



OEM identification

- Solid state microprocessor with easy access front panel settings
- Three modes of operation meter immediate, meter delayed, or time clock delayed
- Double backwash feature, offers optimum regeneration, efficiency and cleaning ability
- 36 Selectable pre-programmed regeneration cycles
- Days override feature 1 – 28 days available
- Backwash and brining ability to 22” diameter tanks
- Downflow/upflow regeneration
- Stores system configuration and operation data in non volatile memory
- Capacitor back-up with two hour power carry over
- 12-volt UL CSA transformer provides safe and easy installation
- Control valve design provides optimum service and backwash rates
- Treated water regenerant refill
- Modular design with no screws to lose

Specifications



- Service 27 gpm @ 15psi drop with meter and bypass installed. Backwash 27 gpm @ 25 psi drop with meter and bypass installed.
- Comes with 12-volt AC transformer and 15' cord.
- 1.05" distributor tube cut-off height is $\pm 1/2$ " top of tank.
- Materials suitable for most regenerants.
- Easy locking drain/brine clip for easy removal. Orient in any direction.

Bypass



- Directional shut-off arrows: Normal, Bypass, Diagnostic mode, Shut-off mode.
- Radial seals handle side-to-side and up/down minor plumbing misalignments, connections need only hand tightening.
- One internally lubricated O-ring on rotor creates less friction.

Fitting packages



- $\frac{3}{4}$ " and 1" brass sweat adaptors.
- 1" NPT PVC 90°.
- $\frac{3}{4}$ " and 1" PVC Solvent 90°.
- 1" and 1 $\frac{1}{4}$ " Noryl® NPT straight
- 1" Noryl® BSPT straight
- PVC fittings standard with $\frac{1}{4}$ " drill out feature.
- $\frac{1}{4}$ " drill out feature can be used as a sample port or R/O connection.

Five levels of programming/display information



- Homeowner/user screens.
- Installer screens.
- OEM softener or filter system setup screens.
- Diagnostic screens.
- Valve history screens.
- Information is specific to each programming/display level.
- Lockout feature only allows access to homeowner and installer screens.

Regenerant refill



- Brine elbow available for 3/8" and 1/2" OD tubing.



- Locking clip for easy removal.
- BLFC 0.5 gpm refill only (flow valve closes in refill and opens when drawing, allowing greater draw rate.)



- Backwash plug is used to convert softener to backwash only filter.

Drain fitting

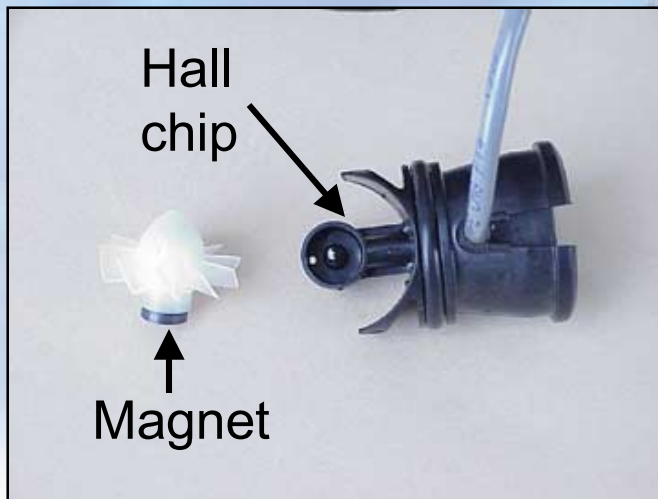


- Easy locking clip removal. Orient in any direction.
- Silencer injects air for quiet drain running.
- 3/4" NPT thread standard or optional 5/8" OD polytube nut connection.
- Brine and drain fittings cannot be interchanged (Prevents misapplication).
- 3/4" fitting: 13 DLFCs from 0.7 to 10.0 gpm.



- 1" fitting: 8 DLFCs from 9.0 to 25 gpm.
- Washers easy to replace.

