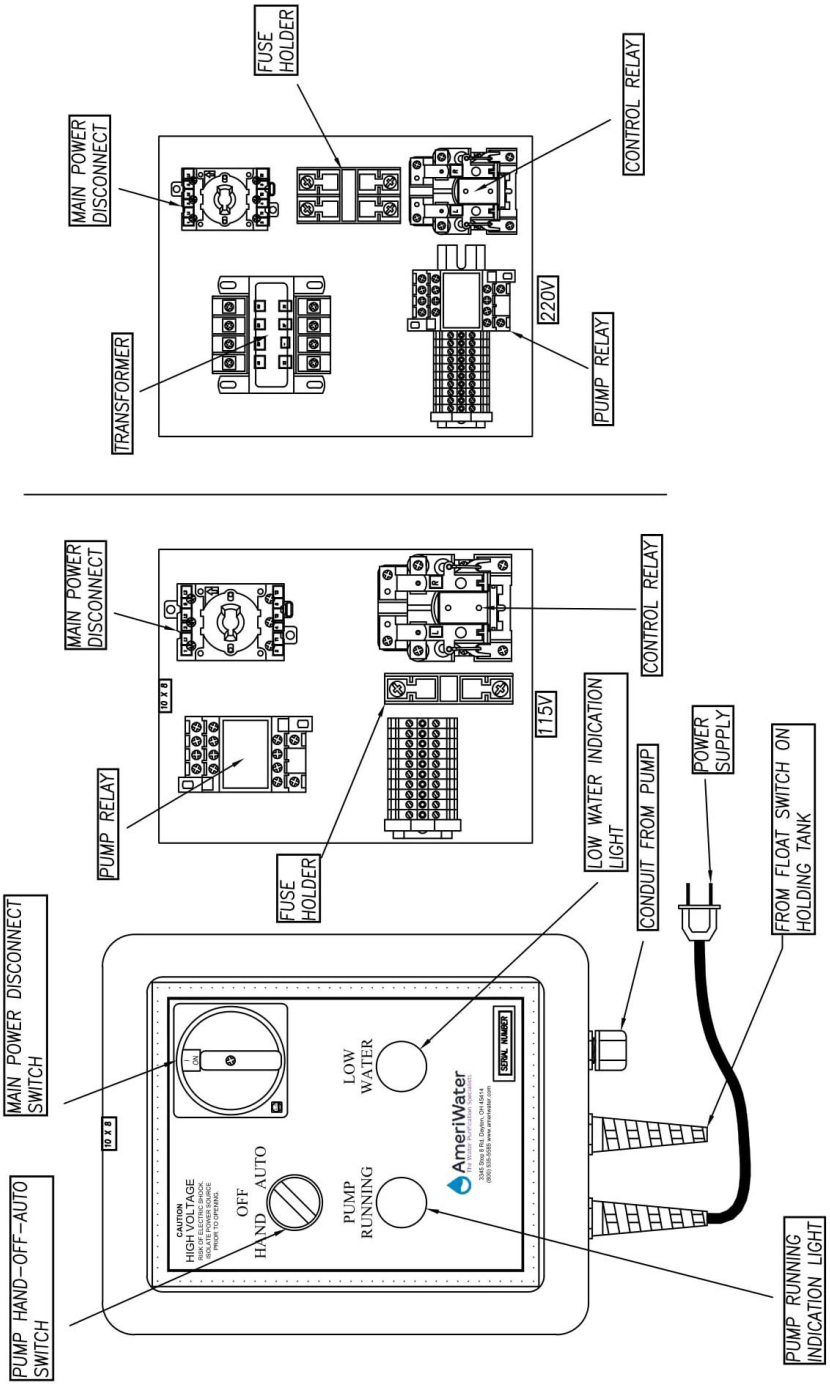


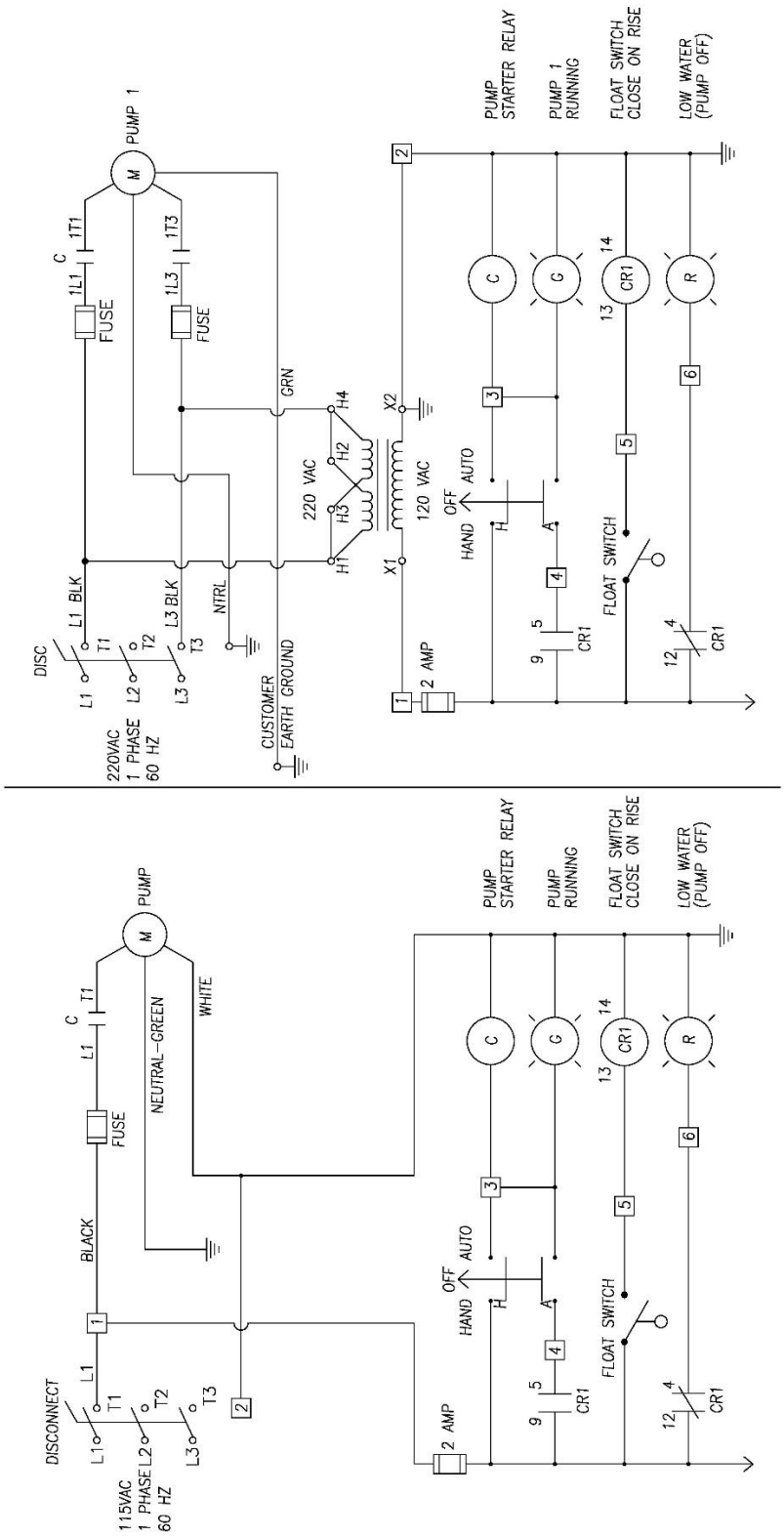




