AMTROL PRESSURISER® PLUS WATER PRESSURE BOOSTER SYSTEM
INSTALLATION & OPERATION INSTRUCTIONS

Models RP-14P, RP-20P and RP-34P

NOTE: Inspect for shipping damage. Notify freight carrier or store where purchased immediately if damage is present. To avoid risk of personal injury and property damage, if the product appears to be malfunctioning or shows signs of corrosion, call a licensed professional immediately. Current copies of the product manual can be viewed at www.amtrol.com. Use proper safety equipment when installing.

THIS IS THE SAFETY ALERT SYMBOL. IT IS USED TO ALERT YOU TO POTENTIAL PERSONAL INJURY AND OTHER HAZARDS. OBEY ALL SAFETY MESSAGES THAT FOLLOW THIS SYMBOL TO REDUCE THE RISK OF PERSONAL INJURY AS WELL AS PROPERTY DAMAGE.

⚠WARNING **USE ONLY WITH POTABLE WATER SYSTEMS.** Do not operate in a setting with freezing temperatures or where the temperature can exceed 100°F and do not exceed the maximum working pressure specified for this Product.

⚠WARNING **READ CAREFULLY THE PRODUCT INSTALLATION & OPERATION INSTRUCTIONS. FAILURE TO FOLLOW THE INSTRUCTIONS AND WARNINGS MAY RESULT IN SERIOUS OR FATAL INJURY AND/OR PROPERTY DAMAGE, AND WILL VOID THE PRODUCT WARRANTY. THIS PRODUCT MUST BE INSTALLED BY A LICENSED PROFESSIONAL. FOLLOW ALL APPLICABLE LOCAL AND STATE CODES AND REGULATIONS. IN THE ABSENCE OF SUCH CODES, FOLLOW THE CURRENT EDITIONS OF THE NATIONAL PLUMBING CODE AND NATIONAL ELECTRIC CODE, AS APPLICABLE.**

⚠WARNING This Product, like most Products under pressure, may over time corrode, weaken and burst or explode, causing serious or fatal injury, leaking or flooding and/or property damage. To minimize risk, a licensed professional must install and periodically inspect and service the Product. A drip pan connected to an adequate drain must be installed if leaking or flooding could cause property damage. Do not locate in an area where leaking could cause property damage to the area adjacent to the appliance or to lower floors of the structure.

⚠WARNING **RUPTURE OR EXPLOSION HAZARD.** Do not expose Product to freezing temperatures or temperatures in excess of 100°F. Do not adjust the pre-charge or re-pressure this Product except during installation or regular inspection. Replace the Product and do not adjust the precharge if corroded, damaged or with diminished integrity. Adjustments to pre-charge must be done at ambient temperature only. Failure to properly size the Product or follow these instructions may result in excessive strain on the system and may lead to Product failure, serious or fatal personal injury, leakage and/or property damage.

⚠WARNING A relief valve must be installed to prevent pressure in excess of local code requirement or maximum working pressure designated in the Product Manual, whichever is less. At least once every 3 years or if discharge is present, a licensed professional should inspect the temperature and pressure relief valve and replace if corrosion is evident or the valve does not function. **FAILURE TO INSPECT THIS VALVE AS DIRECTED COULD RESULT IN UNSAFE TEMPERATURE OR PRESSURE BUILD-UP WHICH CAN RESULT IN PRODUCT FAILURE, SERIOUS INJURY OR DEATH AND/OR SEVERE PROPERTY DAMAGE AND VOID THE PRODUCT WARRANTY.**

⚠WARNING **Chlorine & Aggressive Water:** The water quality can significantly influence the life of this Product. You should test for corrosive elements, acidity, total solids and other relevant contaminants, including chlorine and treat your water appropriately to insure satisfactory performance and prevent premature failure.

⚠WARNING This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY

IMPORTANT GENERAL SAFETY INFORMATION -
ADDITIONAL SPECIFIC SAFETY ALERTS APPEAR IN THE FOLLOWING INSTRUCTIONS.

⚠ WARNING If the control is set too high or the pump is running when the water supply is shut off and there is no demand on the system, the pump will run continuously, can overheat and become damaged, potentially resulting in product failure, leaking and/or rupture.

⚠ WARNING All wire and fuse sizings are preliminary recommendations only. For your safety, local codes, and in their absence, national codes must be followed to minimize the risk of electric shock, property damage or personal injury.

⚠ WARNING The pump motor is designed for use with single phase, 60Hz ac. Use with any other type of power will cause damage to the motor. The pump models RP-14P, RP-20P and RP-34P are pre-wired for 115 vac, however, they can be rewired to be used with 230 vac. Consult the inside motor cover for the wiring diagram.

