Evolve Air Filter

Evolve Air Filter

OPERATING MANUAL

OTHER LANGUAGES AVAILABLE

NL/ Scan bovenstaande QR code om de Nederlandstalige handleiding te raadplegen.

FR/ Scannez le code QR ci-dessus pour consulter la notice en Français.

DE/ Scannen Sie den obigen QR-Code ein, um das Handbuch in deutscher Sprache zu konsultieren.

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1. PREINSTALLATION INSTRUCTIONS FOR DEALERS

The manufacturer has preset the water treatment unit's sequence of cycles and cycle times.

The dealer should read this page and guide the installer regarding day override, time of regeneration, service alarm and buzzer alarm settings before installation.

For the installer, the following must be used:

- Program Installer Settings ... Day Override (preset to 3 days), Time of Regeneration (preset to 02:00; see Operating Displays and Instructions for more details), Service Alarms (preset to "OFF") and Buzzer Alarm (preset to start at 06:00 and end at 22:00)
- Read Normal OperatingDisplays
- Set Time ofDay
- Read Power Loss & ErrorDisplay

For the homeowner, please read sections on Bypass Valve and Operating Displays and Maintenance.

During operation, the normal user display is time of day and gallons per minute.

Flow Rate, Vacation Mode, Capacity Remaining and Days to a Regeneration are optional displays but are not normally used. (Vacation Mode is used only when there will be no water usage for an extended period of time. If activated, once 50 litres of water is used, the unit will automatically regenerate that night and resume normal operation.) Each of these can be viewed by pressing **NEXT** to scroll through them. When stepping through any programming, if no buttons are pressed within 5 minutes, the display returns to a normal user display. Any changes made prior to the 5 minute time out are incorporated. To quickly exit any Programming, Installer Settings, etc., press **SET CLOCK**. Any changes made prior to the exit areincorporated.

If desired, two regenerations within 24 hours are possible with a return to the preset program. To do a double regeneration:

1. Press the **REGEN** button once. "REGEN TODAY" will flash on thedisplay.
2. Press and hold the **REGEN** button for three seconds until a regeneration begins.

Once the valve has completed the immediate regeneration, the valve will regenerate one more time at the preset.

2. BYPASS VALVE

The bypass valve is typically used to isolate the control valve from the plumbing system's water pressure in order to perform control valve repairs or maintenance. The 1" full flow bypass valve incorporates four positions, including a diagnostic position that allows a service technician to have pressure to test a system while providing untreated bypass water to the building. Be sure to install bypass valve onto main control valve, before beginning plumbing. Or, make provisions in the plumbing system for a bypass. The bypass body and rotors are glass-filled Noryl® and the nuts and caps are glass-filled polypropylene. All seals are self-lubricating EPDM to help prevent valve seizing after long periods of non-use. Internal "O" Rings can easily be replaced if service is required.

The bypass consists of two interchangeable plug valves that are operated independently by red arrow shaped handles. The handles identify the direction of flow. The plug valves enable the bypass valve to operate in four positions.

1. **Normal operation position:** The inlet and outlet handles point in the direction of flow indicated by the engraved arrows on the control valve. Water flows through the control valve for normal operation of a water softener. During the regeneration cycle this position provides regeneration water to the unit, while also providing untreated water to the distribution system **(Fig. 1)**.

2. **Bypass position:** The inlet and outlet handles point to the center of the bypass. The system is isolated from the water pressure in the plumbing system. Untreated water is supplied to the building **(Fig.2)**.

3. **Diagnostic position:** The inlet handle points toward the control valve and the outlet handle points to the center of bypass valve. Untreated supply water is allowed to flow to the system and to the building, while not allowing water to exit from the system to the building **(Fig. 3)**. This allows the service technician to draw brine and perform other tests without the test water going to thebuilding.

NOTE: The system must be rinsed before returning the bypass valve to the normal position.

4. **Shut off position:** The inlet handle points to the center of the bypass valve and the outlet handle points away from the control valve. The water is shut off to the building. The water treatment system will depressurize upon opening a tap in the building. A negative pressure in the building combined with the softener being in regeneration could cause a siphoning of brine into the building. If water is available on the outlet side of the softener, it is an indication of water bypassing the system **(Fig. 4)** (i.e. a plumbing cross-connection somewhere in thebuilding).

NORMAL OPERATION POSITION

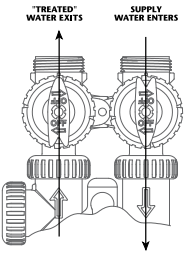


FIGURE 1

BYPASS POSITION

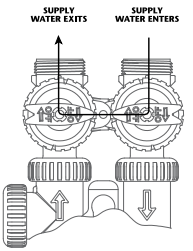


FIGURE 2

DIAGNOSTIC POSITION

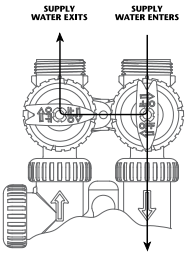


FIGURE 3

SHUT OFF POSITION

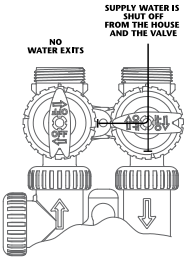


FIGURE 4

3. INSTALLATION

3.1 GENERAL INSTALLATION & SERVICE WARNINGS

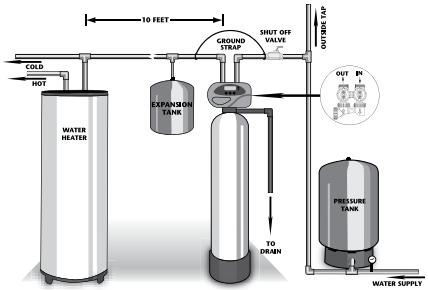
The control valve, fittings and/or bypass are designed to accommodate minor plumbing misalignments. There is a small amount of “give” to properly connect the piping, but the water softener is not designed to support the weight of the plumbing.

Do not use Vaseline, oils, other hydrocarbon lubricants or spray silicone anywhere. A silicone 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.

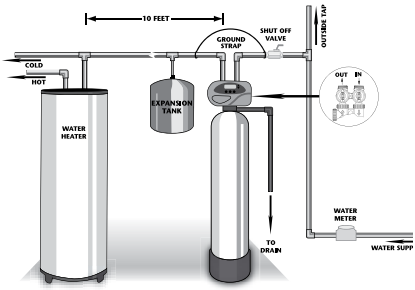
Do not use pipe dope or other sealants on threads. Teflon® tape must be used on the threads of the 1” BSPT inlet and outlet, the brine line connection at the control valve, and on the threads for the drain line connection. Teflon® tape is not used on the nut connections or caps because “O” Ring seals are used. The nuts and caps are designed to be unscrewed or tightened by hand or with the special plastic Service Wrench, V3193-02. If necessary pliers can be used to unscrew the nut or cap. Do not use a pipe wrench to tighten nuts or caps. Do not place screwdriver in slots on caps and/or tap with a hammer.

3.2 SITE REQUIREMENTS

- Water pressure – 2.0-6.0 bar
- Water temperature – 0.5-37.7°C
- Current draw is 0.5 Amperes
- The plug-in transformer is for dry locations only
- The tank should be on a firm level surface



WELL WATER INSTALLATION



MUNICIPAL INSTALLATION

1. The distance between the drain and the water conditioner should be as short as possible.

2. Do not install any water conditioner with less than 10 metres of piping between its outlet and the inlet of a water heater.
CAUTION: To protect the unit in the event of a hot water heater backup, the manufacturer recommends the use of an expansion tank on the outlet side of the unit.

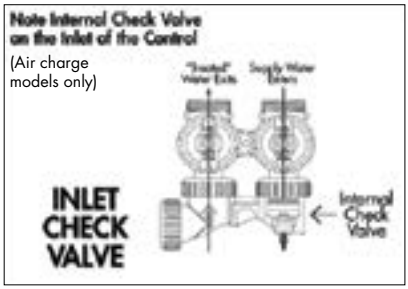
3. Do not locate unit where it or its connections (including the drain and overflow lines) will ever be subjected to room temperatures under 0.5°C.

4. Do not subject the tank to any vacuum, as this may cause an "implosion" and could result in leaking. If there is a possibility a vacuum could occur, please make provision for a vacuum breaker in the installation.

5. **Inlet/outlet plumbing:** Be sure to install Bypass Valve onto main control valve before beginning plumbing. Make provisions to bypass outside hydrant and cold hard water lines at this time. Install an inlet shutoff valve and plumb to the unit's bypass valve inlet located at the right rear as you face the unit. There are a variety of installation fittings available. They are listed under Installation Fitting Assemblies, page 36-37. When assembling the installationfitting 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 solder flux, primer, and solvent cement on any part of the "O" Rings, split rings, bypass valve or control valve. If the building's electrical system is grounded to the plumbing, install a copper grounding strap from the inlet to the outlet pipe. Plumbing must be done in accordance with all applicable local codes.

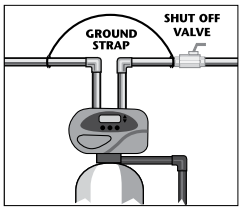
When installing an air regenerating filter the customer may experience, under certain conditions, small amounts of air (cloudy water) at the taps. This is normal. On rare occasions, this may result in "shots of air" at a particular fixture. By installing a loop or "U" on the outlet side of the unit, this will act as an air trap and improve this situation.

Located inside the inlet is an internal check valve **(see diagram at right)**. This check valve holds the air in the system, preventing its escape from the tank. Plumbing codes may require the installation of a thermal expansion tank on the outlet side of the system to prevent a water heater backup condition. **(See Installation Diagrams on page 7.)**



Provisions should be made to bypass outside hydrants that are not to have filtered water. It is also advisable to install hose bibs on the inlet and outside of the filter for future testing and service of the equipment. Where heavy sediment from the well is observed, it is advisable to install a cartridge or bag-style filter immediately upstream from the filter.

6. **Installing ground:** To maintain an electrical ground in metal plumbing of a home's cold water piping (such as a copper plumbing system), install a ground clamp or jumper wiring. If replacing an existing filter, also replace the ground clamps/wire. If removing a filter, replace the piping with the same type of piping as the original to assure plumbing integrity and grounding.



7. **Drain line:** First, be sure that the drain can handle the backwash rate of the system. Solder joints near the valve must be done prior to connecting the drain line flow control fitting. Leave at least 15cm between the drain line flow control fitting and solder joints. Failure to do this could cause interior damage to the flow control.

Backwash of an automatic filter can be directed into a septic tank in most cases, but because of the higher volume of water discharged, care should be taken. The backwash discharge can be directed to a subsurface drainage system or other safe location. Remember to follow all local codes.