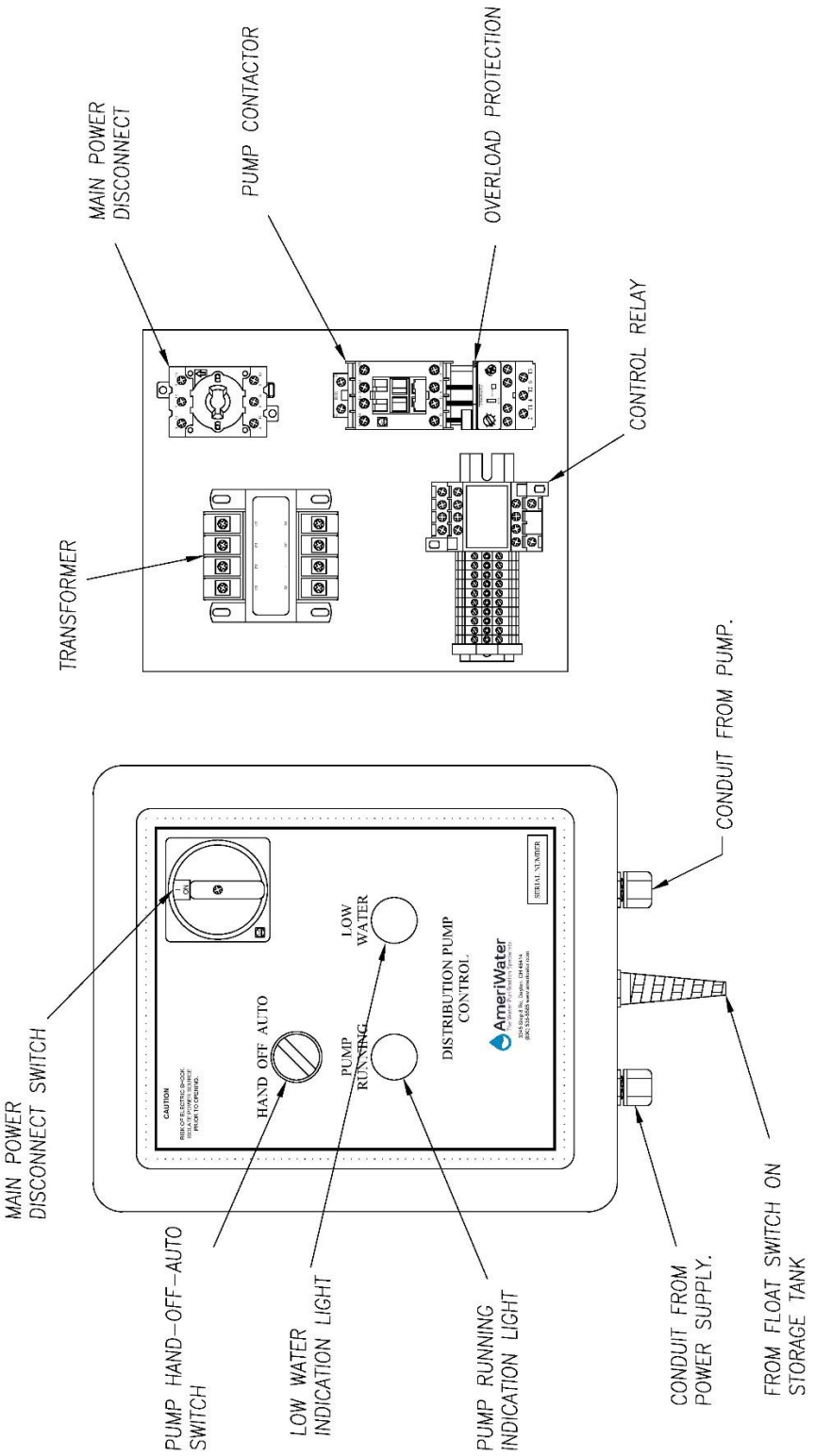
Single Distribution Single Phase Controller