Meter



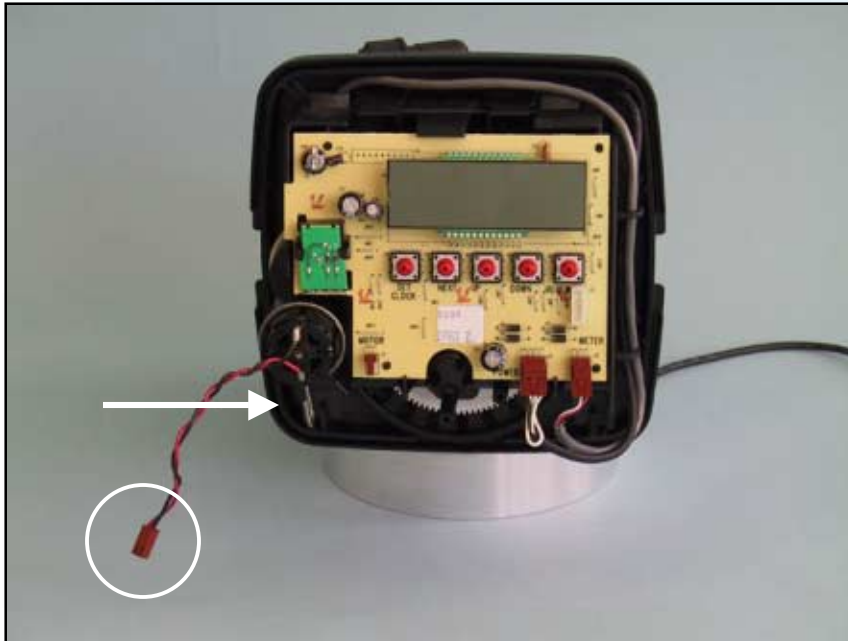
- Measures from 0.25 to 27 gpm \pm 5% accuracy.
- Hall chip picks up magnetic pulse.
Softening or Filtering,
Display flashes when drawing water.
- Easy to replace turbine.
- Shielded magnet.

Easy access



- Drive bracket modular design allows easy access to components
- Capacitor back-up with two-hour power carry over.

Drive Motor Removal



- Disconnect motor power wire from microprocessor.
- Press motor locking clip to the right.
- Rotate motor to a point where wire connections are in a vertical position.
- Pull out motor.

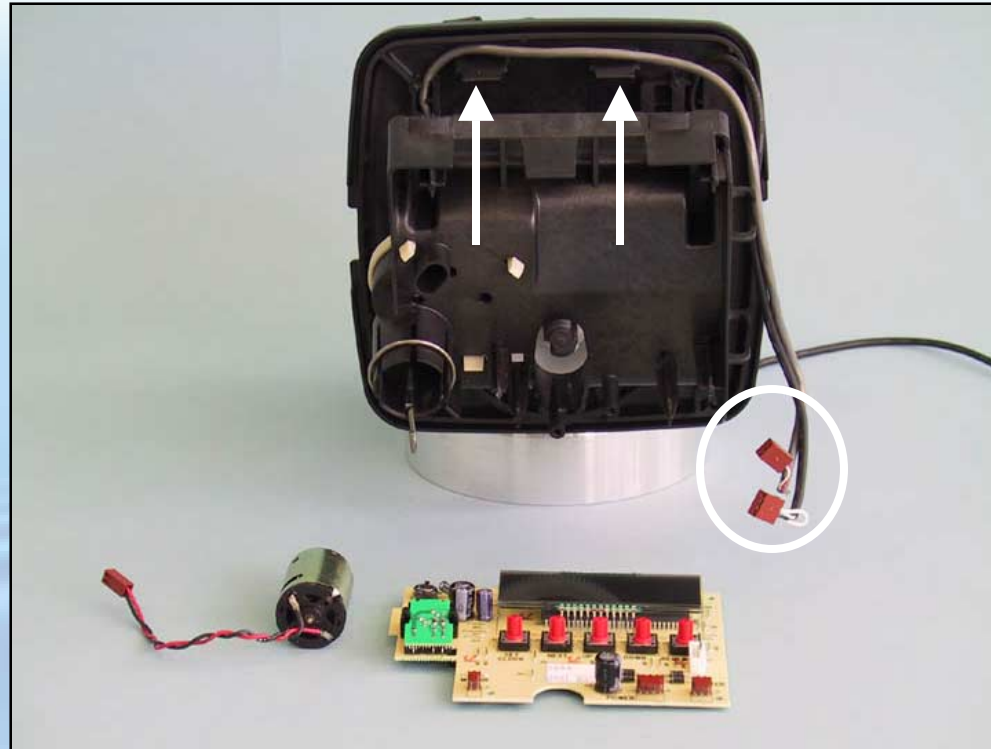
Removing the Microprocessor



- Remove power and meter cable from microprocessor.
- Press up on locking tab.