When installing the drain line on any backwashing filter, especially Evolve filters that utilize air as the regenerant, hard piping such as PVC, Schedule 80 Plastic or copper is recommended. Remove the drain line nut (if included) and discard. A 3/4" BSPT connection on the elbow is provided. **During backwash, high volumes of water (more than a softener) and air can be expelled. This release of air can cause a thrashing or movement of the drain line causing it to dislodge from the drain, resulting in water damage. In order to prevent this, it is recommended to use other means of securing the drain line**

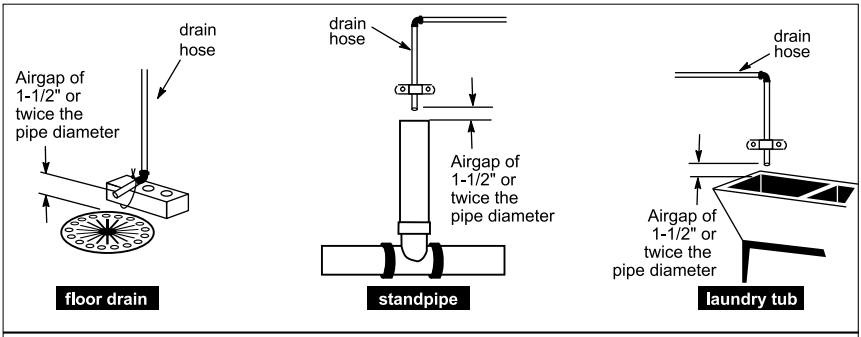
to the floor, wall or ceiling to avoid this thrashing of piping. Our patent pending Backwash Air cycle greatly reduces the chance of this occurring but should not be the only means of protection.

Where the drain line is elevated but empties into a drain below the level of the control valve, form a 18cm loop at the discharge end of the line so that the bottom of the loop is level with the drain connection on the control valve. This will provide an adequate anti-siphon trap. Piping the drain line overhead 3m is normally not a problem. Be sure adequate pressure is available (2.7-4.0 bar is recommended). Where the drain empties into an overhead sewer line, a sink-type trap must be used. Run drain to its discharge point in accordance with plumbing codes. Pay special attention to codes for air gaps and anti-siphon devices.

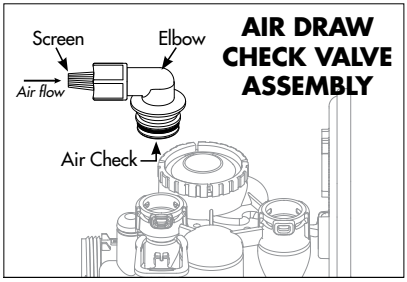
CAUTION: Never insert a drain line into a drain, sewer line, or trap. Always allow an air gap between the drain line and the wastewater to prevent the possibility of sewage being back-siphoned into the conditioner.

8. **Check valve:** All air systems include an internal check valve and screen assembly as part of the air draw system **(see diagram at right).** This check valve, screen, and elbow are exclusive to the air system and are not to be confused or interchanged with a brine elbow used on a softener. The gray color of the elbow indicates use with an air system vs. a black elbow which indicates use with a water softeners.

NOTE: Under certain conditions (finished basements, utility room, etc.)it may be advisable to disconnect the screen and run a 3/8" line close to a drain, in case of check valve failure and water leakage.

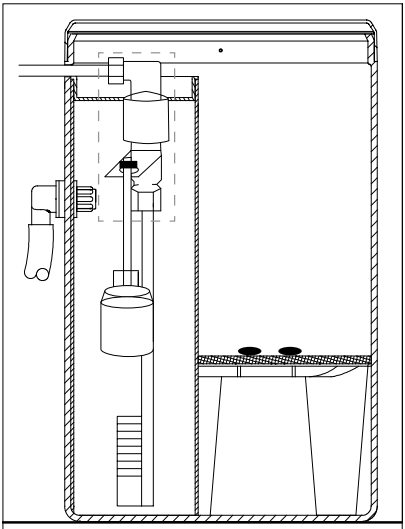


TYPICAL DRAIN LINE INSTALLATIONS



9. Disinfection of system:
In situations where additional disinfection is needed, due to high levels of iron or sulfur bacteria, this may be accomplished with a small chlorine feeder (see diagram at right). It can be used in conjunction with air systems and is used to control bacterial growth within the filter vessel itself. It is not used to control bacteria downstream of the filter nor for disinfection of the water itself. Chlorine disinfection is not used with some medias such as Birm. Please consult distributor or factory for more details.

This tank operates much the same way a brine tank does with a water softener. A small amount of water is added to the tank just prior to regeneration, which comes into contact with the chlorine pellets, dissolves them and is then drawn into the filter to disinfect the system periodically and then safely rinsed away. We recommend the use of pellets manufactured by Better Water Industries, available through the manufacturer or your local distributor.



CHLORINE FEEDER TANK

To Dealer:

CAUTION: On certain Evolve air models, the Backwash Air cycle is not available when using the chlorine feeder tank. Drain line must be of rigid materials and affixed securely to floor, wall or ceiling. See Drain Line instructions.

This tank has many intended uses. If chlorine is being used, add only two or three pellets (two or three grams) of chlorine at a time. We recommend Better Water Industries chlorine pellets. Do not overfill container. Use rubber gloves when handling pellets. Always read safety precautions of chemical container before adding to tank.

If chlorine is being used, never add or mix any chemical in chlorine tank other than chlorine. Always read safety precautions on container before adding any chemical to this tank. Only use in well ventilated area. Chlorine fumes can be corrosive and harmful. Inhalation of chlorine gas can be deadly. Use drip pan underneath tank in case of corrosion or leaking of tank. Always install an overflow line to the chlorine tank and run to an appropriate drain. Do not connect drain from filter to this tank. Drains should remain separate.

4. PROGRAMMING PROCEDURES

4.1 SET TIME OF DAY

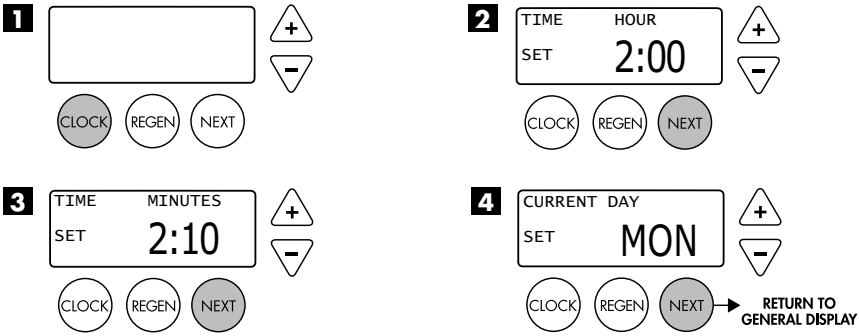
Time of day should only need to be set after extended power outages or when daylight saving time begins or ends. If an extended power outage occurs, the time of day will flash on and off indicating that the time should be reset.

STEP 1 – Press **SET CLOCK.**

STEP 2 – CURRENT TIME (HOUR): Set the hour of the day using **+** or **—** buttons. Press **NEXT** to go to step 3.

STEP 3 – CURRENT TIME (MINUTES): Set the minutes using **+** or **—** buttons. If it is desired to back up to the previous step press **REGEN** button once. Press **NEXT** to go to step 4.

STEP 4 – CURRENT DAY: Set the day of the week using **+** or **—** buttons. Pressing **NEXT** will exit **SET CLOCK** and return to the general operating display.



4.2 PROGRAMMING

NOTE: The manufacturer has preset the unit so that the capacity between regenerations will be automatically calculated after the hardness is entered.

STEP 1 – Press **NEXT** and **+** simultaneously for 3 seconds.

STEP 2 – HARDNESS: Will not show because the manufacturer programmed the system to regenerate every 4000 l or every 3 days as the default.

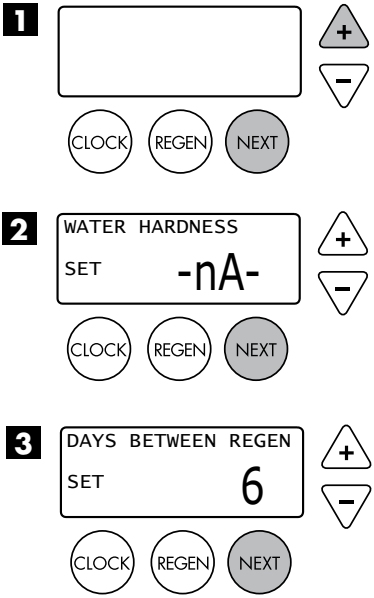
NOTE: This display will show "–nA– (not available)" if "FILTER" is selected.

Press **NEXT** to go to step 3.

Press **REGEN** if you want to exit.

STEP 3 – DAYS BETWEEN REGENERATION (DAY OVERRIDE): The manufacturer has factory set 6 DAYS as the default. This is the maximum number of days between regenerations. If this is set to "OFF", regeneration initiation is based solely on volumetric used. If any number is set (allowable range from 1 to 28), a regeneration initiation will be called for on that day even if a sufficient number of litres were not used to call for a regeneration.

Set Day Override using **+** or **—** buttons (6 is recommended):



- set number of days between regeneration (1 to 28); or
- set to "OFF"

NOTE: This valve has the capability of regenerating up to six times in one day.

This can be observed by pressing the **CLOCK** and **+** buttons simultaneously, then using **+** or **—** buttons to toggle the correct number of regenerations per day as desired (see example on page 14). Press **NEXT** to set the times per day or select "OFF" to return to Days Between Regen. These settings are typically used in commercial settings.

Press **NEXT** to go to step 4. Press **REGEN** to return to the previous step.

STEP 4 – REGENERATION HOUR: The manufacturer has factory set 2:00 as the default. This is the hour of day for regeneration and can be reset by using + or — buttons. The default time is 2:00 (recommended for a normal household).

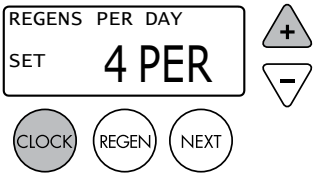
Press **NEXT** to go to step 5. Press **REGEN** to return to the previous step.

STEP 5 – REGENERATION MINUTES: Set the minutes using + or — buttons. Press **NEXT** to go to step 6. Press REGEN to return to previous step. To initiate an immediate manual regeneration, press and hold the **REGEN** button for three seconds. The system will begin to regenerate immediately. The control may be manually stepped through the regeneration cycles by pressing **REGEN**.

Press **NEXT** to go to step 6. Press **REGEN** to return to the previous step.

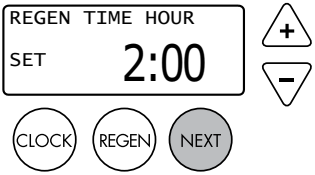
STEP 6 – SERVICE ALARM VOLUME: The manufacturer has factory set "OFF" as the default. This feature is used to signal service into the future. This is typically set by the installing dealer to warn homeowner that service is required after a period of time has

STEP 7 – SERVICE ALARM TIME: The manufacturer has factory set "OFF" as the default. This feature is used to signal service into the future. This is typically set by the installing dealer to warn homeowner that service is required after a period of time has



Example: Indicates unit set to regen 4 times in one day.

4



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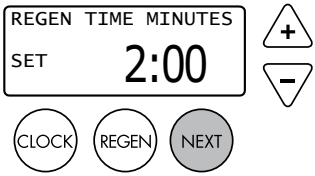

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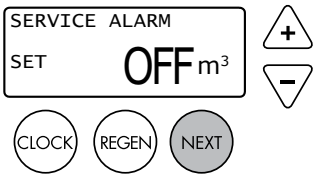


Join our mission.
Make water count.

passed. If the feature is active, a specific number of days will appear.

Press **NEXT** three times to advance past this screen.