Single Distribution Single Phase Controller Schematic

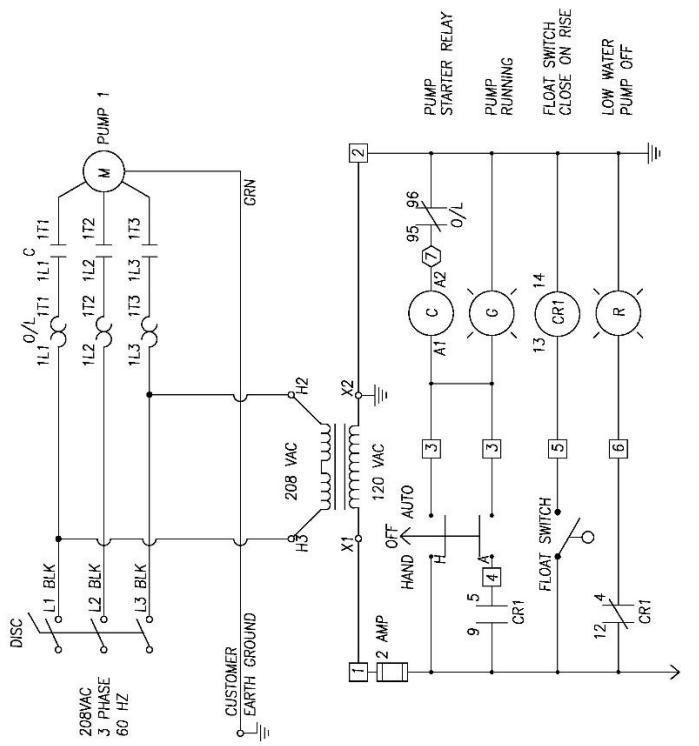


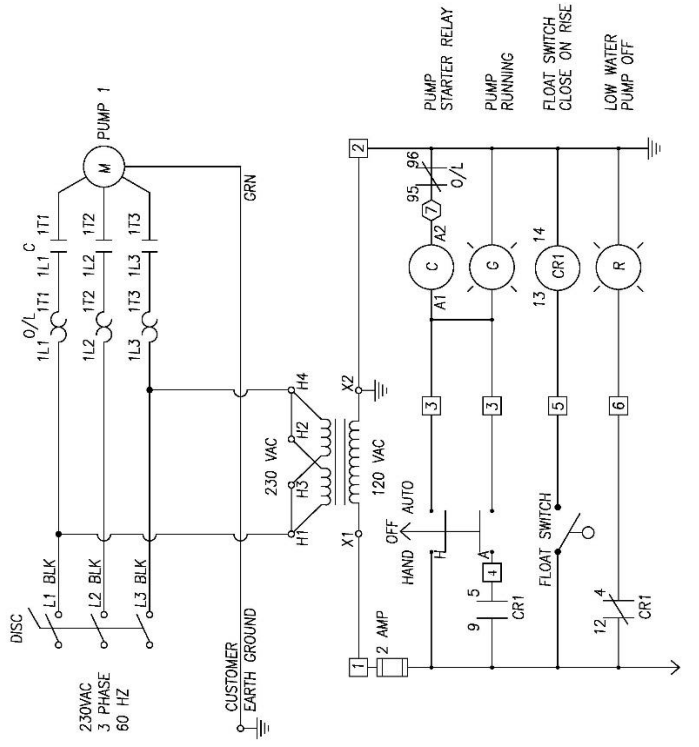


