



# Installing Manual

## For ProMate Series Water Softeners

### PRE-INSTALLATION CHECK LIST

(All electrical & plumbing should be done in accordance to all local codes)

**Water Pressure:** A minimum of 25 pounds of water pressure (psi) is required for regeneration. Maximum water pressure 120 psi.

**Water Quality:** Rural water supplies may have problems with sand or sediment in the water supply. (This occasionally happens on public water supplies also). If sand or other particulate is not filtered prior to the softener, it can restrict flow through the resin bed. This problem often requires rebedding of the mineral tank.

**Well and/or pump problems affecting softener operation are not covered under warranty. To prevent unnecessary and expensive repairs that are not covered by warranty, Hellenbrand recommends installing a sediment filter system ahead of the water softener.**

**Electrical:** A continuous 110 volt 60 cycle current supply is required. Make certain the current supply is uninterrupted and cannot be turned off with another switch. All electrical connections must be connected per local codes. **Surge protection is recommended with all electric controls.**

**Existing Plumbing:** Existing plumbing must be free

from lime and iron build-up. Piping that is heavily built-up with lime and/or iron must be replaced. If pipe is blocked with iron, additional equipment must be installed ahead of the water softener to correct the problem.

**Drain Line:** The conditioner should be located close to a drain. Avoid overhead drain lines if possible to prevent back pressure on the brine injector. Overhead drains should not exceed 8 feet above the floor and no more than 20 feet in length. **The pipe size for the drain line should be a minimum of 3/4".** Backwash flow rates in excess of 7 gpm or length in excess of 20' require 1" drain line.

**Bypass Valves:** Always provide for the installation of a bypass valve.

**Softening:** It is recommended that the conditioner be installed to soften both the hot and cold water supply. A separate hard water faucet may be plumbed for drinking purposes if desired. Outside faucets should be left on hard water.

**Caution:** Water temperature is not to exceed 110°F; the conditioner cannot be subject to freezing conditions, or to a vacuum due to loss of pressure (such as a water main break).

### BYPASS VALVE OPERATION

NORMAL OPERATION

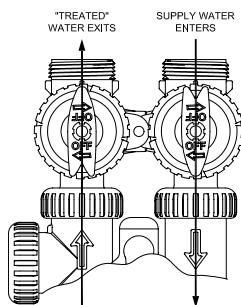


Figure 2

BYPASS OPERATION

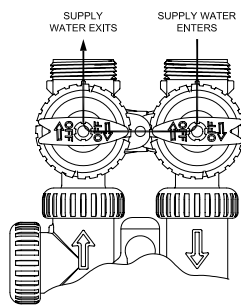


Figure 3

DIAGNOSTIC MODE

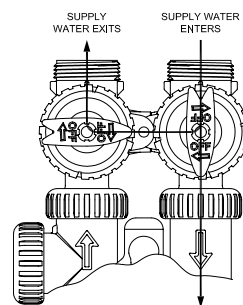


Figure 4

SHUT OFF MODE

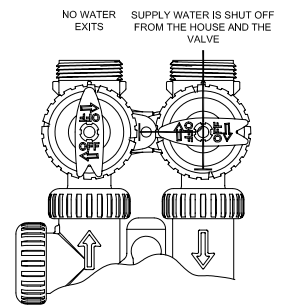


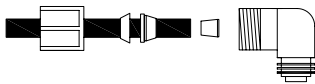
Figure 5

# INSTALLATION INSTRUCTIONS

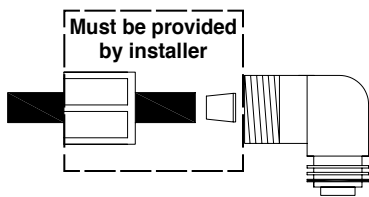
(All electrical & plumbing should be done in accordance to all local codes)