STEP 8 – ALARM BUZZER: The manufacturer has factory set "ON" as the default. An alarm will sound (at the indicated time) after a regeneration, if there is no salt or if another error has occurred. Turn the alarm "OFF" or "ON" using the + or — buttons. Press **NEXT.**

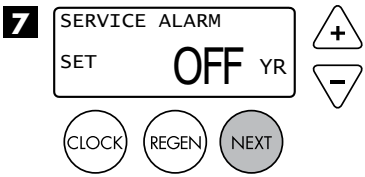
NOTE: This feature allows you to program the time in which the alarm buzzer will sound, permitting the installer to pick a time when the owner will be home or awake to hear it.

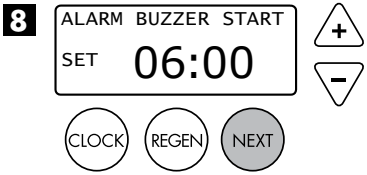
Setting Alarm Buzzer Start Time: Press + or — button to select the correct hour the buzzer is to start sounding. Press **NEXT.**

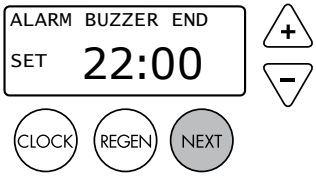
Setting Alarm Buzzer End Time: Press + or — button to select the correct hour the buzzer is to stop sounding in the day. Press **NEXT.**

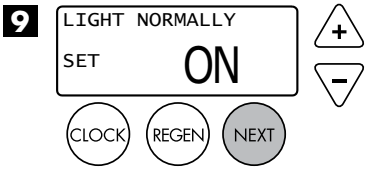
STEP 9 – DISPLAY BACKLIGHT: The manufacturer has factory set "ON" as the default. Turn the light "OFF" or "ON" using the + or — buttons. "OFF" will turn display backlight off after five minutes of keypad inactivity.

Press **NEXT** to exit installer programming.









5. START-UP INSTRUCTIONS

5.1 FLUSHING OF SYSTEM

To flush the system of any debris and air after installation is complete, please perform the following steps:

1. Rotate bypass handles to the bypass mode **(see Fig. 2 of page 6).**
2. Turn on inlet water and check for leaks in the newly installed plumbing.
3. Fully open a cold water faucet, preferable at a laundry sink or bathtub without an aerator.
4. Wait two to three minutes or until water runs clear, then turn water off and follow start-up instructions.

System regeneration sequence is in the following order. Some sequence differences may be noticed depending upon local conditions. (If it is desired to change this sequence, please refer to the Dealer Manual or contact the manufacturer.)

Sequencing for Various Filters:

Air Filters

1. Backwash Air
2. Backwash
3. Regenerant Draw Down (Air draw)
4. Return to service

Backwashing Filters

1. Backwash
2. Rinse
3. Backwash
4. Rinse
5. Return to service

Inch Worm Feature: Evolve air units are programmed with the backwash air cycle feature (nicknamed “inch worm”). This unique feature allows for small movements or “inching” of the piston towards the backwash cycle. As the piston approaches this cycle, the backwash port opens slightly with each advancement, allowing air to escape to drain.

This cycle is ten very small mini steps of the piston which take place thirty seconds apart. Usually midway between the ten positions, the air begins to be released very slowly to the drain in normal operating conditions.

When first starting up an air sulfur or air iron, it is advised to step through these positions and go to the normal backwash cycle in order to fill the unit.

To advance in Backwash Air cycle:

1. Pushing the **NEXT** button will advance to each of the ten mini steps within the backwash air cycle. While there are usually eight steps to this

cycle, the valve may make two or three movements for each step. Wait for these movements to complete before pressing **NEXT** again.

2. Pushing and holding the **REGEN** button for three seconds while in the Backwash Air cycle will skip the remaining mini steps and proceed to the next cycle of regeneration which is usually Backwash.

The system is now ready for filling with water and for testing.

1. Place the bypass valve into the bypass mode **(Fig. 2 on page 6).**

2. Press and hold the **REGEN** button until the motor starts. Release button. Put the valve into "BACKWASH" position. (Please see note above.) Unplug the transformer so that the valve will not cycle to the next position. Open the inlet handle of the bypass valve very slightly allowing water to fill the tank slowly in order to expel air.

CAUTION: If water flows too rapidly, there will be a loss of media to the drain. Certain medias such as carbon, or other dry media, should not be backwashed immediately for extended periods of time. These medias need to "soak" in the water for a 24-hour period prior to full backwash conditions.

Media is dry and filling with water too quickly in backwash will result in media plugging the drain and valve assembly.

3. When the water is flowing steadily to the drain without the presence of air, slowly open the inlet valve. Restore power and momentarily press the **REGEN** button to advance the control to the "REGENERANT DRAW DOWN" position.

4. With the bypass still in the diagnostic mode **(Fig. 3 on page 6),** there should be a slow flow to the drain.

5. Press REGEN button in sequence until display returns to "TIME." Place bypass valve in the normal operating mode **(Fig. 1 on page 6)** by opening the outlet bypass handle.

6. Go to laundry tub or bathtub faucet, preferable a faucet without an aerator, and turn on cold water. Let the water run.

Note the color of water coming from faucet. If discolored, let water run until clear. If severely discolored, place unit into "BACKWASH" position (step 2) and run water to the system's drain until clear.

Note: At no time should there by large particles of media noticed at faucet or laundry tub. If this is seen, immediately shut off water and bypass system, as this could be an indication of a distributor failure. Contact manufacturer or distributor for assistance.

7. Place unit into regeneration again and allow to complete cycle. Upon completion, unit will be regenerated and will deliver treated water.

6. OPERATING DISPLAYS AND INSTRUCTIONS

The air sulfur and air iron filter systems look and function much like any backwashing whole house filter; however, unlike these conventional filters, they use air as a regenerant. This atmospheric air (containing oxygen) helps convert iron or hydrogen sulfide into particles. These filters capture the particles of iron or hydrogen sulfide gas within the filter media. Your dealer has recommended the proper media depending on your local water conditions. In some cases where an acidic water condition (low pH) is present, the media may need to be periodically replenished if using this filter to raise the pH to an acceptable level. Consult dealer for this service. The system is prefactory set to regenerate every (3) three days at midnight. The frequency and start time of backwash/regeneration is adjustable to meet local operating conditions and contaminant levels. Total backwash and recharge time is normally one half hour.

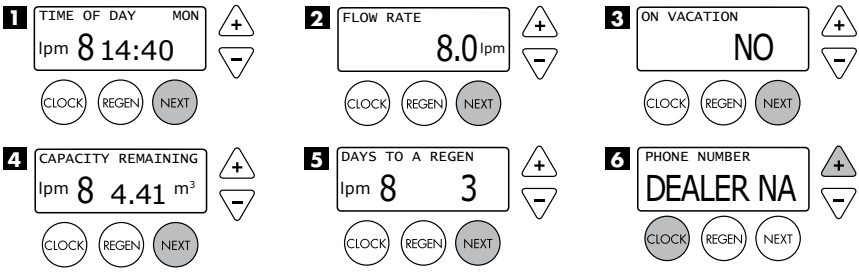
1. **General operation:** When the system is operating, one of five displays may be shown and will alternate with the installing dealer's name and phone number for future service. Pressing **NEXT** will alternate between the displays.

1. CURRENT TIME OF DAY and lpm
2. FLOW RATE which is the current treated water flow rate through the system in litres Per Minute
3. VACATION MODE allows the system to be "shut down" when there will be no water usage for an extended period of time
4. CAPACITY REMAINING which is the capacity that will be treated before the system signals a regeneration cycle
5. DAYS TO A REGEN is the number of days left before the system goes through a regeneration cycle, based on the days override value
6. DEALER NAME AND PHONE NUMBER is the dealer information to call when service is needed (this screen will only appear if set by dealer)

If the system has called for a regeneration that will occur at the preset time of regeneration, the words "REGEN TODAY" will appear on the display.

If a water meter is installed, "lpm" flashes on the display when water is being treated, indicating litres per minute going through the system.

The user can scroll between the displays as desired.

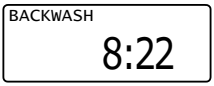


2. **Vacation mode:** This feature may be used to "shut down" the system while on vacation. The manufacturer has factory set "OFF" as the default. Turn feature "OFF" or "ON" using the + or — buttons. When turned "ON", the unit will not regenerate while there is no water usage. Once water usage is observed (minimum of 190l), the unit will automatically regenerate that night and resume normal operation.

CAUTION: Depending on the severity of water conditions and the length of no water usage, it may not be recommended to use this feature. Please contact dealer or manufacturer for more information.

3. **Regeneration mode:** Typically a system is set to regenerate at a time of no water usage. If there is a demand for water when the system is regenerating, untreated water will be delivered. When the system begins to regenerate, the display will 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.

REGENERATION MODE



4. **Manual regeneration:** Sometimes there is a need to regenerate before the control valve calls for it. This may be needed if a period of heavy water use is anticipated.

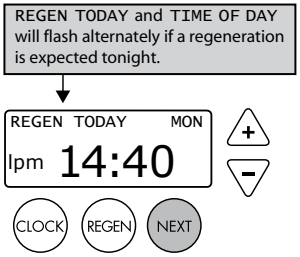
- To initiate a manual regeneration at the next preset regeneration time, press and release **REGEN**. The words "REGEN TODAY" will flash on the display to indicate that the system will regenerate at the next regeneration time (set in

Programming, steps 4 and 5). If you pressed the **REGEN** button in error, pressing the button again will cancel the command.

- To initiate a manual regeneration immediately, press and hold the **REGEN** button for three seconds. The system will begin to regenerate immediately. **This command cannot be cancelled.**

Once a manual regeneration is initiated, the unit will enter the first regeneration cycle. Once the unit advances to its first position and subsequent positions thereafter (see Start Up Instructions for regeneration sequence), the water filter will deliver water, but it will be untreated.

MANUAL REGENERATION

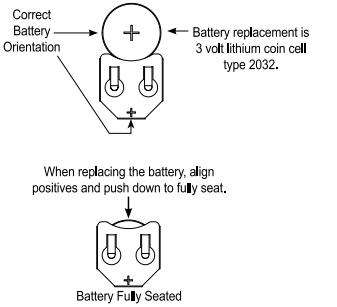


5. **Power loss and battery replacement:** The transformer comes with a 5 metres power cord and is designed for use with the control valve; the transformer should only be used in a dry location.

In the event of a power outage, the control valve will remember all settings and time of day. If an extended power outage occurs, the control valve will keep time of day until the battery is depleted. When the battery becomes depleted, the only item that needs to be reset is the time of day and will be indicated by the time of day flashing or by a blank screen. All other settings are permanently stored in the nonvolatile memory.

If a power loss occurs and the time of day flashes or a blank screen occurs, this indicates that the battery is depleted. The time of day should be reset and the nonrechargeable battery should be replaced. The battery is a 3 Volt Lithium Coin Cell type 2032 and is readily available at most stores. To access battery location, remove front cover.

BATTERY REPLACEMENT

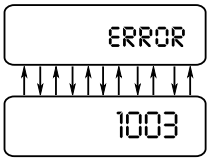


6. **Audible alarm:** This control valve is equipped with an audible alarm and visual alarm. This alarm is set by the installing dealer and is used to warn of pending service, based on gallons or time.

To turn off alarm: If the audible alarm sounds, press any button on the face of the control valve to turn off and call the dealer for service.