Single Distribution Three Phase Controller

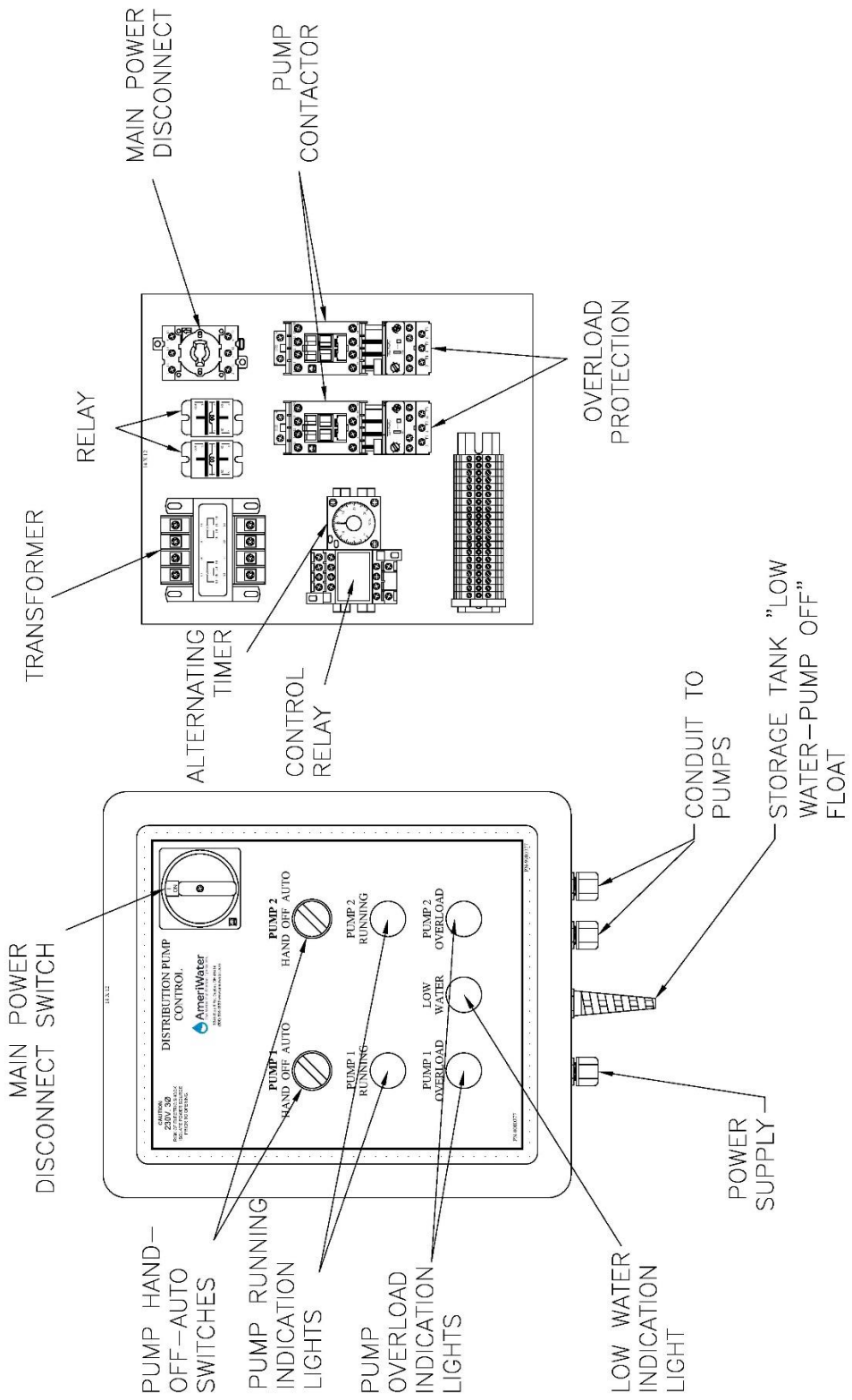


Single Distribution Three