- Do not use vaseline, oils, other hydrocarbon lubricants or spray silicone anywhere. A silicon lubricant may be used on black o-rings but is not necessary. **Avoid any type of lubricants, including silicone, on red or clear lip seals.**
  - **Do not use pipe dope or other sealants on threads. Only teflon tape may be used on threads. Teflon tape is not necessary on the nut connection or caps because of o-ring seals.**
  - The pipe size for the drain line should be a minimum of 5/8". Backwash flow rates in excess of 7 gpm or length in excess of 20' require 1" drain line.
1. Place the conditioner where you want to install it, making sure it is on a clean, level and firm base.
  2. Do all necessary plumbing (inlet to inlet, outlet to outlet and drain line to drain). The control valve, fittings and/or bypass are designed to accommodate minor plumbing misalignments but are not designed to support the weight of a system or the plumbing.
  3. When assembling the installation fitting package (inlet and outlet), connect the fitting to the plumbing system first and then attach the nut, split ring and o-ring. Heat from soldering or solvent cements may damage the nut, split ring or o-ring. Solder joints should be cool and solvent cements should be set before installing the nut, split ring and o-ring. Avoid getting primer and solvent cement on any part of the o-rings, split rings, bypass valve or control valve.
  4. **A jumper ground wire should be installed between the inlet and outlet pipe whenever the metallic continuity of a water distribution piping system is interrupted. Install grounding strap on metal pipes.**
  5. The drain connection (see figure 6A) may be made using either 5/8" poly tube (If using 5/8" poly tube for drain, compression nut, and the poly tube insert must be purchased separately) or a 3/4" female adaptor. If soldering joints near the drain, must be done prior to connecting the drain line flow control fitting. Leave at least 6" between the drain line control fitting and solder joints when soldering pipes that are connected on the drain line control fitting. Failure to do this could cause interior damage to the drain line flow control fitting.
  6. The brine refill flow control assembly is installed in an easy to access refill elbow located on top of the control valve. The refill flow control assembly is attached to the control valve with a locking clip. The locking clip allows the elbow to rotate 270 degrees so the outlet can be orientated towards the brine tank.
  7. Remove 3/8" black brine line from brine tank. Connect to control valve at brine line elbow, using white plastic insert tubing found on locking clip. See figure 6a.
  8. Make sure floor is clean and level beneath brine tank. No grid is required with standard brine tanks as softener is programmed as prefill.

A 1/2" (inside diameter) gravity drain line should be connected to the overflow elbow on the side of the brine tank and run to a drain below the level of the elbow. This overflow drainage system provides protection from water damage in the event of a brine shut-off malfunction. Tubing is not provided to do this. **In all cases where an overflow could result in water damage for various reasons, this overflow protection must be used. Do not connect the tubing to the drain line on the control valve discharge line and do not run this line above the overflow elbow height at any point. Provide air gap.**



Brine Line Fitting Connection



Drain Line Connection

Figure 6a

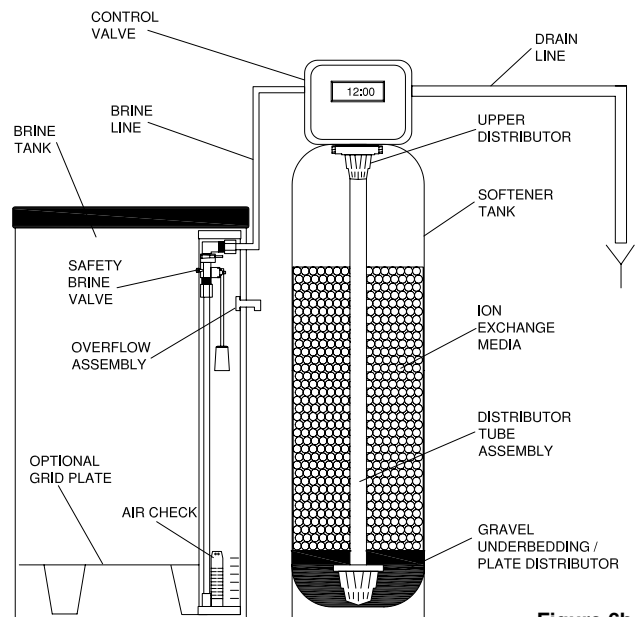
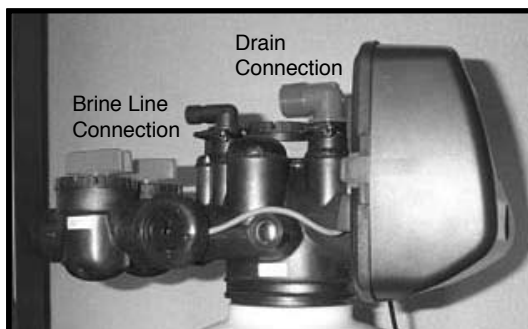


Figure 6b

## Initial Start Up

The initial start up will probably be done by the technician installing the softener system. If not, the following instructions will step you through the process.