To reset: Both the volume alarm setting and time alarm setting are reset together by pushing and holding the + and – simultaneously for three seconds.

ERROR



7. **Error message:** If the word "ERROR" appears and flashes alternately with the dealer name and phone number, record the ERROR number and your contact servicing dealer promptly. This indicates that the control valve was not able to function properly.

8. **Chlorine tank and maintenance:** In severe cases where iron or sulfate bacteria conditions exist, the dealer may have installed a chlorine tank with your system **(see diagram, page 7).**

These bacteria are harmless to human health, however they can produce a slime and occasionally an odor that can be a nuisance. Filters equipped with a chlorine tank will periodically draw a chlorinated water solution into the filter tank killing these unwanted bacteria within the filter itself. The chlorine is rinsed from the system during the regeneration process. More specifically, a small amount of water will be added to the tank just prior to regeneration; this comes in contact with the chlorine pellets, dissolves them, and is drawn into the filter to disinfect the system periodically.

Periodically check storage tank and add two or three chlorine tablets (two or three grams) at a time.

CAUTION: This tank has many intended uses. If chlorine is being used, only add two or three pellets (two or three grams) of chlorine at a time. Do not overfill container. Use rubber gloves when handling pellets. Always read safety precautions of chemical container before adding to tank. Keep out of reach of children!

If chlorine is being used, never add or mix any chemical in chlorine tank other than chlorine. Only use in well ventilated area. Chlorine gas can be corrosive and harmful.

Inhalation of chlorine gas can be deadly. Use drip pan underneath tank in case of corrosion or leaking of tank.

7. TROUBLESHOOTING GUIDE

PROBLEM	CAUSE	CORRECTION
1. No display on PC board	A. No power at electric outlet	A. Repair outlet or use working outlet
	B. Control valve power adapter not plugged into outlet or power cord end not connected to PC board connection	B. Plug power adapter into outlet or connect power cord end to PC board connection
	C. Improper power supply	C. Verify proper voltage is being delivered to PC board
	D. Defective power adapter	D. Replace power adapter
	E. Defective PC board	E. Replace PC board
	F. Dead battery	F. Replace battery
2. PC board does not display correct time of day	A. Power adapter plugged into electric outlet controlled by light switch	A. Use uninterrupted outlet
	B. Tripped breaker switch and/or tripped GFI	B. Reset breaker switch and/or GFI switch
	C. Power outage	C. Reset time of day. If PC board has battery back up present the battery may be depleted. See front cover and drive assembly drawing for instructions.
	D. Defective PC board	D. Replace PC board
3. Display does not indicate that water is flowing. Refer to user instructions for how the display indicates water is flowing.	A. Bypass valve in bypass position	A. Turn bypass handles to place bypass in service position
	B. Meter is not connected to meter connection on PC board	B. Connect meter to three pin connection labeled METER on PC board
	C. Restricted/stalled meter turbine	C. Remove meter and check for rotation or foreign material
	D. Meter wire not installed securely into three pin connector	D. Verify meter cable wires are installed securely into three pin connector labeled METER
	E. Defective meter	E. Replace meter
	F. Defective PC board	F. Replace PC board

PROBLEM	CAUSE	CORRECTION
4. Control valve regenerates at wrong time of day	A. Power outage	A. Reset time of day. If PC board has battery back up present the battery may be depleted. See front cover and drive assembly drawing for instructions.
	B. Time of day not set correctly	B. Reset to correct time of day
	C. Time of regeneration set incorrectly	C. Reset regeneration time
	D. Control valve set at “on 0” (immediate regeneration)	D. Check programming setting and reset to NORMAL (for a delayed regen time)
	E. Control valve set at “NORMAL + on 0” (delayed and/or immediate)	E. Check programming setting and reset to NORMAL (for a delayed regen time)
5. Time of day flashes on and off	A. Power outage	A. Reset time of day. If PC board has battery back up present the battery may be depleted. See front cover and drive assembly drawing for instructions.
6. Control valve does not regenerate automatically when the correct button(s) is depressed and held. For timeclock valves the buttons are ▲ & ▼. For all other valves the button is REGEN.	A. Broken drive gear or drive cap assembly	A. Replace drive gear or drive cap assembly
	B. Broken piston rod	B. Replace piston rod
	C. Defective PC board	C. Defective PC board
7. Control valve does not regenerate automatically but does when the correct button(s) is depressed and held. For timeclock valves the buttons are ▲ & ▼. For all other valves the button is REGEN.	A. Bypass valve in bypass position	A. Turn bypass handles to place bypass in service position
	B. Meter is not connected to meter connection on PC board	B. Connect meter to three pin connection labeled METER on PC board
	C. Restricted/stalled meter turbine	C. Remove meter and check for rotation or foreign material
	D. Incorrect programming	D. Check for programming error
	E. Meter wire not installed securely into three pin connector	E. Verify meter cable wires are installed securely into three pin connector labeled METER
	F. Defective meter	F. Replace meter
	G. Defective PC board	G. Replace PC board

PROBLEM	CAUSE	CORRECTION
8. Hard or untreated water is being delivered	A. Bypass valve is open or faulty	A. Fully close bypass valve or replace
	B. Media is exhausted due to high water usage	B. Check program settings or diagnostics for abnormal water usage
	C. Meter not registering	C. Remove meter and check for rotation or foreign material
	D. Water quality fluctuation	D. Test water and adjust program values accordingly
	E. No regenerant or low level of regenerant in regenerant tank	E. Add proper regenerant to tank
	F. Control fails to draw in regenerant	F. Refer to Troubleshooting Guide number 12
	G. Insufficient regenerant level in regenerant tank	G. Check refill setting in programming. Check refill flow control for restrictions or debris and clean or replace
	H. Damaged seal/stack assembly	H. Replace seal/stack assembly
	I. Control valve body type and piston type mix matched	I. Verify proper control valve body type and piston type match
	J. Fouled media bed	J. Replace media bed
9. Control valve uses too much regenerant	A. Improper refill setting	A. Check refill setting
	B. Improper program settings	B. Check program setting to make sure they are specific to the water quality and application needs
	C. Control valve regenerates frequently	C. Check for leaking fixtures that may be exhausting capacity or system is undersized
10. Residual regenerant being delivered to service	A. Low water pressure	A. Check incoming water pressure – water pressure must remain at minimum of 1.7 bar
	B. Incorrect injector size	B. Replace injector with correct size for the application
	C. Restricted drain line	C. Check drain line for restrictions or debris and clean

PROBLEM	CAUSE	CORRECTION
11. Excessive water in regenerant tank	A. Improper program settings	A. Check refill setting
	B. Plugged injector	B. Remove injector and clean or replace
	C. Drive cap assembly not tightened in properly	C. Retighten the drive cap assembly
	D. Damaged seal/stack assembly	D. Replace seal/stack
	E. Restricted or kinked drain line	E. Check drain line for restrictions or debris and or unkink drain line
	F. Plugged backwash flow controller	F. Remove backwash flow controller and clean or replace
	G. Missing refill flow controller	G. Replace refill flow controller
12. Control valve fails to draw in regenerant	A. Injector is plugged	A. Remove injector and clean or replace
	B. Faulty regenerant piston	B. Replace regenerant piston
	C. Regenerant line connection leak	C. Inspect regenerant line for air leak
	D. Drain line restriction or debris cause excess back pressure	D. Inspect drain line and clean to correct restriction
	E. Drain line too long or too high	E. Shorten length and or height
	F. Low water pressure	F. Check incoming water pressure – water pressure must remain at minimum of 1.7 bar
13. Water running to drain	A. Power outage during regeneration	A. Upon power being restored control will finish the remaining regeneration time. Reset time of day. If PC board has battery back up present the battery may be depleted. See front cover and drive assembly drawing for instructions.
	B. Damaged seal/stack assembly	B. Replace seal/stack assembly
	C. Piston assembly failure	C. Replace piston assembly
	D. Drive cap assembly not tightened in properly	D. Retighten the drive cap assembly

PROBLEM	CAUSE	CORRECTION
14. E1, Err – 1001, Err – 101 = Control unable to sense motor movement	A. Motor not inserted fully to engage pinion, motor wires broken or disconnected	A. Disconnect power, make sure motor is fully engaged, check for broken wires, make sure two pin connector on motor is connected to the two pin connection on the PC board labeled MOTOR. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC board for 5 seconds and then reconnect.
	B. PC board not properly snapped into drive bracket	B. Properly snap PC board into drive bracket and then Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC board for 5 seconds and then reconnect.
	C. Missing reduction gears	C. Replace missing gears
	D. Board unable to read middle reduction gear	D. Check foil on reduction gear; make sure no film is covering foil on reduction gear
	E. Defective Optical Encoder	E. Replace PC board
15. E2, Err – 1002, Err – 102 = Control valve motor ran too short and was unable to find the next cycle position and stalled	A. Foreign material is lodged in control valve	A. Open up control valve and pull out piston assembly and seal/stack assembly for inspection. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC board for 5 seconds and then reconnect.
	B. Mechanical binding	B. Check piston and seal/stack assembly, check reduction gears, check drive bracket and main drive gear interface. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC board for 5 seconds and then reconnect.
	C. Main drive gear too tight	C. Loosen main drive gear. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC board for 5 seconds and then reconnect.

PROBLEM	CAUSE	CORRECTION
	D. Improper voltage being delivered to PC board	D. Verify that proper voltage is being supplied. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC board for 5 seconds and then reconnect.
	E. Valve type is programmed incorrectly	E. Verify valve body and program PC board to match
16. E3, Err – 1003, Err – 103 = Control valve motor ran too long and was unable to find the next cycle position	A. Motor failure during a regeneration	A. Check motor connections then Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC board for 5 seconds and then reconnect.
	B. Foreign matter built up on piston and stack assemblies creating friction and drag enough to time out motor	B. Replace piston and stack assemblies. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC board for 5 seconds and then reconnect.
	C. Drive bracket not snapped in properly and out enough that reduction gears and drive gear do not interface	C. Snap drive bracket in properly then Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC board for 5 seconds and then reconnect.
17. E4, Err – 1004, Err – 104 = Control valve motor ran too long and timed out trying to reach home position	A. Drive bracket not snapped in properly and out enough that reduction gears and drive gear do not interface	A. Snap drive bracket in properly then Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC board for 5 seconds and then reconnect.

