



INSTALLATION MANUAL FOR WATER PRESSURE BOOSTER

Please read the following instructions carefully

Keep this manual with the tank for future reference.

What You'll Need

Recommended Tools

Adjustable Wrench
Adjustable Pliers
Pipe Wrench
Tubing Cutter
Screwdriver
Tape Measure
Tire Pressure Gauge

Additional Parts Required (Not Included)

NPT Male Adapters: 1/4" & 1"
100 psi Relief Valve
Spring Loaded Check Valve
Drain Valve
Shutoff Valves
Wire Connections Line
Teflon® Tape

Before You Start

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 qualified 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 QUALIFIED 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 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.

WARNING RUPTURE OR EXPLOSION HAZARD. Do not expose Product to freezing temperatures or temperatures in excess of 100°F. Do not adjust the precharge 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 precharge 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 100 psi relief valve must be installed to prevent excess pressure. At least once every 3 years or if discharge is present, a licensed contractor should inspect the 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 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.

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 circuit breaker 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 voltage. Use with any other type of power will cause damage to the motor. The pump motor is factory wired for 115 VAC.

CAUTION The power for this 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 or disassembly, shut off power to the pump. Ensure power is disconnected prior to removing motor or control covers. Ensure power is disconnected before cleaning is attempted.

DANGER Electrical grounding of the product 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.

WARNING The product 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 pump inlet.

Sizing Chart

Pump Model	Minimum Flow Rate From City Supply	Minimum Flow Pressure From City Supply	Minimum Service Line Size	Water Meter
WWPB10	10 gpm	10 psig	3/4"	3/4"

Metal piping must be used for all inlet and outlet lines to the unit. **Do not oversize pump. Inadequate water supply will result in poor performance, noisy operation and pump damage.**

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 SYSTEM);
- DO NOT RE-PRESSURIZE TANK AFTER INITIAL INSTALLATION;
- USE ONLY METAL FITTINGS AND PIPING AT INLET AND OUTLETS.

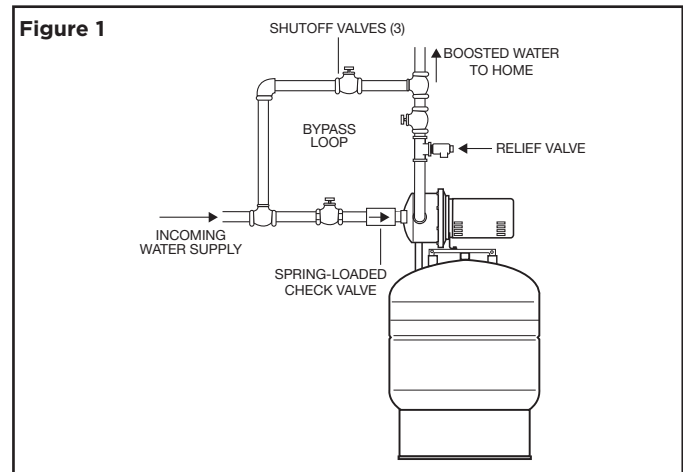
The system must be placed indoors only on a solid level surface with a drip pan piped to a drain with adequate capacity for large volumes of water in the event the system ruptures or fails. Consider the risks posed by tanks under pressure and the potential for leaking and/or flooding damage in selecting 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).

INSTALLATION

Plumbing

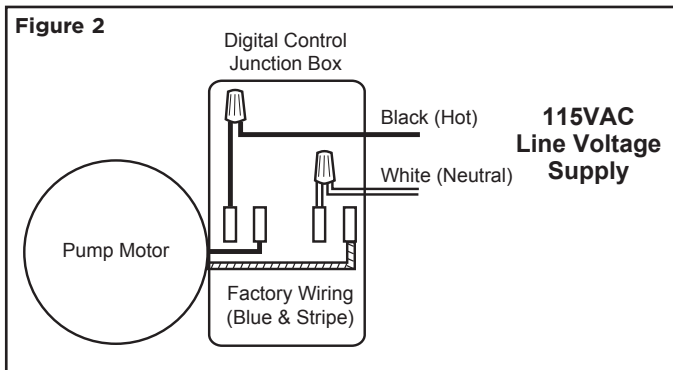
1. Shut the incoming cold water supply off and relieve pressure.
2. Position the unit on a hard and level surface.
3. Plumb the unit as shown in Figure 1, including a bypass loop to allow water availability in the event of future service. The use of **a spring-loaded check valve** is important for proper operation. Failure to do so will result in premature failure of the product due to excessive pump cycling.
4. When plumbing is complete, open the incoming water supply, close the bypass loop and check for leaks.
5. Open a cold water fixture to purge trapped air.



⚠ WARNING **ELECTROCUTION HAZARD. DISCONNECT ALL ELECTRICAL POWER BEFORE SERVICING. THE PRODUCT MUST BE ELECTRICALLY GROUNDED. DO NOT INSTALL ON ELECTRICAL SERVICE RATED ABOVE 20 AMPS.**

WIRING THE DIGITAL CONTROL

1. Provide a dedicated, 115VAC / 20A circuit.
2. Shut circuit breaker off and verify power is disconnected.
3. Loosen screw and remove junction box access cover.
4. Route wiring through conduit hole, using proper connector.
5. Connect wiring as shown in Figure 2, using wire nuts.
6. Reinstall the access cover and proceed to the "START-UP" section before restoring power.