1. Complete all plumbing connections: inlet, outlet, drain line and brine line. Do not add salt at this time.
2. Place the bypass valve in the bypass position. (See figure 3) Turn on the main water supply. Open a cold soft water faucet to flush the piping of any air and/or foreign material. Run until the water is clear.
3. Manually add 6 inches of water to the salt tank.
4. Plug the transformer into a 110-volt outlet. (Be certain the outlet cannot be turned off with a switch.) Within 5 seconds the control will automatically align itself into the softening mode and the display will flash 12:00 (AM).
5. Set the time of day. Push SET CLOCK button and use the ▼ or ▲ button to set.
6. Push REGEN button and hold it down for 3 seconds. The system will advance to the "First" position. (Note: Depending on how the system is programmed it could read backwash, rinse, brine or fill). Keep pushing REGEN button until "Rinse" shows in the lower right hand corner of display. Slowly place the by-pass into the "diagnostic mode" (see fig 4). Run water to the drain until it runs clear. Return the by-pass valve to the by-pass position (fig 3). Push REGEN button until "Time" appears in upper left hand corner of display.
7. Once again, push REGEN button and hold down for 3 seconds. Keep pushing REGEN button until "Backwash" appears. Slowly place the by-pass valve into the "Diagnostic Mode" 1/2 way. Allow water to slowly fill the mineral tank. When a solid stream of water starts coming out of the drain line, open the by-pass inlet valve all the way and allow to run out the drain until water clears. Then slowly place the by-pass into the "normal operation" mode by opening the outlet side of by-pass valve, figure 2.
8. Press the regen button until LED display says "BRINE" or "REGENERANT DRAW DN". Loosen the brine line from the top brine elbow on control valve. Place finger over the end of the elbow to check for suction. If no suction, verify inlet pressure is >25 psi and drain line is large enough and not plugged. (See drain line pre-installation check list) verify injector is not plugged. If proper suction, reattach brine tube to elbow, and allow it to draw water down to the bottom of the air check, (figure 6b).
9. Press REGEN button again until LED once again displays "BACKWASH". Keep in backwash until water once again runs clear at the drain.
10. Press REGEN button again until "RINSE" is displayed. Allow rinse cycle to run its full course. While the rinse cycle is finishing, this would be a good time to load your salt tank with salt. If using brine reclaim option, enough water must be added to brine tank for first full regeneration (1 gallon of water dissolve 3 lbs of salt). If a unit set at 15 lbs. salting, you must add 5 gallons of water.
11. Once the rinse cycle has finished the softener control will return to the softening cycle. The LED screen will indicate Time of Day or Gallons Remaining. Press NEXT to alternate these screens.
12. Next set your softeners water hardness, days override and regeneration time settings (see next page).

Your start-up is now complete.

## BASIC TROUBLESHOOTING

### PROBLEM

1. Hard Water

### CAUSE

- A. Bypass is open
- B. Insufficient salt in salt tank
- C. No power to control

### CORRECTION

- A. Close bypass
- B. Add salt to salt tank
- C. Plug into outlet that cannot be switched off

2. Time of Day Flashes

- A. Battery Depleted

- A. Replace lithium coin-type battery, model 2032. Reset Time of Day by pushing SET CLOCK using up/down arrows

3. Uses too much salt

- A. Leaking faucets or toilets
- B. Improper setting

- A. Repair or replace fixture
- B. Test water hardness & re-evaluate capacity settings

## Regeneration Mode

Typically a system is set to regenerate at a time of low water usage. An example of a time with low water usage is when the household is asleep. If there is a demand for water when the system is regenerating, untreated water will be supplied.

When the system begins to regenerate, the display will change to include information about the step of the regeneration process and the time remaining for that step to be completed. The system runs through the steps automatically and will reset itself to provide treated water when the regeneration has been completed.

## Manual Regeneration

Sometimes there is a need to regenerate the system sooner than when the system calls for it, usually referred to as manual regeneration. There may be a period of heavy water usage because of guests or a heavy laundry day.

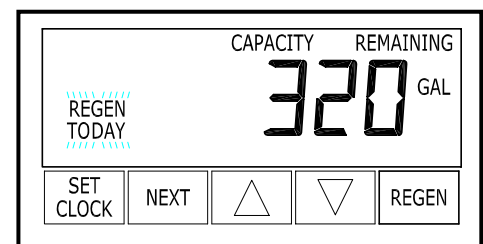
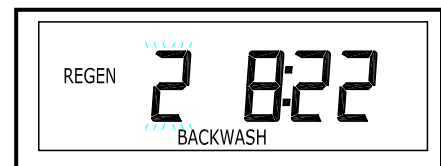
To initiate a manual regeneration at the preset delayed regeneration time, press and release "REGEN". The words "REGEN TODAY" will flash on the display to indicate that the system will regenerate at the preset delayed regeneration time. If you pressed the "REGEN" button in error, pressing the button again will cancel the request.