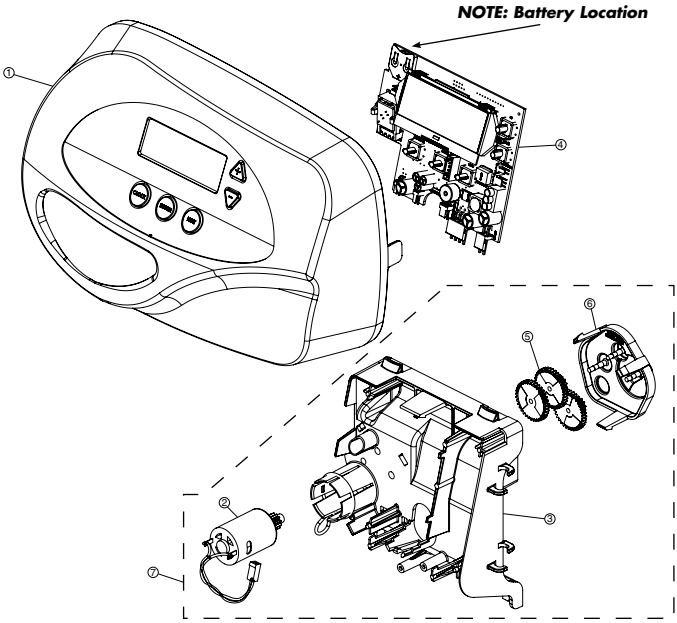
PROBLEM	CAUSE	CORRECTION
18. Err -1006, Err – 106, Err - 116 = MAV/ SEPS/ NHBP/ AUX MAV valve motor ran too long and unable to find the proper park position **Motorized Alternating Valve = MAV** **Separate Source = SEPS** **No Hard Water Bypass = NHBP** **Auxiliary MAV = AUX MAV**	A. Control valve programmed for ALT A or B, nHbP, SEPS, or AUX MAV with out having a MAV or NHBP valve attached to operate that function	A. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC board for 5 seconds and then reconnect. Then reprogram valve to proper setting
	B. MAV/NHBP motor wire not connected to PC board	B. Connect MAV/NHBP motor to PC board two pin connection labeled DRIVE. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC board for 5 seconds and then reconnect.
	C. MAV/NHBP motor not fully engaged with reduction gears	C. Properly insert motor into casing, do not force into casing Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC board for 5 seconds and then reconnect.
	D. Foreign matter built up on piston and stack assemblies creating friction and drag enough to time out motor	D. Replace piston and stack assemblies. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC board for 5 seconds and then reconnect.
19. Err – 1007, Err – 107, Err - 117 = MAV/ SEPS/ NHBP/AUX **MAV valve motor ran too short (stalled) while looking for proper park position** **Motorized Alternating Valve = MAV** **Separate Source = SEPS** **No Hard Water Bypass = NHBP** **Auxiliary MAV = AUX MAV**	A. Foreign material is lodged in MAV/NHBP valve	A. Open up MAV/NHBP valve and check piston and seal/ stack assembly for foreign material. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC board for 5 seconds and then reconnect.

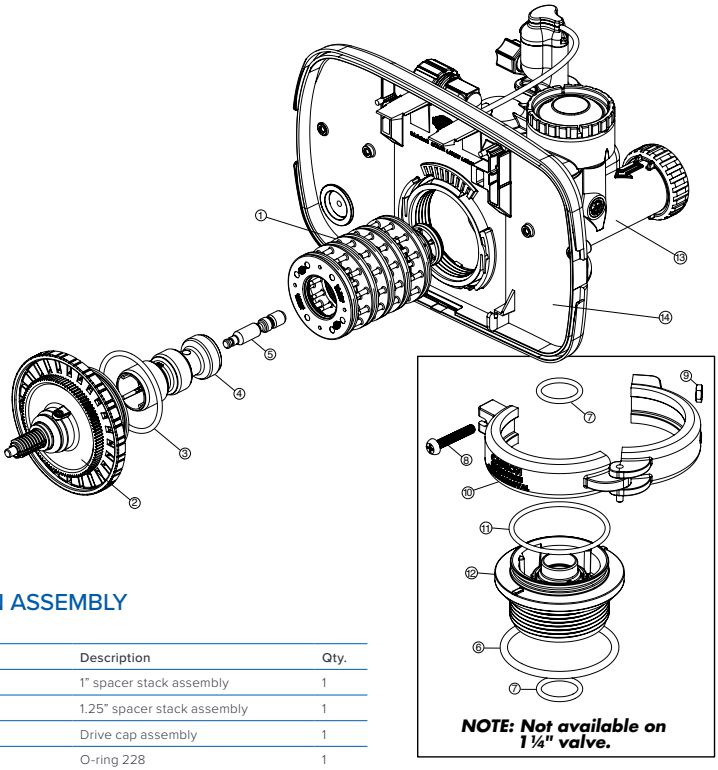
PROBLEM	CAUSE	CORRECTION
	B. Mechanical binding	B. Check piston and seal/stack assembly, check reduction gears, drive gear interface, and check MAV/NHBP black drive pinion on motor for being jammed into motor body. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC board for 5 seconds and then reconnect.
20. Err – 109	A. Invalid motor state detected	A. Replace PC board
21. Err – 201	A. Invalid regeneration cycle step detected	A. Replace PC board
22. Err – 204 = Leak detected	A. Occurs when dP input is active for "ALARM" and the input is closed. The alarm buzzer will activate and the screen will display the error.	A. Check for low flow leak. Press NEXT and REGEN buttons for 3 seconds to resynchronize software with piston position or disconnect power supply from PC Board for 5 seconds and then reconnect to clear error.
23. Err – 402 = Power Down Memory	A. Diagnostic memory failure during power down	A. Replace PC board
24. Err – 403 = Program Memory	A. Occurs when new software is flashed to a PC board	A. Factory resets this error not seen in the field
25. Err – 404 = Diagnostic Memory	A. Corrupt diagnostic display information is stored in the memory	A. Replace PC board
26. Err – 410 = Configurator Download	A. Not seen in the field	A. Occurs when downloading an invalid configuration file

8. REPLACEMENT PARTS

8.1 FRONT COVER AND DRIVE ASSEMBLY

Item No.	Part No.	Description	Qty.
1	CV3367-01-A	Black cover	1
	CV3367- 01-WR-A	Gray cover	1
2	V3107-1	Motor	1
3	V3106 -1	Drive bracket & spring clip	1
4	CV4022WV-04	Evolve PLUS PC board (standard)	1
5	V3110	Drive gear, 12 x 36	3
6	V3109	Drive gear cover	1
7	V3002CC	Drive assembly, CC	-
not shown	V3526	Transformer, 110V-15V, DC	1
	V3186EU-06	Transformer 110V-15V DC	
	V3684-WR-GLD	Optional weather cover	1



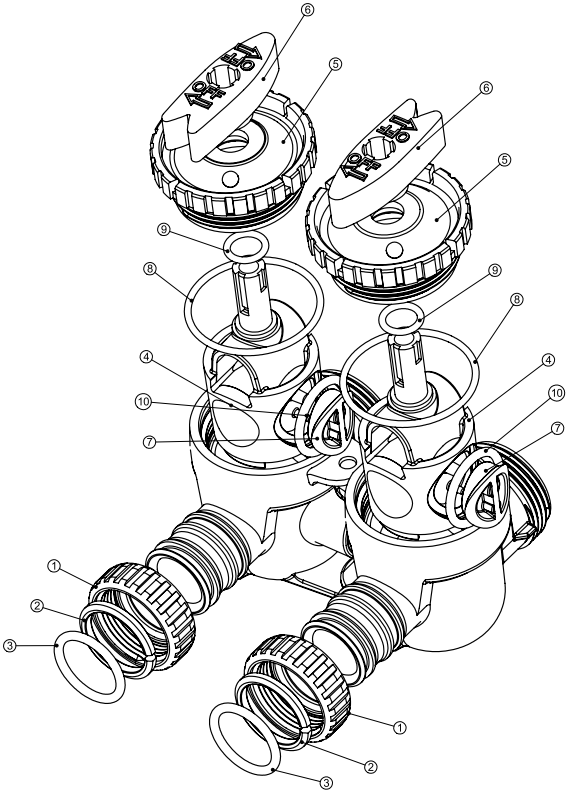


8.2 PISTON ASSEMBLY

Item No.	Part No.	Description	Qty.
1	V3005	1" spacer stack assembly	1
	V3430	1.25" spacer stack assembly	1
2	V3004	Drive cap assembly	1
3	V3135	O-ring 228	1
4	V3011	1" piston assembly downflow	1
	V3011-01	1" piston assembly upflow	1
	V3407	1.25" piston assembly downflow	1
5	V3174	Regenerant piston	1
6	V3180	O-ring 337	1
7	V3105	O-ring 215	1
	V3358	O-ring 219, 1.25" distributor	1
8	CV3556	Screw, 1/4-20x1-1/2 18-8SS	1
9	CCI-00318337	Nut, 1/4-20 HEX 18-8SS	1
10	CV3016	QC2 clamp assembly (includes screw & nut)	1
11	V3452	O-ring 230	1
12	CV3015	WS1 QC2 tank adapter assembly (includes O-rings)	1
13	CV3001-04	1" body assembly downflow	1
	CV3020	1.25" body assembly downflow	1
14	CV3368	Drive backplate	1

8.3 BYPASS ASSEMBLY

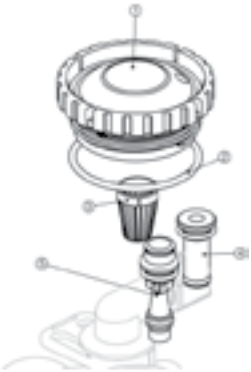
Item No.	Part No.	Description	Qty.
1	V3151	Nut, 1" quick connect	2
2	V3150	Split ring	2
3	V3105	O-ring 215	2
4	V3145	Bypass rotor, 1"	2
5	V3146	Bypass cap	2
6	V3147	Bypass handle	2
7	V3148	Bypass rotor seal retainer	2
8	V3152	O-ring 135	2
9	V3155	O-ring 112	2
10	V3156	O-ring 214	2



8.4 INJECTOR ASSEMBLIES

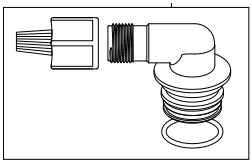
Item No.	Part No.	Description	Qty.
1	V3176	Injector cap	1
2	V3152	O-ring 135	1
3	V3177-01	Injector screen	1
4	V3010-1Z	Injector assembly plug	1
5	V3010-1B	B injector assembly, BROWN	1
	V3010-1C	C injector assembly, VIOLET	
	V3010-1D	D injector assembly, RED	
	V3010-1E	E injector assembly, WHITE	
	V3010-1F	F injector assembly, BLUE	
	V3010-1G	G injector assembly, YELLOW	
	V3010-1H	H injector assembly, GREEN	
	V3010-1I	I injector assembly, ORANGE	
	V3010-1J	J injector assembly, LIGHT BLUE	
	V3010-1K	K injector assembly, LIGHT GREEN	
not shown	V3170	O-ring 011, lower	*
not shown	V3171	O-ring 013, upper	*

* The injector plug and the injector each use one lower and one upper o-ring



8.5 CHECK VALVE ASSEMBLY

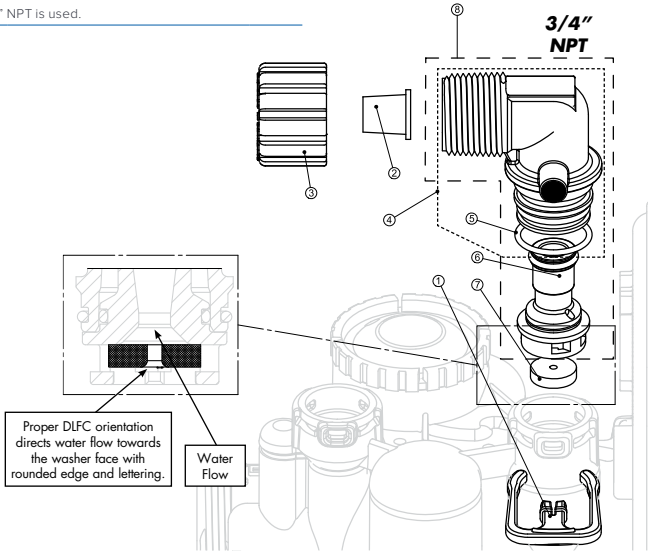
Item No.	Part No.	Description	Qty.
1	CH4642-WR-A	Air check valve assembly	1