Phase Controller Schematic

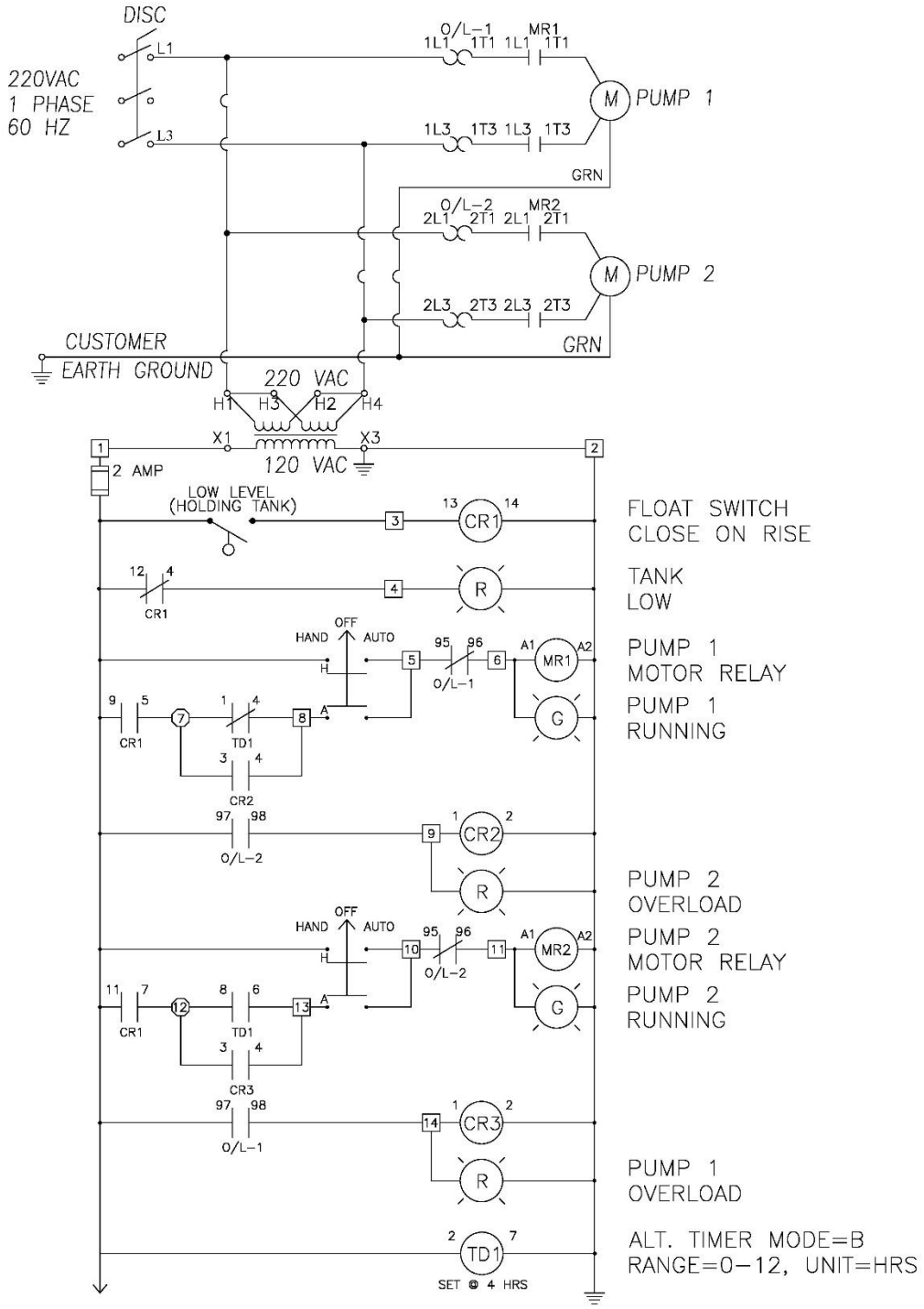




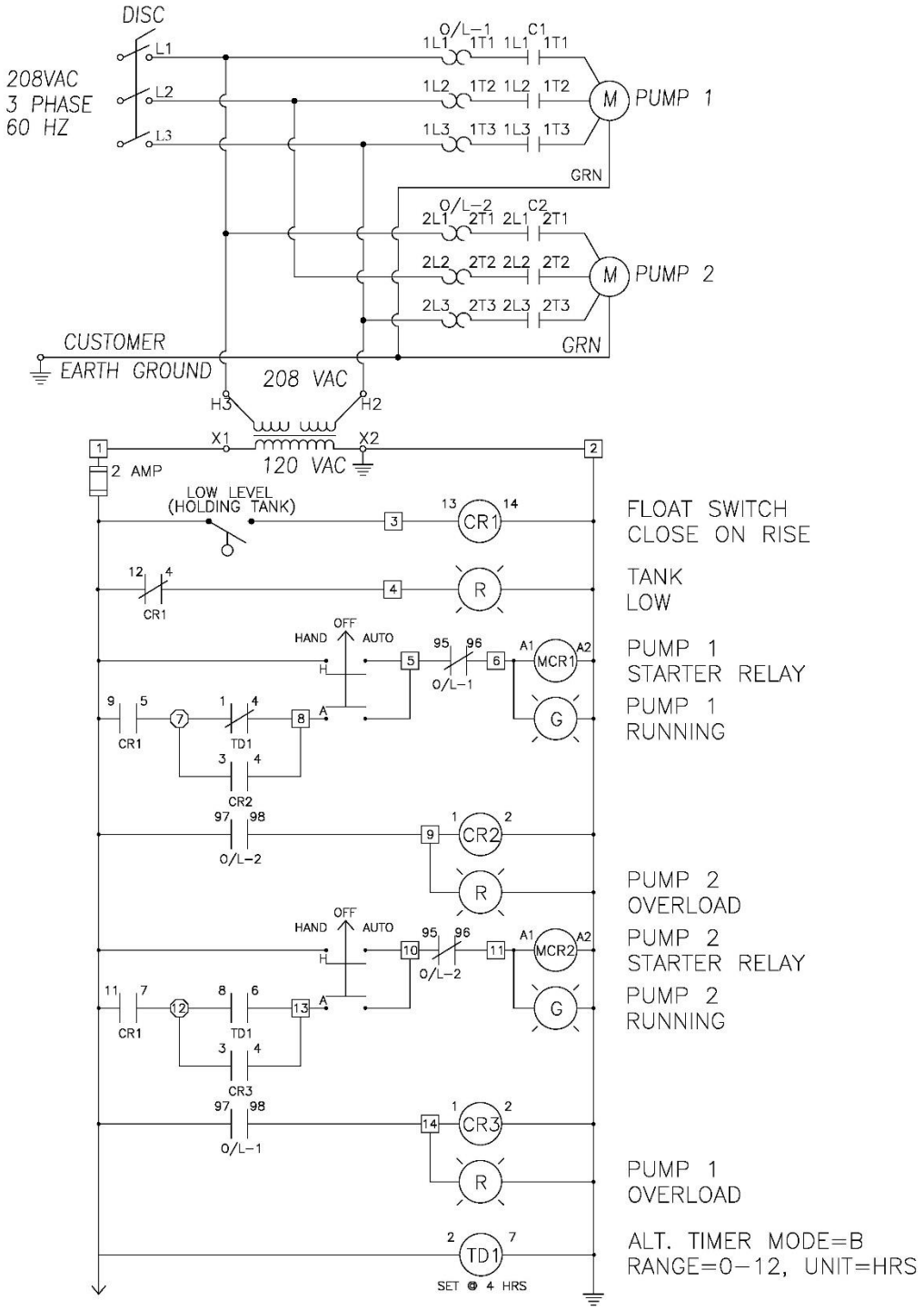