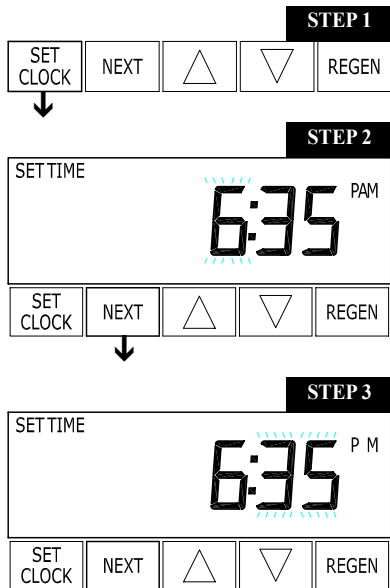
To initiate a manual regeneration immediately, press and hold the "REGEN" button for three seconds. The system will begin to regenerate immediately. The request cannot be cancelled. You must cycle all the way through the cycles to make it stop.

PLEASE NOTE: This will reset the meter.

Note: If the salt keeper does not contain salt. Fill with salt and wait at least two hours before regenerating.

**Regeneration Step #2**  
(shows time remaining in backwash step is 8 minutes 22 seconds)





## SET TIME OF DAY

**Step 1** - Press SET CLOCK.

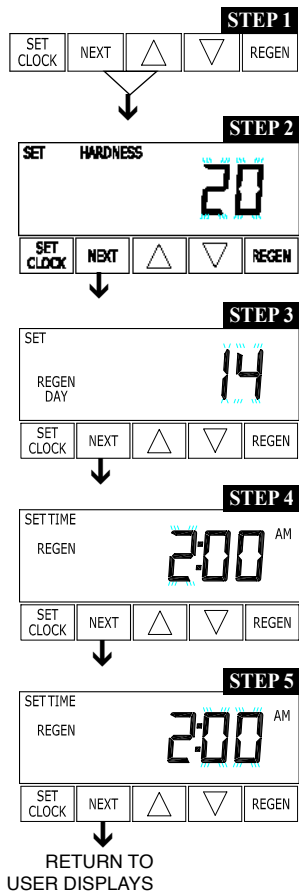
**Step 2** - Current Time (hour): Set the hour of the day using ▲ or ▼ buttons. AM/PM toggles after 12. Press NEXT to go to step 3.

**Step 3** - Current Time (minutes): Set the minutes of day using ▲ or ▼ buttons. Press NEXT to exit Set Clock. Press REGEN to return to previous step.

**Power Loss** - Battery back-up maintains the time of day during a power outage. With extended power outages or when the time of day is flashing, the time needs to be reset and the battery replaced. Replacement battery is a lithium coin-type, model 2032.

All programming, other than the time of day, is maintained during power outages by software non-volatile memory.

Time must be reset manually for daylight savings time.



## INSTALLER DISPLAYS/SETTINGS

**Step 1** - Press NEXT and ▲ simultaneously for 3 seconds.

**Step 2 - Hardness:** Set the amount of total compensated hardness (hardness as calcium carbonate) in grains per gallon using ▲ or ▼ buttons. The default is 20 with value ranges from 1 to 150 in 1 grain increments. Note: The grains per gallon should be increased if soluble iron needs to be reduced. Add 3 grains of hardness for each ppm of iron present. If this display shows nA, then system is either set-up in “time clock” or “filter” modes. Press NEXT to go to Step 3. Press REGEN to exit Installer Displays/Settings.

**Step 3 - Day Override:** This sets the number of days between regenerations. If value set to “oFF” regeneration initiation is based solely on gallons used. If value is set as a number (allowable range from 1 to 28) a regeneration initiation will be called for on that day even if sufficient number of gallons were not used to call for a regeneration. Set Day Override using ▲ or ▼ buttons:

- number of days between regeneration (1 to 28); or
- “oFF” Press NEXT to go to Step 4.

**Step 4 - Regeneration Time (hour):** Set the hour of day for regeneration using ▲ or ▼ buttons. AM/PM toggles after 12. The default time is 2:00 a.m. This display will show “REGEN” on 0 GAL if system is set for immediate regeneration. Press NEXT to go to step 5. Press REGEN to return to previous step.