8.6 DRAIN LINE ASSEMBLY 3/4”

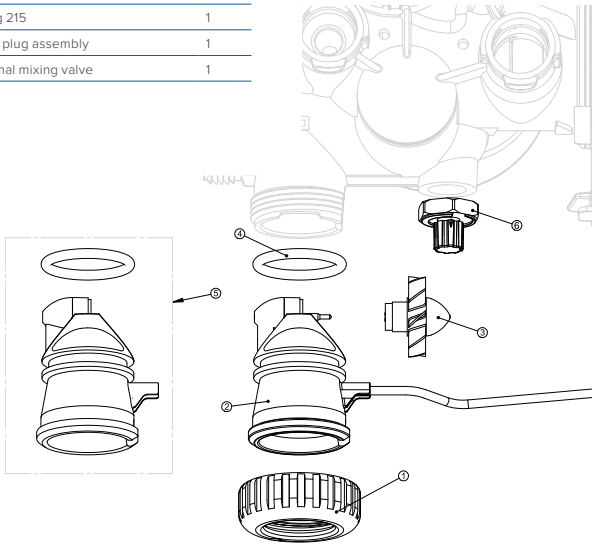
Item No.	Part No.	Description	Qty.
1	H4615	Elbow locking clip	1
2	PKP10TS8-BULK	Optional insert, 5/8” tube	1
3	V3192	Optional nut, 3/4” drain elbow	1
4	V3158-02	Drain elbow, 3/4” NPT with O-ring	1
5	V3163	O-ring 019	1
6	V3159-01	DLFC retainer assembly	1
7	V3162-007	0.7 DLFC for 3/4” elbow	1
	V3162-010	1.0 DLFC for 3/4” elbow	
	V3162-013	1.3 DLFC for 3/4” elbow	
	V3162-017	1.7 DLFC for 3/4” elbow	
	V3162-022	2.2 DLFC for 3/4” elbow	
	V3162-027	2.7 DLFC for 3/4” elbow	
	V3162-032	3.2 DLFC for 3/4” elbow	
	V3162-042	4.2 DLFC for 3/4” elbow	
	V3162-053	5.3 DLFC for 3/4” elbow	
	V3162-065	6.5 DLFC for 3/4” elbow	
	V3162-075	7.5 DLFC for 3/4” elbow	
	V3162-090	9.0 DLFC for 3/4” elbow	
	V3162-100	10.0 DLFC for 3/4” elbow	
8	V3331	Drain elbow and retainer assembly	

Items 2 and 3, nut and insert are only used with 1/2” I.D. by 5/8” O.D. polytubing.
For other piping material, the 3/4” NPT is used.



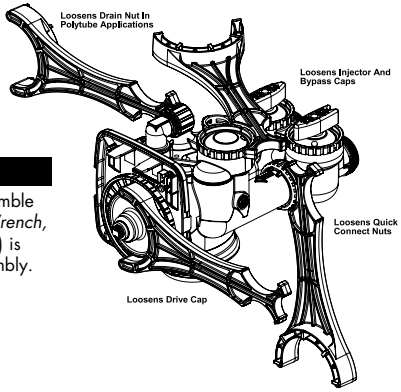
8.7 WATER METER & METER PLUG

Item No.	Part No.	Description	Qty.
1	V3151	Nut, 1" QC	1
2	V3003	Meter assembly, includes items 3 & 4	1
3	V3118-01	Turbine assembly	1
4	V3105	O-ring 215	1
5	V3003-01	Meter plug assembly	1
6	V3013	Optional mixing valve	1

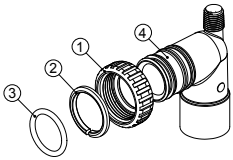


SERVICE WRENCH - CV3193-02

Although no tools are necessary to assemble or disassemble the valve, the *Service Wrench,* (shown in various positions on the valve) is available to aid in assembly or disassembly.

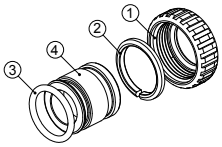


9. INSTALLATION FITTING ASSEMBLIES



Order No: V3007-01
Description: WS1 Fitting 3/4" & 1" PVC Solvent 90° ASY

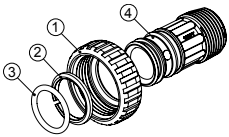
Item No.	Part No.	Description	Qty.
1	V3151	WS1 NUT 1" QUICK CONNECT	2
2	V3150	WS1 SPLIT RING	2
3	V3105	O-RING 215	2
4	V3189	WS1 FITTING ¾&1 PVC SOLVENT 90	2



Order No: V3007-03LF
Description: WS1 Fitting 3/4" Brass Sweat Assembly LF

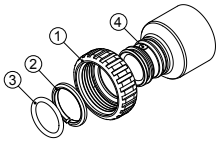
Item No.	Part No.	Description	Qty.
1	V3151	WS1 NUT 1" QUICK CONNECT	2
2	V3150	WS1 SPLIT RING	2
3	V3105	O-RING 215	2
4	V3188-01LF	WS1 FITTING ¾ BRASS SWEAT LF	2

Do not install in California.



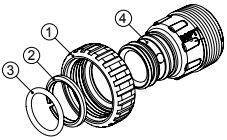
Order No: V3007-06
Description: WS1 Fitting 1" Plastic Male BSPT Assembly

Item No.	Part No.	Description	Qty.
1	V3151	WS1 NUT 1" QUICK CONNECT	2
2	V3150	WS1 SPLIT RING	2
3	V3105	O-RING 215	2
4	V3316	WS1 FITTING 1" PLASTIC MALE BSPT	2



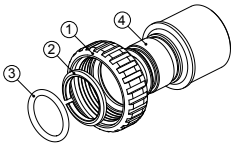
Order No: V3007-07
Description: WS1 Fitting 1-1/4" & 1-1/2" PVC Solvent Assembly

Item No.	Part No.	Description	Qty.
1	V3151	WS1 NUT 1" QUICK CONNECT	2
2	V3150	WS1 SPLIT RING	2
3	V3105	O-RING 215	2
4	V3352	WS1 FITTING 1-1/4"&1-1/2" PVC SOLVENT	2



Order No. V3007-08
Description: WS1 Fitting 1-1/4" Plastic Male BSPT Assembly

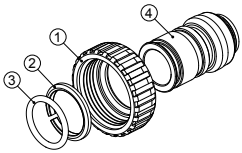
Item No.	Part No.	Description	Qty.
1	V3151	WS1 NUT 1" QUICK CONNECT	2
2	V3150	WS1 SPLIT RING	2
3	V3105	O-RING 215	2
4	V3361	WS1 FITTING 1-1/4" PLASTIC MALE BSPT	2
4	CV3164	Fitting	2



Order No: V3007-09LF
Description: WS1 Fitting 1-1/4" & 1-1/2" Brass Sweat Assembly LF

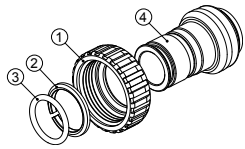
Item No.	Part No.	Description	Qty.
1	V3151	WS1 NUT 1" QUICK CONNECT	2
2	V3150	WS1 SPLIT RING	2
3	V3105	O-RING 215	2
4	V3375-LF	WS1 FITTING 1-1/4" & 1-1/2" BRASS SWEAT LF	2
4	CV3317	Fitting	2

Join our mission.
Make water count.



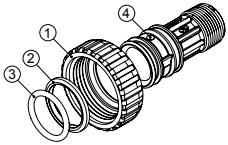
Order No. V3007-12LF
Description: WS1 Fitting 3/4" Brass SharkBite Assembly LF

Item No.	Part No.	Description	Qty.
1	V3151	WS1 NUT 1" QUICK CONNECT	2
2	V3150	WS1 SPLIT RING	2
3	V3105	O-RING 215	2
4	V3628-LF	WS1 FTG 3/4 BRASS SHARKBITE LF	2



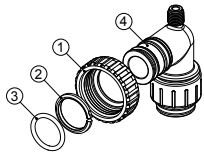
Order No. V3007-13LF
Description: WS1 Fitting 1" Brass SharkBite Assembly LF

Item No.	Part No.	Description	Qty.
1	V3151	WS1 NUT 1" QUICK CONNECT	2
2	V3150	WS1 SPLIT RING	2
3	V3105	O-RING 215	2
4	V3629-LF	WS1 FTG 1" BRASS SHARKBITE LF	2



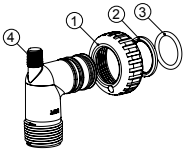
Order No. V3007-14
Description: WS1 Fitting 3/4" Plastic Male BSPT Assembly

Item No.	Part No.	Description	Qty.
1	V3151	WS1 NUT 1" QUICK CONNECT	2
2	V3150	WS1 SPLIT RING	2
3	V3105	O-RING 215	2
4	V3594	WS1 FITTING 3/4" PLASTIC MALE BSPT	2



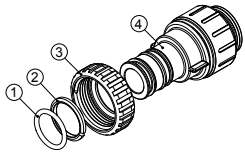
Order No. V3007-15
Description: WS1 FTG 3/4 JG QC 90 ASY

Item No.	Part No.	Description	Qty.
	V3151	WS1 NUT 1 QC	2
2	V3150	WS1 SPLIT RING	2
3	V3105	O-RING 215	2
4	V3790	WS1 ELBOW 3/4 QC W/ STEM	2



Order No. V3007-16
Description: WS1 Fitting 1" Male BSPT Elbow Assembly

Item No.	Part No.	Description	Qty.
1	V3151	WS1 NUT 1" QUICK CONNECT	2
2	V3150	WS1 SPLIT RING	2
3	V3105	O-RING 215	2
4	V3797	WS1 FTG 1" MALE BSPT ELBOW	2



Order No. V3007-17
Description: WS1 FTG 1" JG QC ASY

Item No.	Part No.	Description	Qty.
1	V3105	O-RING 215	2
2	V3150	WS1 SPLIT RING	2
3	V3151	WS1 NUT 1 QC	2
4	V4045	WS1 FTG 1 INCH QC	2

10. EVOLVE SERIES

10.1 EVOLVE AIR FILTER BIRM

Description

Air birm filters are extremely effective in removing iron, commonly associated with problem well water. These innovative designs use a unique air-injection filtering technology to oxidize iron into precipitates that can be readily filtered and removed. Evolve Units Air are environmentally safe - no toxic chemicals are used like in other systems. The result is simply refreshingly good water from the tap, every time.