⚠ CAUTION The power for your pump must be on a dedicated circuit. In addition, a shut off switch should be visible and near the pump. Use a 20 amp circuit.

⚠ DANGER Before attempting any service and disassembly, shut off power to the pump. Ensure power is disconnected prior to removing motor. Ensure power is disconnected before cleaning is attempted.

⚠ DANGER Grounding of the pump is essential for your protection and the protection of the motor. All wiring should be completed by a licensed electrician, and in accordance with local codes or in their absence, the National Electrical Code. Before starting the wiring installation, disconnect all power to the circuit to be used for the AMTROL Pressuriser® Plus.

⚠ WARNING The AMTROL Pressuriser® Plus should only be connected to a municipal, cold water supply, and in systems with a minimum pressure of 10 psig at all times, measured under flow at the tap closest to the location of the AMTROL Pressuriser® Plus installation.

Sizing Chart

Amtrol Pressuriser® Plus	Storage Volume	Number of Water Fixtures	Minimum Flow Pressure From City Supply	Water Meter
RP-14P	14 Gallons	4	10 psig	1/2"
RP-20P	20 Gallons	6	10 psig	3/4"
RP-34P	34 Gallons	12	10 psig	1" or greater

Metal piping must be used for all inlet and outlet lines to the unit. Do not reduce piping size within 6” of pump inlet.

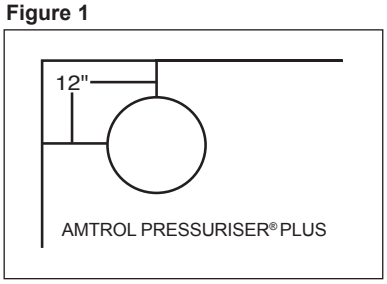
Pre-Installation

- **DO NOT USE FOR PRE-HEATED WATER SUPPLIES;**
- **DO NOT USE FOR ANYTHING EXCEPT COLD WATER (AMBIENT TEMPERATURE NOT TO EXCEED 100° F);**
- **DO NOT USE IN SYSTEMS WHERE LOW PRESSURE IS DUE TO LEAKS OR WHERE LEAKS IN THE PLUMBING SYSTEM MAY EXIST;**
- **DO NOT USE IN SYSTEMS WHERE THE WATER SUPPLY CAN DROP BELOW 10 PSIG;**
- **DO NOT USE IN SERIES WITH ANOTHER PUMP (SUCH AS IN PRIVATE WELL WATER SYSTEMS);**
- **DO NOT PIPE EXCEPT WITH METAL PIPING AT INLET AND OUTLETS.**

The system must be placed indoors only on a solid level surface with a drip pan piped to a drain with adequate capacity for large volumes of water in the event the system ruptures or fails. Consider the risks posed by tanks under pressure and the potential for leaking and/or flooding damage in selecting the location. The unit must not be placed in an environment that would expose the water in the tank to temperatures below freezing or in excess of 100° F.

Be sure to leave a minimal clearance of 12” around the unit for access should field adjustments be necessary in the future and to permit maintenance and inspection (Figure 1).