**Step 5 - Regeneration Time (minutes):** Set the minutes of day for regeneration using ▲ or ▼ buttons. This display will not be shown if system is set for immediate regeneration. Press NEXT to exit Installer Displays/Settings. Press REGEN to return to previous step.

### Contact:

In event that you need professional assistance for your water softener, please contact the dealer who installed this system.



## **PROMATE® SERIES WATER SOFTENERS LIMITED WARRANTY**

Hellenbrand, Inc., warrants to the original consumer purchaser that the ProMate® and the parts listed below will be free from defects in material and/or workmanship from the date of the original installation for the following time periods:

For a Period of FIVE YEARS: The control valve including electrical parts, internal parts, and valve body.

For a Period of TEN YEARS: Mineral tanks, 6" Diameter - 13" Diameter.

For a Period of FIVE YEARS: Mineral tanks, 14" - Up.

For a Period of FIVE YEARS: The salt storage/cabinet tank.

For a Period of ONE YEAR: Any other component.

Any parts used for replacement are warranted for the remainder of the original warranty period applicable to the part.

**THIS WARRANTY IS EFFECTIVE TO THE ORIGINAL CONSUMER PURCHASER ONLY, AND ONLY AS LONG AS THE PROMATE® REMAINS AT THE ORIGINAL INSTALLATION SITE.**

No sales representative, distributor, agent, dealer, reseller or any other person is authorized to make any other warranty on behalf of Hellenbrand, Inc. Upon expiration of the applicable warranty period(s), Hellenbrand, Inc., shall have no further liability related to the products/parts to which the warranty period(s) apply, except with respect to valid warranty claims asserted during the appropriate warranty period(s).

If a part described above becomes defective within the specified warranty period, you should notify your ProMate® sales representative and arrange a time during normal business hours for the inspection of the water conditioner at the original installation site. Any part found defective within the terms of this warranty will, at Hellenbrand, Inc.'s option, be repaired or replaced. You are responsible for freight from our factory and local service charges. This paragraph sets forth the exclusive remedy for any valid warranty claims against Hellenbrand, Inc.

**THIS WARRANTY DOES NOT COVER** defects caused by sand, sediment or bacteria fouling, accident, fire, flood, Act of God, misuse, misapplication, neglect, alteration, installation or operation contrary to Hellenbrand, Inc.'s printed instructions, or installation, repair or service by anyone other than Hellenbrand, Inc., or an authorized Hellenbrand reseller.

As a manufacturer, we do not know the characteristics of your water supply or the purpose for which you are purchasing this water conditioner. Please understand that the quality of water supplies may vary seasonally or over a period of time, and that your water usage rate may vary as well. Water characteristics can also change considerably if your water conditioner is moved to a new location. For these reasons, we assume no liability for the determination of the proper equipment necessary to meet your requirements and we do not authorize others to assume such obligations for us.

**REMEDIES FOR DEFECTS OR FAILURES, TO THE EXTENT PERMITTED BY APPLICABLE LAW, ARE LIMITED TO THE REMEDIES PROVIDED IN THIS WARRANTY. ANY EXPRESS WARRANTY NOT PROVIDED HEREIN AND ANY WARRANTY WHICH MIGHT ARISE BY IMPLICATION OR OPERATION OF LAW, WHETHER FROM THE SELLER AND/OR MANUFACTURER OF THIS PRODUCT, IS HEREBY EXCLUDED AND DISCLAIMED, TO THE EXTENT ENFORCEABLE UNDER APPLICABLE LAW, INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE OR NON-INFRINGEMENT, OR ANY WARRANTIES ARISING FROM COURSE OF PERFORMANCE, COURSE OF DEALING, OR FROM USAGES OF TRADE.**

**UNDER NO CIRCUMSTANCES SHALL HELLENBRAND, INC., BE LIABLE TO THE ORIGINAL CONSUMER PURCHASER OR TO ANY OTHER PERSON FOR ANY INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES OR FOR ANY OTHER LOSS, DAMAGE, OR EXPENSE OF ANY KIND, INCLUDING LOSS OF PROFITS, WHETHER ARISING OUT OF BREACH OF WARRANTY, BREACH OF CONTRACT, IN TORT OR OTHERWISE, AND REGARDLESS OF WHETHER HELLENBRAND, INC., WAS AWARE OF THE POSSIBILITY OF SUCH LOSS. THESE LIMITATIONS WILL APPLY REGARDLESS OF ANY FAILURE OF ESSENTIAL PURPOSE OF ANY LIMITED REMEDY.**

Some states do not allow limitations on how long an implied warranty lasts or exclusions or limitations of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

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