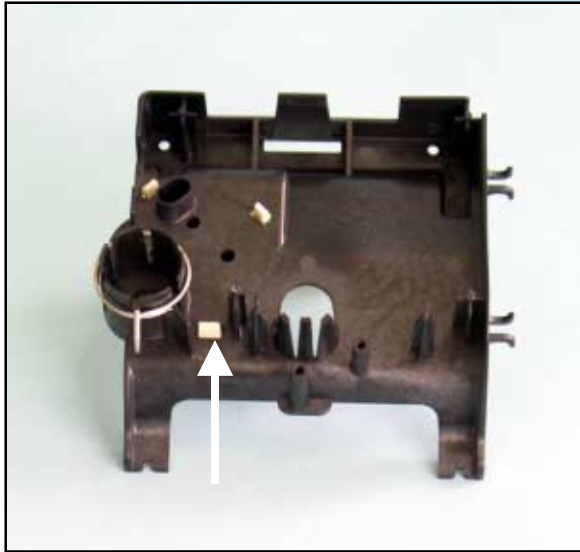
- Pull top of microprocessor forward.

Removing the Drive Bracket



- Remove power and meter wires from drive bracket retainer.
- Lift up on the two tabs as indicated.
- Pull top of drive bracket forward, using finger tabs.

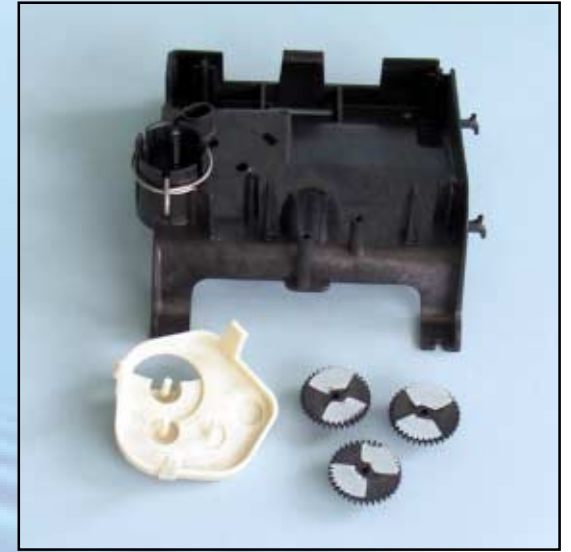
Removing the Gear Box



- Remove gear box by pressing beige clip.



- Gears can be removed by sliding off post.



- All three gears are identical.

Removing the End Cap



- Unscrew drive assembly with wrench.

Brine Piston



- Brine Piston is easily removed with a snap lock connection.
- Brine Piston is not used with backwash only filter.

Main piston



- Main piston is attached to piston rod with a snap-off connection.
- To remove piston rotate white gear to expose piston.
- Put a slight side pressure on piston at the cavity # to remove.

Upflow and Downflow controls

- A separate valve body and piston are used for upflow and downflow brining controls.



Downflow Valve Body and Piston



- Downflow body is identified first by removing the injector cap
- The letters DN and UP will be visible
- The injector will be in the DN hole
- A plug will be in the UP hole
- Downflow piston is a solid amber color.



Upflow Valve Body and Piston



- Upflow body is identified first by removing the injector cap
- The letters UP will only be visible
- The injector will be in the UP hole
- A plug will be in the other hole



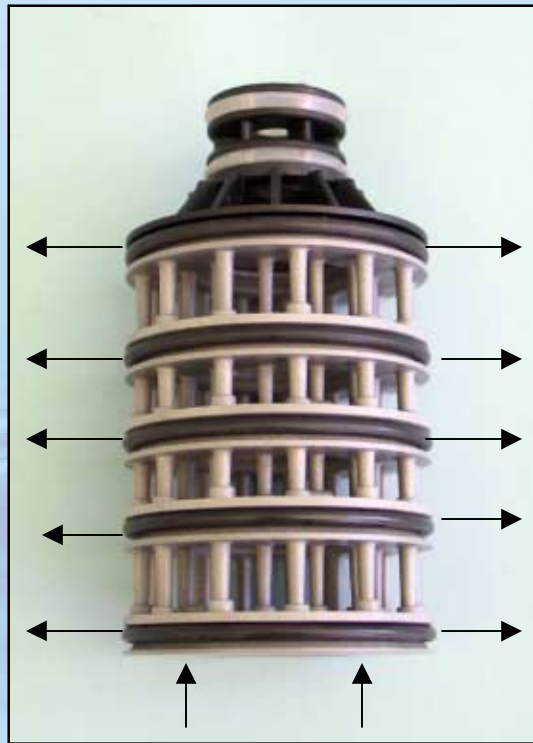
- Upflow piston is a black and amber color

Spacer Stack Assembly



- Spacer stack assembly is removed by simply pulling out.