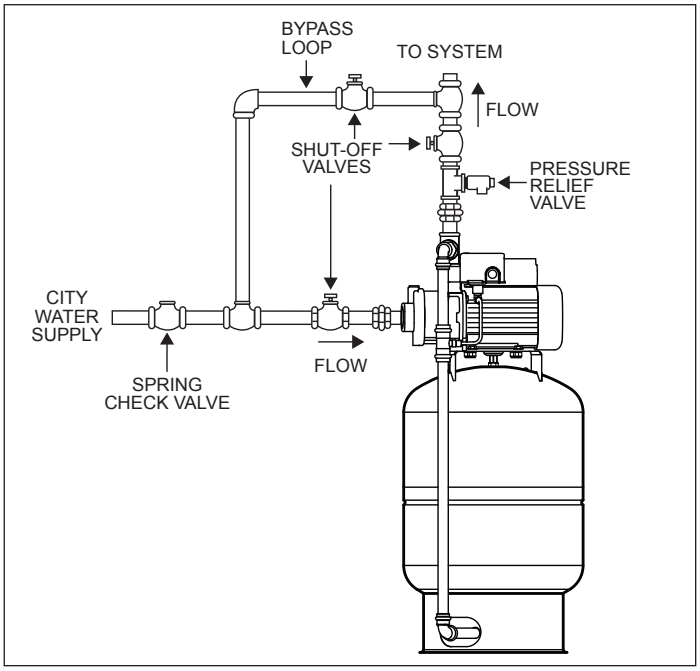
Figure 1



Installation

1. Remove protective air valve cap.
2. Check pre-charge pressure (pressure should be + or – 10% of the factory setting). Factory pre-charge is 38 psig.
3. Release or add air as necessary to make the pre-charge pressure 2 psig below the pressure switch pump cut-in setting.
   NOTE: Factory switch setting is 40 psi to 60 psi.
4. Replace protective air valve cap.
5. Install a **SPRING LOADED CHECK VALVE** in the city supply line on the suction side of the pump along with a shut-off valve. Failure to do so will result in premature failure of the AMTROL Pressuriser Plus due to excessive pump cycling.
6. Install a by-pass loop (Figure 2).
7. Pipe the city supply after the shut-off valve to the suction side of the pump, as shown.
8. Connect the house supply line using a 100 psig maximum relief valve as shown (Figure 2). It is important that the pressure relief valve be installed on the pump discharge **prior** to any shut off valves.

Figure 2



⚠DANGER ELECTROCUTION HAZARD. DISCONNECT ALL ELECTRICAL POWER BEFORE SERVICING. THE CONTROL MUST BE ELECTRICALLY GROUNDED.

⚠WARNING The pump motor is designed for use with single phase, 60Hz ac. Use with any other type of power will cause damage to the motor. The pump models RP-14P, RP-20P and RP-34P are pre-wired for 115 vac, however, they can be rewired to be used with 230 vac. Consult the inside motor cover for the wiring diagram.

The pressure switch will operate on 115 vac & 230 vac systems.

9. Disconnect power and verify with a volt meter.

10. Determine the pump electrical requirements.

11. Select the appropriate wire gauge per local codes. All pumps are 1.5 horsepower and are rated at 14.6 amps for 115 volts and 7.3 amps for 230 volts.

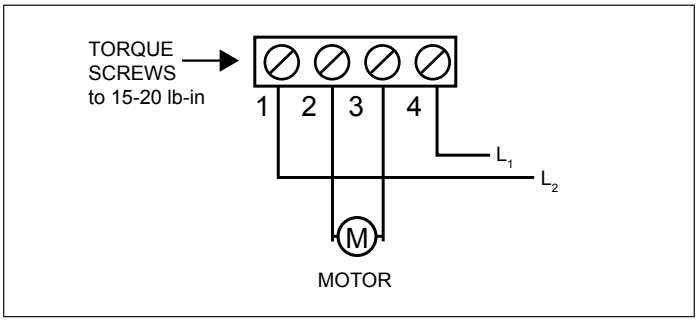
12. Loosen the fastener on the top of the controller and remove the plastic cover, exposing the terminals. (When reassembling cover, do not over-tighten fastener.)

13. Following all electrical codes, wire the control (Figure 3.)

The control has openings to accept standard conduit terminations.

⚠WARNING DO NOT INSTALL ON ELECTRICAL SERVICE RATED ABOVE 20 AMPS.

Figure 3



14. Close the bypass valve.

15. Open the city water supply line valve and a faucet and check the system for leaks, repair any leaks before proceeding.

16. Shut off the faucet and check the system for leaks. Repair any leaks before proceeding.

Start-Up

⚠WARNING BEFORE CONTINUING, ENSURE THAT ALL WIRING IS COMPLETED AND THE UNIT IS GROUNDED. CHECK FOR OPEN DRAIN VALVES OR OTHER SOURCES OF FLOODING BEFORE STARTING UNIT.

1. Prime pump if necessary and adjust tank precharge to manufacturer's recommendation for intended pressure range. The factory control setting is 40 psi cut-in and 60 psi cut-out.

2. Turn on power and the pump will start. If not, check installation.

3. Allow the pump to reach the factory cut-off setting of 60 psi. IF THE PUMP CANNOT REACH THIS SETTING, DISCONNECT POWER AND SEE THE TROUBLESHOOTING SECTION.

Adjusting the Control

The Amtrol Pressuriser Plus control comes with the recommended factory setting of 40 psi to 60 psi. It is not recommended to adjust the control more than +/- 10 psi from this setting. One (1) revolution of the adjustment nut equates to 2-3 psi.

Adjustments need to be made in the proper sequence:

1. Range: Turn nut down (CW) for higher cut-in pressure, or up (CCW) for lower cut-in.

2. Differential: Turn nut down (CW) for higher cut-out pressure, or up (CCW) for lower cut-out.

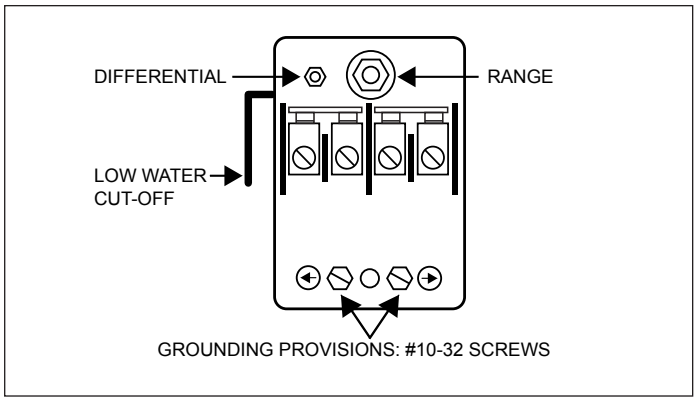
Check switch operation several times after adjustment to ensure proper pressure setting.