Features

- Removes iron
- Eliminates red staining
- Reduces turbidity

Evolve AIR 1”

Reference	Config	Item Name	Flow rate			BW perf.
			0,5 - 2 ppm Fe - 12 m/h	2,5 - 3 ppm Fe - 10 m/h	3,5 - 4 ppm Fe - 8 m/h	25 m/h
5321017286	SUK000344	Evolve 1" - Air Filter Birm 30	0,6 m^3/h	0,5 m^3/h	0,4 m^3/h	1,3 m^3/h
5321017287	SUK000345	Evolve 1" - Air Filter Birm 60	1,0 m^3/h	0,9 m^3/h	0,7 m^3/h	2,1 m^3/h
5321017288	SUK000346	Evolve 1" - Air Filter Birm 80	1,3 m^3/h	1,1 m^3/h	0,9 m^3/h	2,7 m^3/h
5321017289	SUK000347	Evolve 1" - Air Filter Birm 100	1,5 m^3/h	1,3 m^3/h	1,0 m^3/h	3,1 m^3/h

Evolve AIR 1.25”

Reference	Config	Item Name	Flow rate			BW perf.
			0,5 - 2 ppm Fe - 12 m/h	2,5 - 3 ppm Fe - 10 m/h	3,5 - 4 ppm Fe - 8 m/h	25 m/h
5321017290	SUK000348	Evolve 1.25" - Air Filter Birm 30	0,6 m^3/h	0,5 m^3/h	0,4 m^3/h	1,3 m^3/h
5321017291	SUK000349	Evolve 1.25" - Air Filter Birm 60	1,0 m^3/h	0,9 m^3/h	0,7 m^3/h	2,1 m^3/h
5321017292	SUK000350	Evolve 1.25" - Air Filter Birm 80	1,3 m^3/h	1,1 m^3/h	0,9 m^3/h	2,7 m^3/h
5321017293	SUK000351	Evolve 1.25" - Air Filter Birm 100	1,5 m^3/h	1,3 m^3/h	1,0 m^3/h	3,1 m^3/h
5321017294	SUK000352	Evolve 1.25" - Air Filter Birm 150	2,1 m^3/h	1,7 m^3/h	1,4 m^3/h	4,3 m^3/h

Evolve AIR 1.5”

Reference	Config	Item Name	Flow rate			BW perf.
			0,5 - 2 ppm Fe - 12 m/h	2,5 - 3 ppm Fe - 10 m/h	3,5 - 4 ppm Fe - 8 m/h	25 m/h
5321017295	SUK000715	Evolve 1.5" - Air Filter Birm 100	1,5 m^3/h	1,3 m^3/h	1,0 m^3/h	3,1 m^3/h
5321017296		Evolve 1.5" - Air Filter Birm 150	2,1 m^3/h	1,7 m^3/h	1,4 m^3/h	4,3 m^3/h
5321017297	SUK000511	Evolve 1.5" - Air Filter Birm 200	2,8 m^3/h	2,4 m^3/h	1,9 m^3/h	5,9 m^3/h
5321017298	SUK000453	Evolve 1.5" - Air Filter Birm 250	3,5 m^3/h	2,9 m^3/h	2,3 m^3/h	7,3 m^3/h

For units starting from 1,5", the check valve for the inlet is not included.

Evolve AIR 2.0”

Reference	Config	Item Name	Flow rate			BW perf.
			0,5 - 2 ppm Fe - 12 m/h	2,5 - 3 ppm Fe - 10 m/h	3,5 - 4 ppm Fe - 8 m/h	25 m/h
5321017299		Evolve 2.0" - Air Filter Birm 200	2,8 m^3/h	2,4 m^3/h	1,9 m^3/h	5,9 m^3/h
5321017300		Evolve 2.0" - Air Filter Birm 250	3,5 m^3/h	2,9 m^3/h	2,3 m^3/h	7,3 m^3/h
5321017301	SUK000405	Evolve 2.0" - Air Filter Birm 400	5,6 m^3/h	4,7 m^3/h	3,7 m^3/h	11,9 m^3/h

For units starting from 1,5", the check valve for the inlet is not included.

10.2 EVOLVE AIR FILTER CENTAUR

Description

Air Sulfur Filters are extremely effective in removing hydrogen sulfide, commonly associated with problem well water. These innovative designs use a unique air-injection filtering technology to oxidize sulfur into precipitates that can be readily filtered and removed. Evolve Air Units are environmentally safe - no toxic chemicals are used like in other systems. The results is simply refreshingly good water from the tap, every time.

Features

- Removes sulfur
- Removes ‘rotten egg’ smell
- Reduces turbidity

Evolve AIR 1”

Reference	Config	Item Name	Flow rate			BW perf.
			0,5 - 2 ppm Fe - 12 m/h	2,5 - 3 ppm Fe - 10 m/h	3,5 - 4 ppm Fe - 8 m/h	25 m/h
5321020001	SUK000353	Evolve 1" - Air Filter Centaur 30	0,6 m^3/h	0,5 m^3/h	0,4 m^3/h	1,3 m^3/h
5321020002	SUK000354	Evolve 1" - Air Filter Centaur 60	1,0 m^3/h	0,9 m^3/h	0,7 m^3/h	2,1 m^3/h
5321020003	SUK000355	Evolve 1" - Air Filter Centaur 80	1,3 m^3/h	1,1 m^3/h	0,9 m^3/h	2,7 m^3/h
5321020004	SUK000356	Evolve 1" - Air Filter Centaur 100	1,5 m^3/h	1,3 m^3/h	1,0 m^3/h	3,1 m^3/h

Evolve AIR 1.25”

Reference	Config	Item Name	Flow rate			BW perf.
			0,5 - 2 ppm Fe - 12 m/h	2,5 - 3 ppm Fe - 10 m/h	3,5 - 4 ppm Fe - 8 m/h	25 m/h
5321020005	SUK000357	Evolve 1.25" - Air Filter Centaur 30	0,5 m^3/h	0,5 m^3/h	0,4 m^3/h	1,3
5321020006	SUK000358	Evolve 1.25" - Air Filter Centaur 60	1,0 m^3/h	0,9 m^3/h	0,7 m^3/h	2,1 m^3/h
5321020007	SUK000359	Evolve 1.25" - Air Filter Centaur 80	1,3 m^3/h	1,1 m^3/h	0,9 m^3/h	2,7 m^3/h
5321020008	SUK000360	Evolve 1.25" - Air Filter Centaur 100	1,5 m^3/h	1,3 m^3/h	1,0 m^3/h	3,1 m^3/h
5321020009	SUK000361	Evolve 1.25" - Air Filter Centaur 150	2,1 m^3/h	1,7 m^3/h	1,4 m^3/h	4,3 m^3/h

Evolve AIR 1.5”

Reference	Config	Item Name	Flow rate			BW perf.
			0,5 - 2 ppm Fe - 12 m/h	2,5 - 3 ppm Fe - 10 m/h	3,5 - 4 ppm Fe - 8 m/h	25 m/h
5321020010		Evolve 1.5" - Air Filter Centaur 100	1,5 m^3/h	1,3 m^3/h	1,0 m^3/h	3,1 m^3/h
5321020011		Evolve 1.5" - Air Filter Centaur 150	2,1 m^3/h	1,7 m^3/h	1,4 m^3/h	4,3 m^3/h
5321020012		Evolve 1.5" - Air Filter Centaur 200	2,8 m^3/h	2,4 m^3/h	1,9 m^3/h	5,9 m^3/h
5321020013		Evolve 1.5" - Air Filter Centaur 250	3,5 m^3/h	2,9 m^3/h	2,3 m^3/h	7,3 m^3/h

For units starting from 1,5", the check valve for the inlet is not included.

Evolve AIR 2.0”

Reference	Config	Item Name	Flow rate			BW perf.
			0,5 - 2 ppm Fe - 12 m/h	2,5 - 3 ppm Fe - 10 m/h	3,5 - 4 ppm Fe - 8 m/h	25 m/h
5321020014		Evolve 2.0" - Air Filter Centaur 200	2,8 m^3/h	2,4 m^3/h	1,9 m^3/h	4,3 m^3/h
5321020015		Evolve 2.0" - Air Filter Centaur 250	3,5 m^3/h	2,9 m^3/h	2,3 m^3/h	5,9 m^3/h
5321020016	SUK000713	Evolve 2.0" - Air Filter Centaur 400	5,6 m^3/h	4,7 m^3/h	3,7 m^3/h	11,9 m^3/h

For units starting from 1,5", the check valve for the inlet is not included.

10.3 EVOLVE AIR FILTER HYDROX

Description

Hydrox Air Filters are extremely effective in removing Iron, Hydrogen sulfide and Manganese. These innovative designs use a unique air-injection filtering technology to oxidize sulfur into precipitates that can be readily filtered and removed. Evolve Air Units are environmentally safe - no toxic chemicals are used like in other systems. The results is simply refreshingly good water from the tap, every time

Features

- Superior performance
- Smaller tanks
- Conserves water

Evolve AIR 1”

Reference	Config	Item Name	Flow rate			Min. BW perf.
			0,5 - 2,0 ppm Fe - 24 m/h	2,1 - 3,0 ppm Fe - 20 m/h	3,1 - 4 ppm Fe - 16 m/h	
5321030001	SUK000680	Evolve 1" - Air Filter Hydrox 30	1,3 m^3/h	1,1 m^3/h	0,8 m^3/h	1,9 m^3/h
5321030002	SUK000681	Evolve 1" - Air Filter Hydrox 60	2,1 m^3/h	1,7 m^3/h	1,4 m^3/h	3 m^3/h
5321030003	SUK000682	Evolve 1" - Air Filter Hydrox 80	2,6 m^3/h	2,1 m^3/h	1,7 m^3/h	3,8 m^3/h

Evolve AIR 1.25”

Reference	Config	Item Name	Flow rate			Min. BW perf.
			0,5 - 2,0 ppm Fe - 24 m/h	2,1 - 3,0 ppm Fe - 20 m/h	3,1 - 4 ppm Fe - 16 m/h	
5321030004	SUK000683	Evolve 1.25" - Air Filter Hydrox 30	1,3 m^3/h	1,1 m^3/h	0,8 m^3/h	1,9 m^3/h
5321030005	SUK000684	Evolve 1.25" - Air Filter Hydrox 60	2,1 m^3/h	1,7 m^3/h	1,4 m^3/h	3 m^3/h
5321030006	SUK000685	Evolve 1.25" - Air Filter Hydrox 80	2,6 m^3/h	2,1 m^3/h	1,7 m^3/h	3,8 m^3/h
5321030007	SUK000686	Evolve 1.25" - Air Filter Hydrox 100	3 m^3/h	2,5 m^3/h	2 m^3/h	4,4 m^3/h

Evolve AIR 1.5”

Reference	Config	Item Name	Flow rate			Min. BW perf.
			0,5 - 2,0 ppm Fe - 24 m/h	2,1 - 3,0 ppm Fe - 20 m/h	3,1 - 4 ppm Fe - 16 m/h	
5321030008	SUK000687	Evolve 1.5" - Air Filter Hydrox 100	3 m^3/h	2,5 m^3/h	2 m^3/h	4,4 m^3/h
5321030009	SUK000679	Evolve 1.5" - Air Filter Hydrox 150	4,2 m^3/h	3,5 m^3/h	2,4 m^3/h	6,1 m^3/h
5321030010	SUK000688	Evolve 1.5" - Air Filter Hydrox 200	5,7 m^3/h	4,7 m^3/h	3,8 m^3/h	8,3 m^3/h

For units starting from 1,5", the check valve for the inlet is not included

Evolve AIR 2”

Reference	Config	Item Name	Flow rate			Min. BW perf.
			0,5 - 2,0 ppm Fe - 24 m/h	2,1 - 3,0 ppm Fe - 20 m/h	3,1 - 4 ppm Fe - 16 m/h	
5321030011	SUK000689	Evolve 2" - Air Filter Hydrox 200	5,7 m^3/h	4,7 m^3/h	3,8 m^3/h	8,3 m^3/h
5321030012	SUK000690	Evolve 2" - Air Filter Hydrox 250	7,0 m^3/h	5,8 m^3/h	4,7 m^3/h	10,2 m^3/h