Dual Distribution Controller



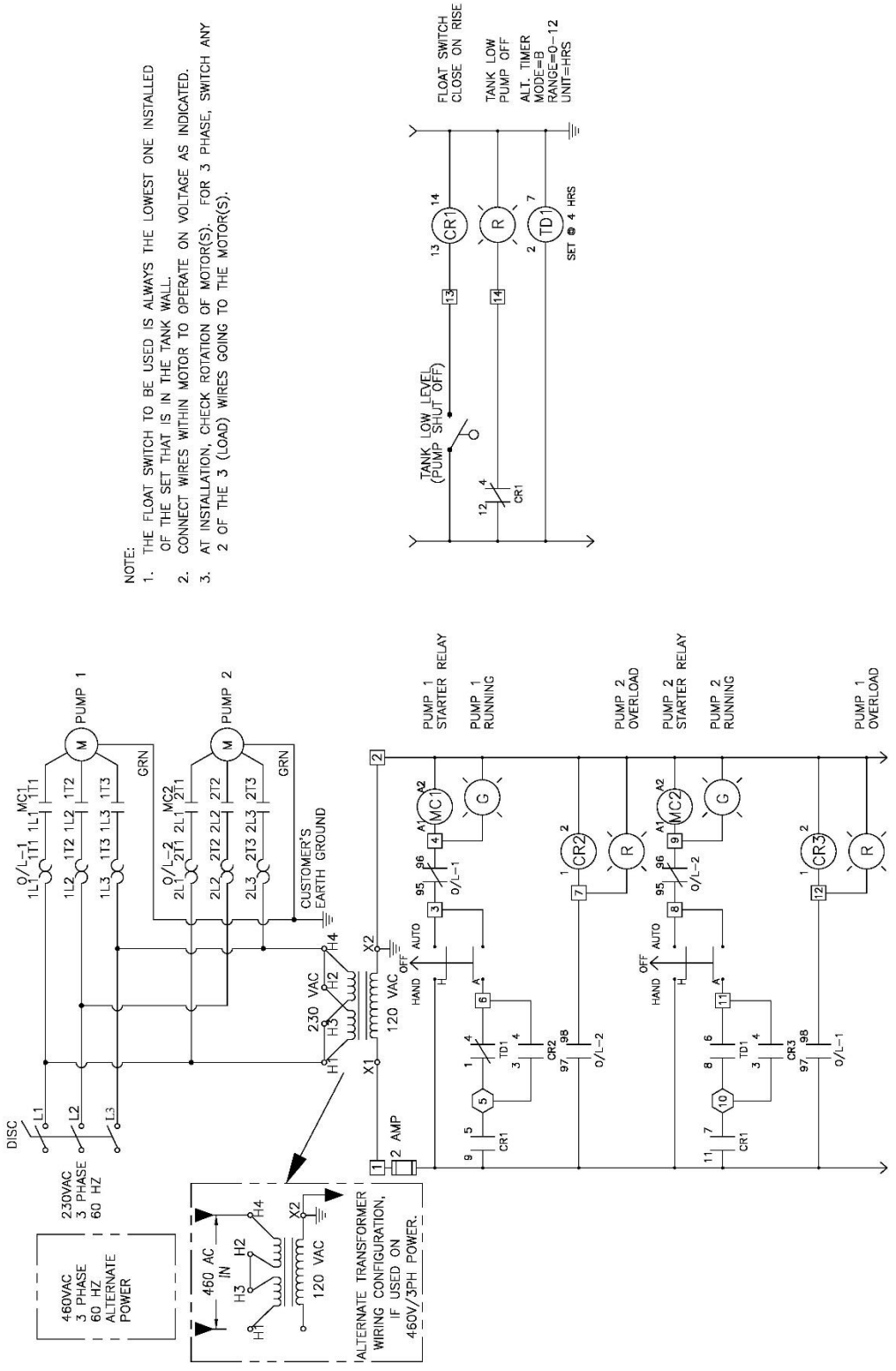
Dual Distribution 220 Volt Single Phase Controller Schematic