Spacer Stack Assembly



- One-piece disposable assembly.
- Assembly is designed to compress and seal when tightening end cap.

Injector Cap Removal



- With wrench or pliers, remove injector cap.

Injector Cap and Screen



- Injector screen pulls out of cap for easy cleaning.

Injector position



- Injector is placed in brine flow direction hole: DN - downflow brining; UP - upflow brining.
- A plug is used in the other port.
- Picture displays a downflow brining control.
- Note: If converting a control the appropriate upflow or downflow main piston and valve body must be used.

Injector Sizes



- Injectors are color coded for easy identification.
- Injectors are available for 6" - 21" tanks with downflow brining softeners.

Injector Plugs



- When shipped from the factory as a backwash only filter, the brine piston and injector will not be included. (Plugs are used to block injector passages.)
- If field converting from a softener to a backwash only filter, only a backwash plug is necessary.
- Note: If the brine piston is left in the control when converting to a backwash only filter, the injector must also be left in.

A background image showing a single water droplet hitting a surface, creating concentric ripples that spread outwards. The water is a clear, light blue color, and the ripples are more pronounced in the center, fading towards the edges. The overall effect is a sense of calm and precision.

Programming Screens

User Screens: Time of day, Gallons/Days Remaining

Button Functions:



Set time

“Escapes” and saves changes in programming modes



Toggles between capacity and time

Move to the next display in programming mode



Change variable being displayed in programming mode

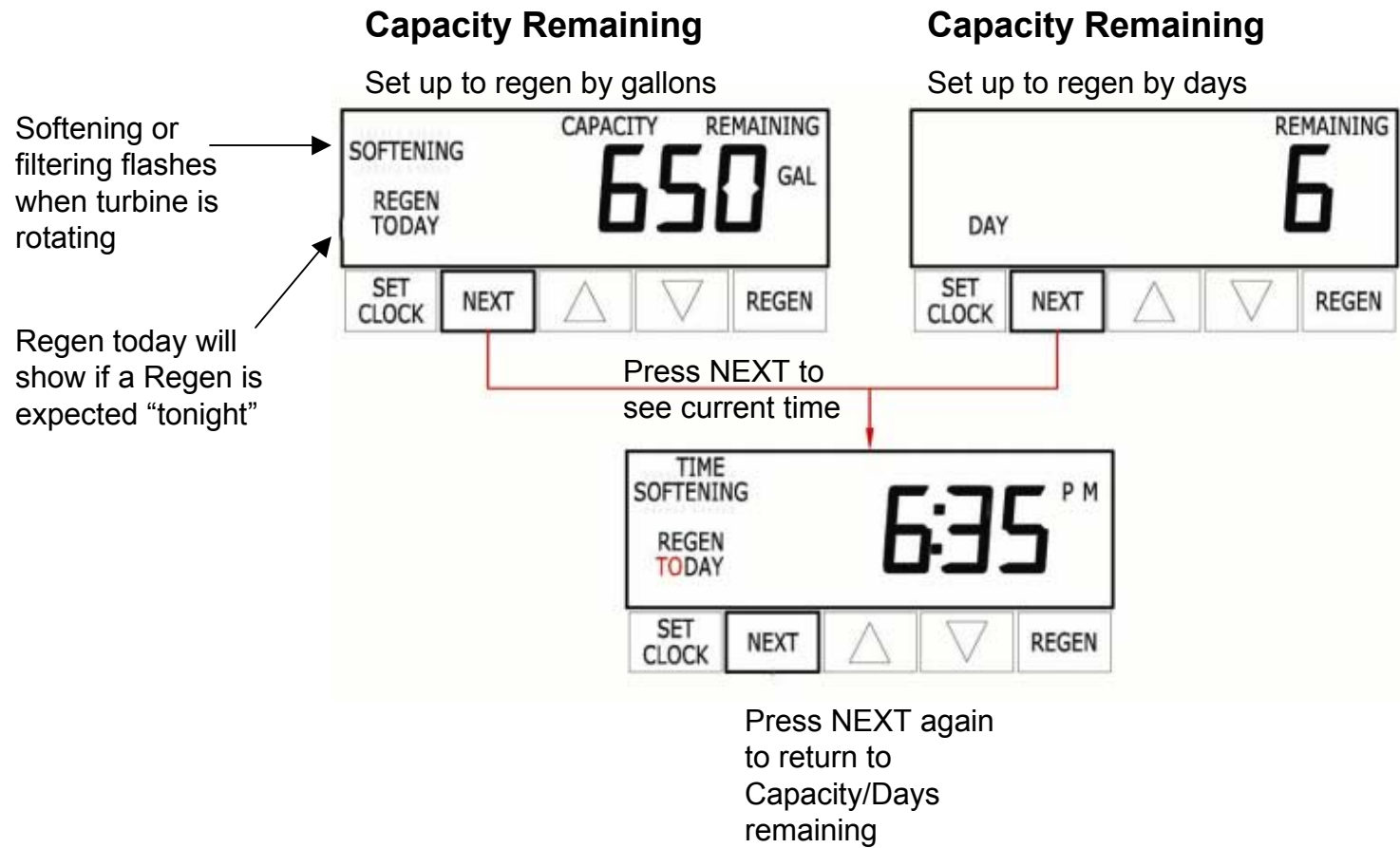


Toggles scheduled regen on/off

Hold for more than 3 seconds starts immediate regen

Backs up 1 step in programming mode

User Screens: Time of day, Gallons/Days Remaining



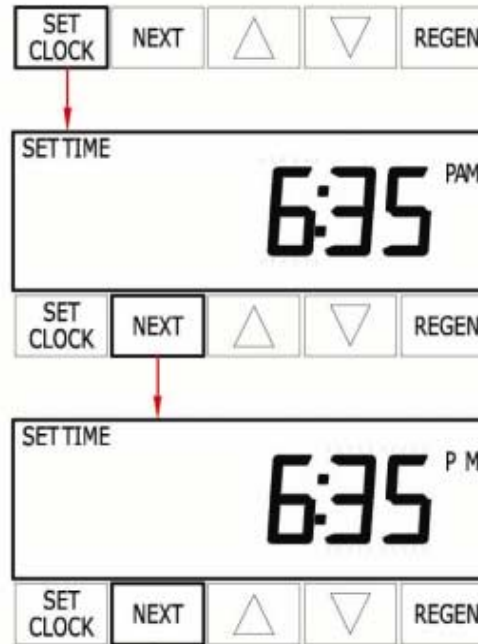
User Screens: Time of day, Gallons/Days Remaining

Regeneration screen:



Displays time remaining in current regeneration cycle

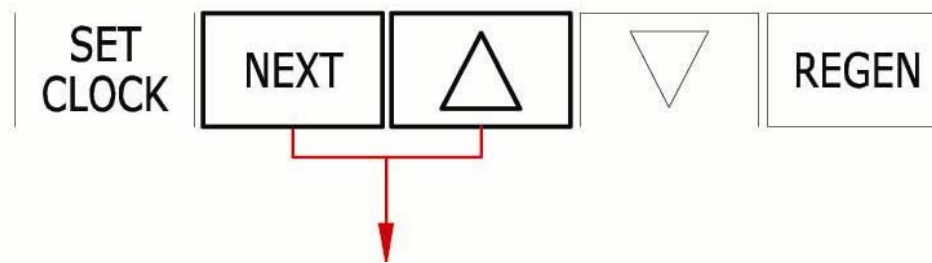
Set clock:



- Press SET CLOCK
- Adjust hours with up/down arrows
- Press NEXT
- Adjust minutes with up/down arrows
- Press NEXT to return to normal operation

Installer Screens: Hardness, Day override, Time of regeneration

Installer screens are accessed by pressing NEXT and the UP arrow



Installer Screens: Hardness, Day override, Time of regeneration

SET CLOCK saves changes and “escapes” to normal operation from any programming screen

SET HARDNESS
20
SET CLOCK NEXT ▲ ▼ REGEN

- HARDNESS: Adjustable from 1-150 grains. Default is 20

SET REGEN DAY
14
SET CLOCK NEXT ▲ ▼ REGEN

- Press NEXT
- DAY OVERRIDE: Off or 0-28 days. Default is 14

SETTIME REGEN
2:00 AM
SET CLOCK NEXT ▲ ▼ REGEN

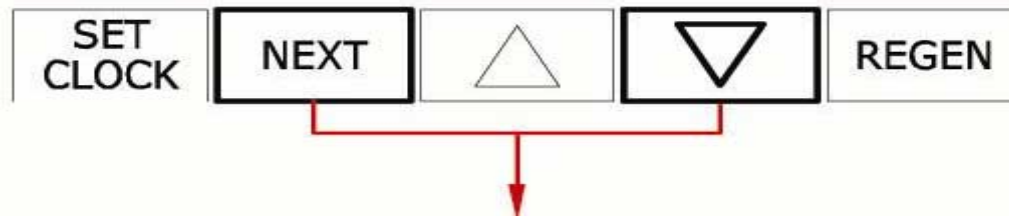
- Press NEXT
- TIME OF REGENERATION: Set hours. Default is 2 a.m. (If “on 0” is set in set up, regen will be immediate if total capacity is exhausted, and --:-- will be displayed.)