NOTE: This control is equipped with a low water cutoff feature. To reset the control in a low water cutoff, lift the lever until pump resumes operation and confirm proper operation

NOTE: If pump cannot reach cut-out setting within 5 minutes with no water running, lower the pressure settings to fall within the pump's water pressure capabilities.

Operation

ENSURE THE SWITCH IS OPERATING PROPERLY. AFTER MAKING ANY ADJUSTMENTS, OBSERVE AT LEAST ONE PUMP CYCLE TO VERIFY PROPER PUMP SHUT-OFF.



Scan the QR code on the tank label for installation and troubleshooting videos. Please contract AMTROL Technical Support at **401.535.1216** or an AMTROL representative if further assistance is required.

Winterizing: To drain, disconnect the pump from power and open a faucet to bleed off water pressure. Lay the tank on its side to ensure exposed piping connected to unit is also drained.

⚠WARNING DO NOT ADJUST PRESSURE OR RE-PRESSURIZE THIS PRODUCT EXCEPT FOR ANY ADJUSTMENTS MADE AT THE TIME OF INITIAL INSTALLATION WHEN THE UNIT IS NEW. RE-PRESSURIZATION OF A WEAKENED, DAMAGED, OR CORRODED UNIT CAN CAUSE AN EXPLOSION, POSSIBLY CAUSING SERIOUS OR FATAL PERSONAL INJURY AND/ OR PROPERTY DAMAGE.

If pressure adjustments are necessary because of changes in inlet pressure, check the condition of the unit first to make sure there is no corrosion of the tank or any connected lines or fittings. Take appropriate precautions. Never adjust the pressure if water is leaking from the air stem. Replace any damaged or corroded tank. Also, air loss is an indication that damage, corrosion or weakening of the unit may have occurred and it should not be re-pressurized.

Maintenance

Your AMTROL Pressuriser Plus unit, including the pump and pressure switch, must be periodically inspected by a licensed professional for signs of damage, corrosion and leaking. The pump should be checked to ensure it is turning on and off at the appropriate cut-in and cut-out points. At a minimum, after installation, a thorough inspection of all components should take place annually. However, note that units in settings with frequent use, where corrosion, high humidity or aggressive water is more likely to occur, and as the unit ages, should be inspected more frequently.

Warranty

Two (2) Year Limited Warranty
Visit www.amtrol.com for complete warranty details.

Troubleshooting

PROBLEM	CAUSE	SOLUTION
Pump will not start.	1. No Power.	1. Check circuit breaker and fuses, tighten connections.
	2. Faulty wiring.	2. Check wiring per installation diagram in this booklet. If pump hums, but will not start, check pump motor wiring (115/230V).
	3. Damaged motor.	3. If control contacts are closed and power is present but pump will not start, replace pump.
	4. Damaged control.	4. If power is present at L1/L2 but the control will not actuate at the the proper set points, replace control.
	5. Low water cutoff.	5. Check if low water cutoff has activated. Reset the control by turning the lever up.
Pump runs but will not build pressure.	1. Supply closed/blocked.	1. Open all supply valves, ensure check valve is not sticking, clean any filters.
	2. Bypass loop open.	2. Close bypass valve.
	3. Pump plumbed backwards.	3. Consult Figure 2 for piping guide. If backwards, reverse inlet/outlet.
	4. Bad internal parts.	4. Check for bad seals or broken impeller. Repair or replace as necessary.
Pump builds pressure but will not shut off.	1. Operating pressure set too high.	1. Reduce control setting as necessary.
	2. Bad internal parts.	2. Check for bad seals or broken impeller. Repair or replace as necessary.
	3. Control line blocked.	3. Remove control line and blow compressed air to clear.
Pump starts too often (cycles under 30 sec.).	1. Control differential too narrow.	1. Set cut-in and cut-out 20 psi apart.
	2. Tank precharge incorrect.	2. Set air pressure 2 psi below cut-in while pump is off and gauge pressure is zero.
	3. Waterlogged pressure tank.	3. If water emerges from tank air stem when depressed, replace tank.
Low water cutoff.	1. System pressure dropped too low.	1. Ensure pressure tank pre-charge 2 psi below cut-in of pressure switch.
	2. Faulty control.	2. Replace control.

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