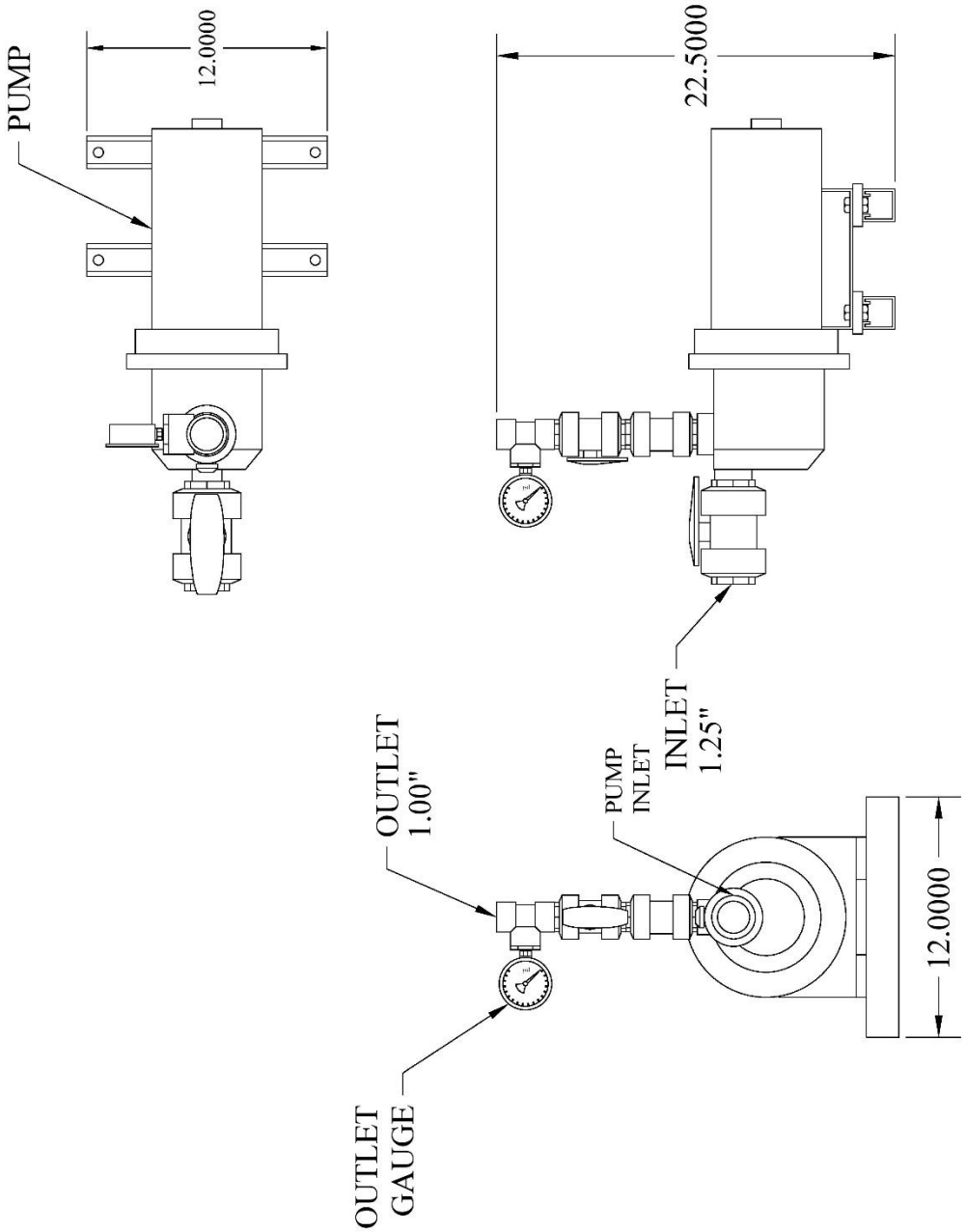
Dual Distribution 208 Volt Three Phase Controller Schematic