SETTIME REGEN
2:00 AM
SET CLOCK NEXT ▲ ▼ REGEN

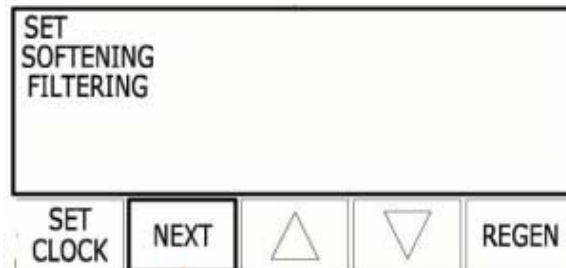
- Press NEXT
- Set minutes
- Press NEXT to return to normal mode

System Set Up Screens

System set up screens are accessed by pressing NEXT and DOWN for 3 seconds



System Set Up Screens



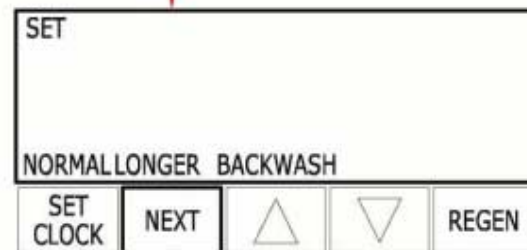
- SOFTENING OR FILTERING: Default is softening
- If Softening is chosen, the following programming screens will occur.



- Press NEXT
- KILOGRAINS OF CAPACITY: Adjustable from 5K to 200K. Default is 24K.



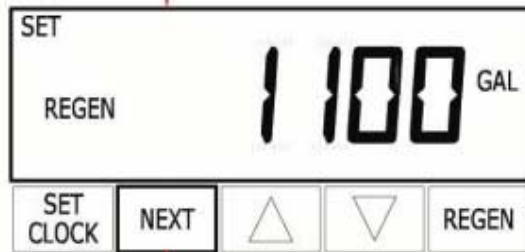
- Press NEXT
- POUNDS OF SALT: Set pounds of salt per regen. Default is 9.5 pounds of salt



- Press NEXT
- BACKWASH: Normal or longer. Default is normal.

• (Continued on next slide)

SET CLOCK saves changes and “escapes” to normal operation from any programming screen



- Press NEXT

- METER OPERATION: Auto = calculated capacity and regen. Gallon override = Set gallons 20 to 50,000. Default is auto.

- Press NEXT

- BRINE FILL: Set POST or PrE. Default is POST.

- Press NEXT

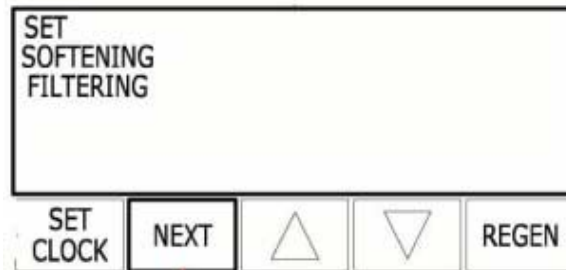
- REGENERANT FLOW: Up or down flow regeneration. Default is downflow.

- Press NEXT

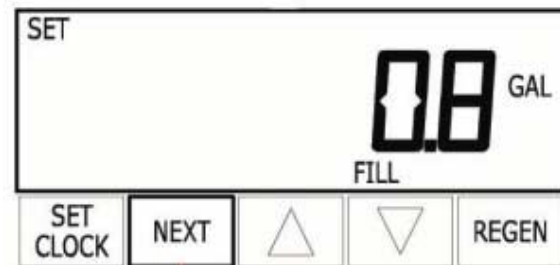
- REGENERATION CONTROL: Normal = delayed until specified time. Normal + on 0 = delayed with override at 0 capacity. On 0 = regen will occur immediately when gallons capacity reaches zero. Default is normal.

- Press NEXT to return to normal operation.

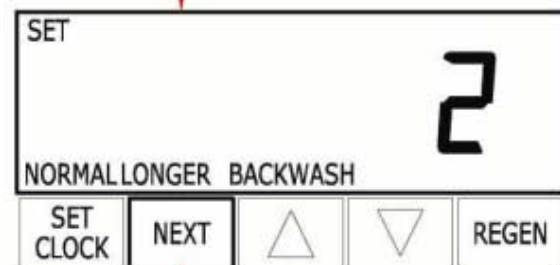
System Set Up Screens



- SOFTENING OR FILTERING: Default is softening
- If Filtering is chosen, the following programming screens will occur.