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 ensure digital display illuminates. Display will blink momentarily and the pump will start. If not, check installation.
3. The display will now read the current water pressure.
4. Allow the pump to reach the factory cut-off setting of 60 psi. IF THE PUMP CANNOT REACH THIS SETTING, DISCONNECT POWER AND SEE "PROGRAMMING THE DIGITAL CONTROL".
5. Check for leaks and repair as necessary.

PROGRAMMING THE DIGITAL CONTROL

This unit is factory programmed to turn the pump on (cut-in) at a pressure of 40 psi and turn the pump off (cut-out) when the pressure reaches 60 psi. The pump is capable of adding approximately 40 psi to the incoming water supply pressure. Therefore, if the incoming water pressure is below 20 psi, the cut-in and cut-out settings require tank precharge adjustment.

Municipal Supply Flow Pressure	Cut-In Setting	Cut-Out Setting	Tank Precharge
10 psi	30 psi	50 psi	28 psi
15 psi	35 psi	55 psi	33 psi
20 psi	40 psi*	60 psi*	38 psi*

*Factory default setting

1. Press and hold ■. When **LO** appears, release. This will determine the pressure at which the pump activates.
2. When number appears, tap ▲ or ▼ to change cut-in setting.
3. Press ■ again. When **HI** appears, tap ▲ or ▼ to change cut-out setting. This will determine the pressure at which the pump shuts off.
4. Press ■ a third time. The last Error Code in memory will display (see Error Code table in Troubleshooting section). If no errors have occurred, the display will show - -
5. After approximately 10 seconds **Pr** will appear, indicating the settings are programmed. Display will then revert to the current water pressure.

NOTE: The settings will now be stored until changed manually, even in the event of power failure.

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

PRECHARGE ADJUSTMENT PROCEDURE

⚠ IMPORTANT Adjust the tank air precharge only at time of the digital control cut-in setting initial installation. Water pressure must be relieved to adjust precharge.

1. Ensure power is off and drain unit to relieve all water pressure.
2. Remove protective air valve cap.
3. Release or add air as necessary to make the pre-charge pressure 2 psig below the pressure switch pump cut-in setting.
4. Replace protective air valve cap.

OPERATION

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

Please contact Water Worker Technical Support at **844.DIY.TANK** 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 disconnect the piping between the pump and tank to completely drain the unit. 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

This unit, including the pump, must be periodically inspected by an experienced 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.

TROUBLESHOOTING

The digital control incorporates built-in diagnostics. If the unit is not functioning properly or is inoperable, look for an error code (example E1) on the digital readout before proceeding. Error codes are listed in the table at the bottom of this page.

PROBLEM	CAUSE	SOLUTION
Pump will not start.	<ol style="list-style-type: none"> 1. No Power. 2. Faulty wiring. 3. Damaged motor. 4. Damaged control. 	<ol style="list-style-type: none"> 1. Check circuit breaker and fuses, tighten connections. 2. Check wiring per installation diagram in this booklet. If pump hums, but will not start, check pump motor wiring. 3. If display illuminates with no error code, but pump will not start, replace pump. 4. If power is present at control but display is blank, replace control.
Pump runs but will not build pressure.	<ol style="list-style-type: none"> 1. Supply closed/blocked. 2. Bypass loop open. 3. Pump plumbed backwards. 4. Bad internal parts. 	<ol style="list-style-type: none"> 1. Open all supply valves, ensure check valve is not sticking, clean any filters. 2. Close bypass valve. 3. Reverse inlet/outlet. 4. Check for bad seals or broken impeller. Repair or replace as necessary.
Pump builds pressure but will not shut off.	<ol style="list-style-type: none"> 1. Operating pressure set too high. 2. Bad internal parts. 3. Control line blocked. 	<ol style="list-style-type: none"> 1. Reduce control setting as necessary. 2. Check for bad seals or broken impeller. Repair or replace as necessary. 3. Remove control line and blow compressed air to clear.
Pump starts too often (cycles under 30 sec.).	<ol style="list-style-type: none"> 1. Control differential too narrow. 2. Tank precharge incorrect. 3. Waterlogged pressure tank. 	<ol style="list-style-type: none"> 1. Set cut-in and cut-out 20 psi apart. 2. Set air pressure 2 psi below cut-in while pump is off and water pressure is zero. 3. If water emerges from tank air stem when depressed, replace tank.

To reset control at any time, press ▲ ■ ▼ buttons simultaneously for 5 seconds.

To "invert" the display for easier viewing, press ▲ ▼ together for 3 seconds.

CODE	REASON	ACTION	SOLUTION
E1	Rapid cycle Excessive amp draw	Pump continues to operate.	See "Pump Starts Too Often" above. Have pump checked for proper operation.
E2	Insufficient water supply running pressure below 10 PSI	Shuts off pump. Auto restart after 60 min.	<ol style="list-style-type: none"> 1. Determine cause of insufficient water supply. 2. Ensure supply valves are fully open. 3. Inspect pump.
E3	Improper voltage	Shuts off pump.	Restore voltage to proper range. Pump automatically restarts with proper voltage.
E4	Power disturbance	Shuts off pump.	Disconnect power for one minute. Replace control if error persists.

THE DIGITAL CONTROL CONTAINS NO SERVICEABLE PARTS. REMOVAL OF INTERNAL CIRCUIT BOARD COVER WILL VOID WARRANTY.

WARRANTY

Visit www.waterworkerdiy.com for complete warranty details.



T: 884.DIY.TANK • F: 401.885.2567 • www.waterworkerdiy.com

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