Dual Distribution 230/460 Volt Three Phase Controller Schematic

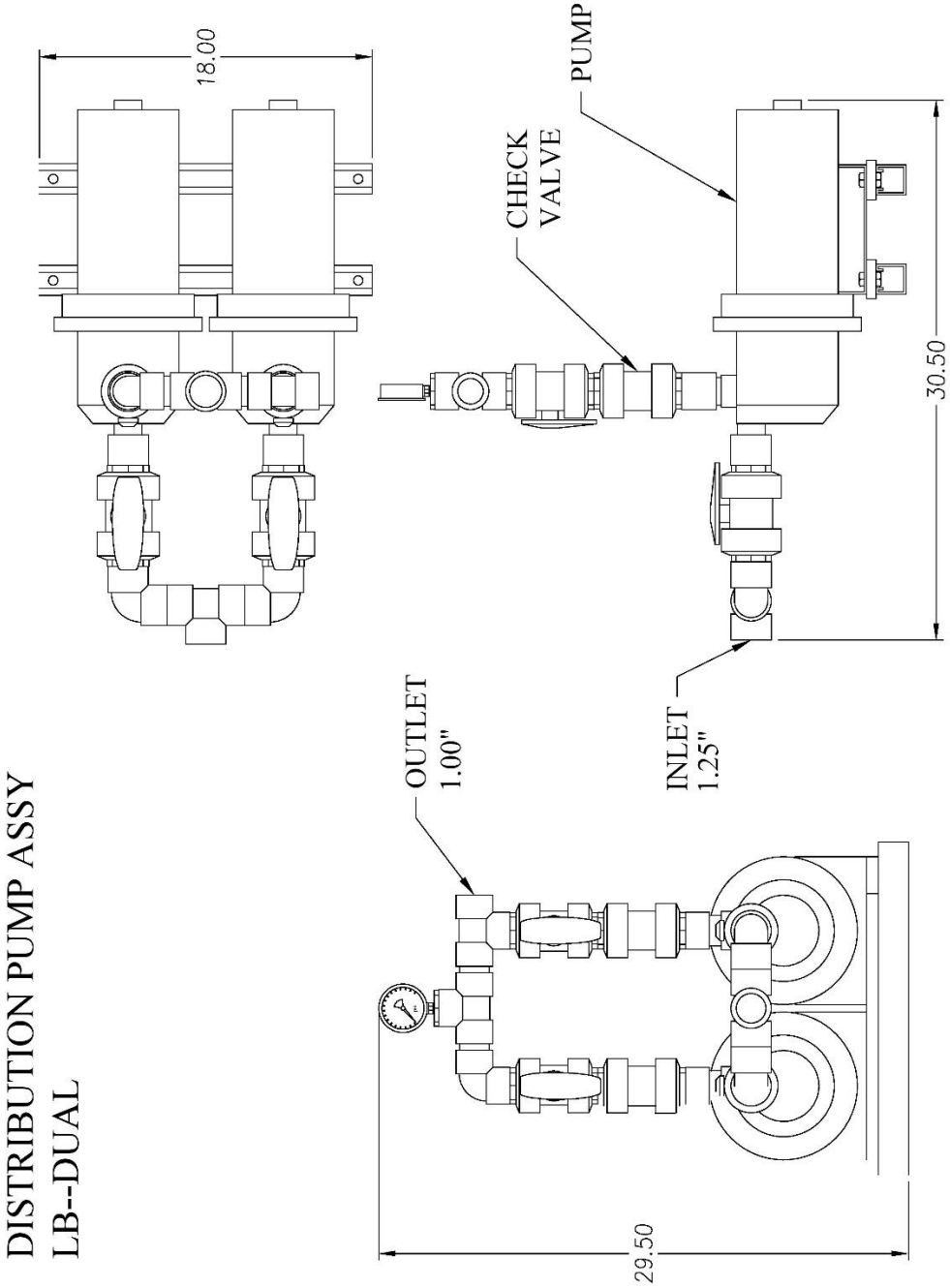


Single Distribution Pump Assembly



Dual Distribution Pump Assembly

DISTRIBUTION PUMP ASSY
LB--DUAL



⚠ 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.