For units starting from 1,5", the check valve for the inlet is not included

10.4 EVOLVE AIR FILTER HYDROX

Description

Hydrox Air Filters are extremely effective in removing Iron, Hydrogen sulfide and Manganese. These innovative designs use a unique air-injection filtering technology to oxidize sulfur into precipitates that can be readily filtered and removed. Evolve Air Units are environmentally safe - no toxic chemicals are used like in other systems. The results is simply refreshingly good water from the tap, every time

Features

- Superior performance
- Smaller tanks
- Conserves water

Evolve AIR 1”

Reference	Config	Item Name	Flow rate			Min. BW perf.
			0,5 - 2,0 ppm Fe - 24 m/h	2,1 - 3,0 ppm Fe - 20 m/h	3,1 - 4 ppm Fe - 16 m/h	
5321070001	SUK001601	Evolve 1" - Air Filter Hydrox 30	1,3 m^3/h	1,1 m^3/h	0,8 m^3/h	1,9 m^3/h
5321070002		Evolve 1" - Air Filter Hydrox 60	2,1 m^3/h	1,7 m^3/h	1,4 m^3/h	3 m^3/h
5321070003		Evolve 1" - Air Filter Hydrox 80	2,6 m^3/h	2,1 m^3/h	1,7 m^3/h	3,8 m^3/h

Evolve AIR 1.25”

Reference	Config	Item Name	Flow rate			Min. BW perf.
			0,5 - 2,0 ppm Fe - 24 m/h	2,1 - 3,0 ppm Fe - 20 m/h	3,1 - 4 ppm Fe - 16 m/h	
5321070004		Evolve 1.25" - Air Filter Hydrox 30	1,3 m^3/h	1,1 m^3/h	0,8 m^3/h	1,9 m^3/h
5321070005		Evolve 1.25" - Air Filter Hydrox 60	2,1 m^3/h	1,7 m^3/h	1,4 m^3/h	3 m^3/h
5321070006		Evolve 1.25" - Air Filter Hydrox 80	2,6 m^3/h	2,1 m^3/h	1,7 m^3/h	3,8 m^3/h
5321070007	SUK001602	Evolve 1.25" - Air Filter Hydrox 100	3 m^3/h	2,5 m^3/h	2 m^3/h	4,4 m^3/h

Evolve AIR 1.5”

Reference	Config	Item Name	Flow rate			Min. BW perf.
			0,5 - 2,0 ppm Fe - 24 m/h	2,1 - 3,0 ppm Fe - 20 m/h	3,1 - 4 ppm Fe - 16 m/h	
5321070008		Evolve 1.5" - Air Filter Hydrox 100	3 m^3/h	2,5 m^3/h	2 m^3/h	4,4 m^3/h
5321070009		Evolve 1.5" - Air Filter Hydrox 150	4,2 m^3/h	3,5 m^3/h	2,4 m^3/h	6,1 m^3/h
5321070010		Evolve 1.5" - Air Filter Hydrox 200	5,7 m^3/h	4,7 m^3/h	3,8 m^3/h	8,3 m^3/h

For units starting from 1,5", the check valve for the inlet is not included

Evolve AIR 2”

Reference	Config	Item Name	Flow rate			Min. BW perf.
			0,5 - 2,0 ppm Fe - 24 m/h	2,1 - 3,0 ppm Fe - 20 m/h	3,1 - 4 ppm Fe - 16 m/h	
5321070011		Evolve 2" - Air Filter Hydrox 200	5,7 m^3/h	4,7 m^3/h	3,8 m^3/h	8,3 m^3/h
5321070012		Evolve 2" - Air Filter Hydrox 250	7,0 m^3/h	5,8 m^3/h	4,7 m^3/h	10,2 m^3/h

For units starting from 1,5", the check valve for the inlet is not included

11. CERTIFICATION

DECLARATION OF CONFORMITY
DECLARATION DE CONFORMITE
OVEREENKOMSTIGHEIDSVERKLARING
DECLARACIÓN DE CONFORMIDAD
DICHIARAZIONE DI CONFORMITÀ
KONFORMITATSERKLARUNG

Suko nv,
manufacturer of the following unit, specified in the Technical Sheets,
fabricant de l'appareil suivant, indiqué dans les fiches techniques ,
fabrikant van de volgende eenheid, gespecificeerd in de technische fiches ,
fabricante de la unidad siguiente, especificada en las fichas técnicas ,
produttore delle seguenti unità, specificato nelle schede tecniche ,
Hersteller der folgenden Einheit, in den technischen Datenblättern angegeben,

Evolve Series Air filters

declares that this unit conplies with the requirements of the directives :
déclare que cet appareil est conforme aux exigences des directives :
verklaart dat dit apparaat voldoet aan de vereisten van de richtlijnen :
declara que esta unidad cumple con los requisitos de las directivas :
dichiara che questo apparecchio è conforme ai requisiti delle direttive :
erklärt, dass dieses Gerät den Anforderungen der Richtlinien :

- ☐ 2014/30/UE Electromagnetic Compatibility
- ☐ 2014/35/UE Low Voltage Directive
- ☐ 2006/42/EC Machinery Directive
- ☐ 2011/65/EC Rohs directive

- ☐ 2014/68/EU Pressure Equipment Directive
- ☐ 2012/19/EU WEEE - Directive

Keerbergen, 23 October 2018

Peter Clinckemalie
General Manager

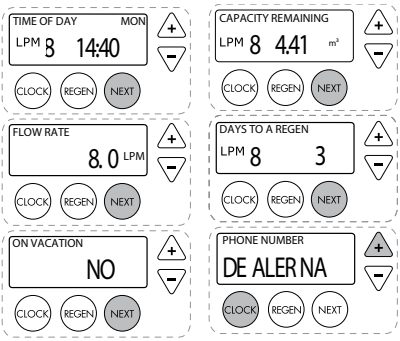
Join our mission.
Make water count.

12. QUICK REFERENCE GUIDE

12.1 GENERAL OPERATION

When the system is operating, one of six displays will be shown:

1. time of day/lpm
2. flow rate
3. vacation mode
4. capacity remaining
5. days to a regen
6. dealer name and phone number

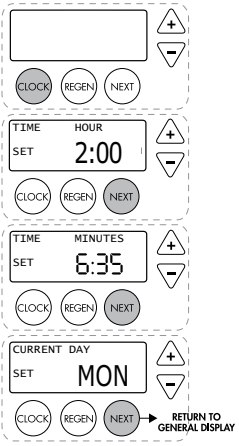


Pressing **NEXT** will toggle between the six choices

12.2 TO SET TIME OF DAY

In the event of a prolonged power outage, time of day flashes, indicating that this needs to be reset All other information will be stored in memory no matter how long the power outage

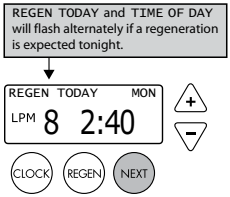
1. Accessed by pressing **SET CLOCK**
2. Adjust hours with + and — buttons
3. Press **NEXT**
4. Adjust minutes with + and — buttons
5. Press **NEXT**
6. Adjust current day with + and — buttons
7. Press **NEXT** to complete and return to normal operation



12.3 MANUAL REGENERATION

NOTE: If brine tank does not contain salt, fill with salt and wait at least 90 minutes before regeneration If you need to initiate a manual regeneration, either immediately, or the same night at the preprogrammed time for regeneration, complete the following steps.

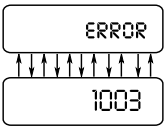
For Immediate Regeneration: Press and hold **REGEN** until valve motor starts (typically 3 seconds)



For Regeneration the same night: Press and release **REGEN** (notice that flashing "REGEN TODAY" appears).

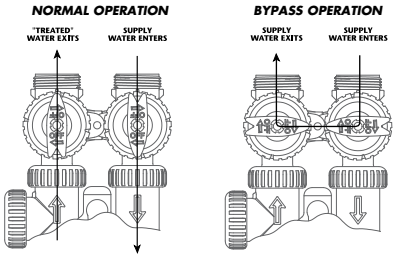
12.4 ERROR

If the display toggles between "Error" and an error code (i e a number), call a service technician and report the error code.



12.5 BYPASS VALVE OPERATION

To shut off water to the system, position arrow handles as shown in the bypass operation diagram below If your valve doesn't look like the diagram below, contact your service technician for instructions on how to shut off water.

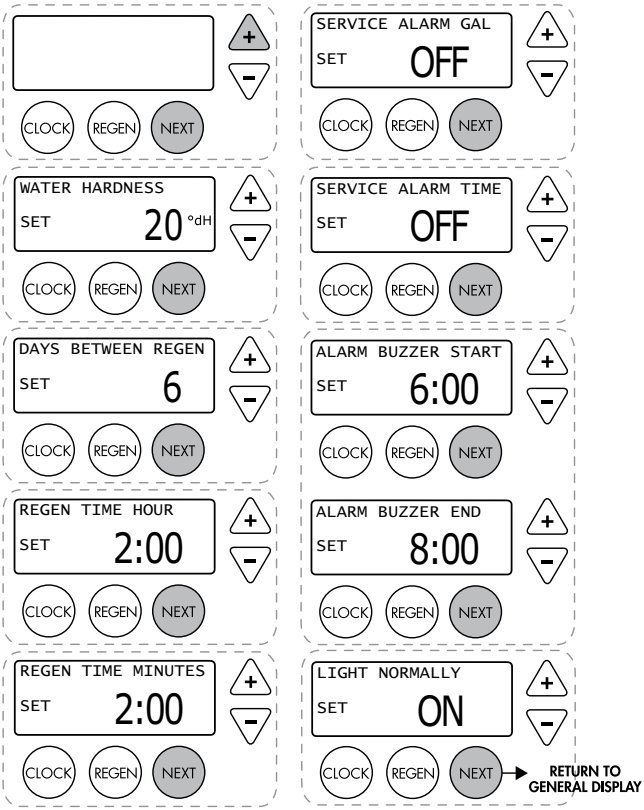


12.6 ADJUST HARDNESS, DAYS BETWEEN REGENERATION, TIME OF REGENERATION AND ALARM BUZZER

For initial set-up or to make adjustments, please complete the following steps

1. Accessed by pressing **NEXT** and + button simultaneously
2. Adjust hardness using + and — buttons
3. Press **NEXT**
4. Adjust days between regenerations using + and — buttons
5. Press **NEXT**
6. Adjust time of regeneration hour with + and — buttons
7. Press **NEXT**
8. Adjust time of regeneration minutes with + and — buttons
9. Press **NEXT**
10. Turn service alarm time ON with + and — buttons Default is OFF
11. Press **NEXT** twice

12. Turn service alarm volume ON with + and — buttons Default is OFF
13. Press **NEXT** twice
14. Turn alarm buzzer ON or OFF with + and — buttons
15. Press **NEXT**
16. Adjust alarm buzzer start time with + and — buttons
17. Press **NEXT**
18. Adjust alarm buzzer end time with + and — buttons
19. Press **NEXT**
20. Turn display backlight ON or OFF with + and — buttons Default is ON
21. Press **NEXT** to complete and return to normal operation



Evolve Air Filter