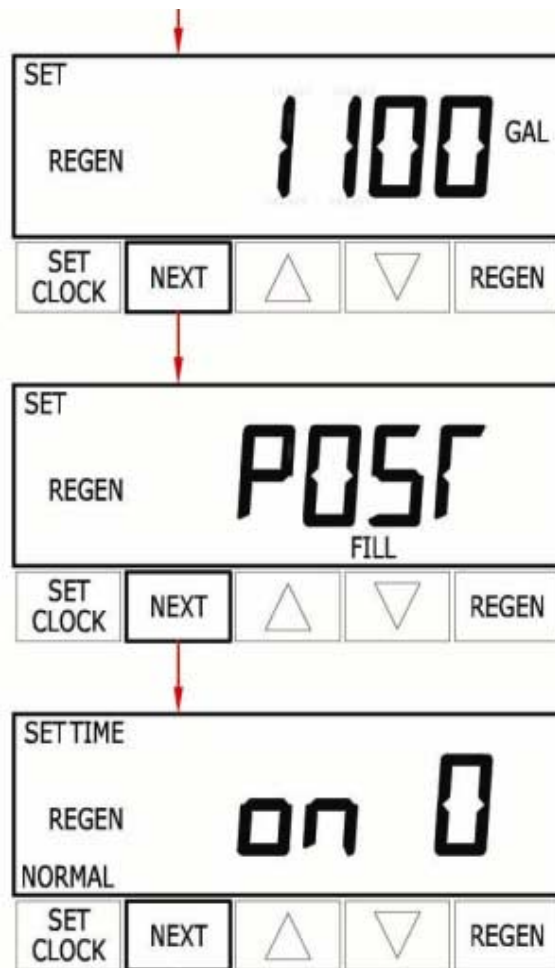
- Press NEXT
- REGENERANT REFILL: Default is off.



- Press NEXT
- BACKWASH: Normal, longer, normal 2, or longer 2. Default is normal.

- (Continued on next slide)

SET CLOCK saves changes and “escapes” to normal operation from any programming screen



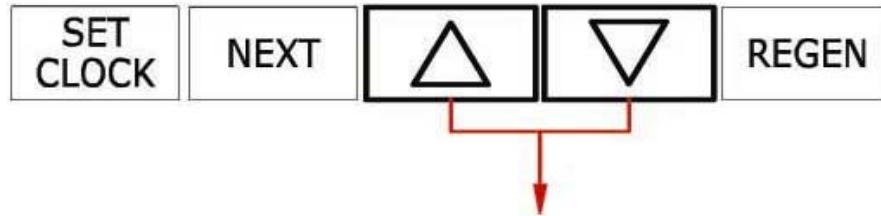
- Press NEXT
- GALLONS CAPACITY: Set the gallons of capacity or off. Default is off.

- Press NEXT
- REGENERANT REFILL: Set POST or PrE. Default is POST

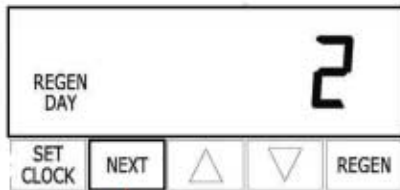
- Press NEXT
- REGENERATION CONTROL: Normal = delayed until specified time. Normal + on 0 = delayed with override at 0 capacity. On 0 = regen will occur immediately when gallons capacity reaches zero. Default is normal.
- Press NEXT to return to normal operation.

Diagnostic Screens

Diagnostic screens are accessed by pressing UP and DOWN for 3 seconds.



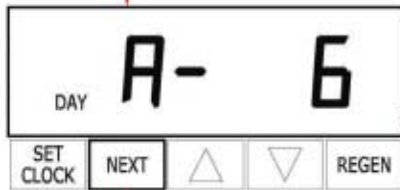
Diagnostic Screens



- Days since last regeneration.
- Press NEXT



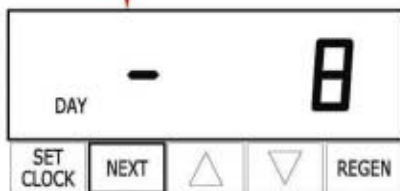
- Gallons since last regeneration
- Press NEXT



- Reserve history: Use arrows to select a day (0=today, 1=yesterday, 6=6 days ago)
Automatically toggles



- Press NEXT



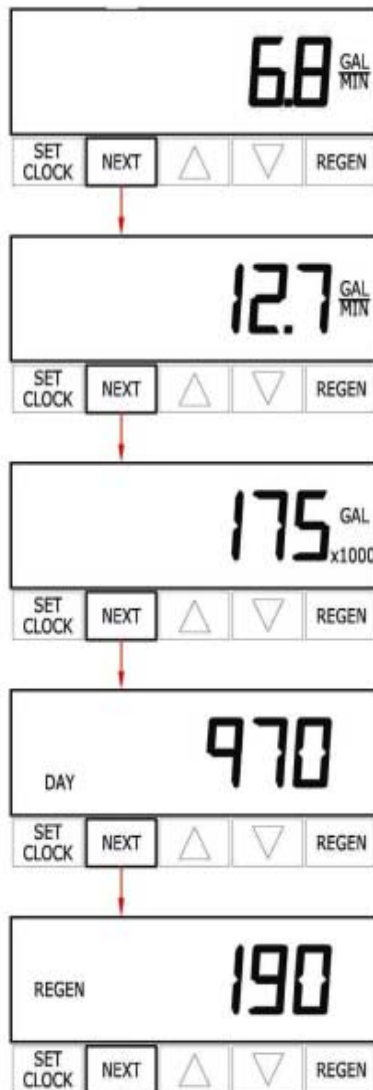
- Gallons used: Use arrows to select a day (1=yesterday, 63=63 days ago)
Automatically toggles



- Press NEXT

- (Continued on next slide)

Diagnostic Screens



- Present flow rate: This screen will reset after 10 minutes

- Press NEXT

- Max flow: Peak flow from the last 7 days

- Press NEXT

- Gallons used: Total gallons used since startup

- Press NEXT

- Days: Total days since startup

- Press NEXT

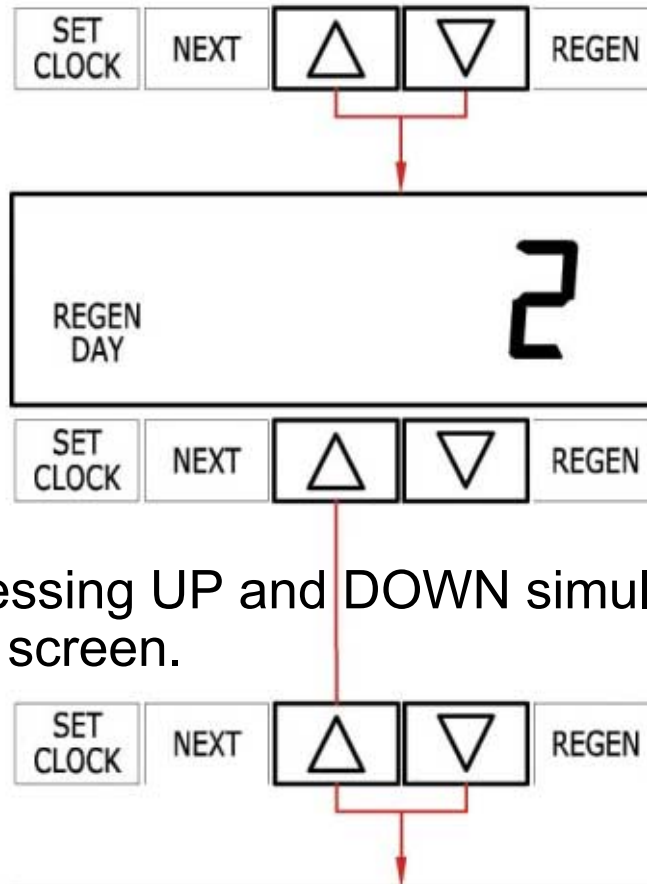
- Regens: Total regens since startup

- Press NEXT to return to normal operation.

- NOTE: Diagnostic displays can be reset to zero from the normal mode by pressing NEXT and DOWN for 3 seconds (OEM setup mode) and pressing UP and DOWN for 3 seconds

History Screens

History screens are accessed by pressing UP and DOWN for 3 seconds...



... and then pressing UP and DOWN simultaneously while in the first Diagnostic screen.

History Screens



- Software version
- Press NEXT
- Max flow: Peak flow since startup
- Press NEXT
- Gallons: Total gallons used since startup
- Press NEXT
- Days: Total days since startup
- Press NEXT
- Regens: Total regens since startup
- Press NEXT
- Errors: Total errors since startup
- Press NEXT to return to normal operation