



INSTALLATION AND USE MANUAL

AQUA SOFT GREEN TECH MAXI MINI





FILTRATION - DOSING - DETERGENT & HYGIENE - POOL EQUIPMENT

**DECLARATION OF CONFORMITY**

Company:	AQUA S.p.A.
Address:	Via T. Crotti, 1 - 42018 - San Martino in Rio (RE)

Hereby declares that the products named:

• AQUA SOFT GREEN TECH

Responds to the principal features of the following European Directives:

- **2014/30/CE of 26/02/2014** - *Harmonization of the laws of the Member States relating to electromagnetic compatibility – EMC Directive*
- **2014/35/CE of 26/02/2014** - *Harmonization of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits – Low Voltage Directive*
- **2011/65/UE of 08/06/2011 with subsequent update 2015/863 of 31/03/2015** - *ROHS III Directives*
- **2012/19/UE of 04/07/2012** - *WEEE Directives for electrical and electronic waste*

This declaration is issued under the responsibility of Aqua S.p.A.

San Martino in Rio (RE) - 14 settembre 2020

Davide Vezzani
Certification Manager - Aqua S.p.A.





FILTRATION - DOSING - DETERGENT & HYGIENE - POOL EQUIPMENT

TEST STATEMENT UNDER THE DECREE LAW N° 174

According to the DL N° 174 dated 6 TH April 2004 "Regulation concerning material and all devices that can be used in fixed filtration plants such as treatment and distribution of water for human use"

Company:	AQUA S.p.A.
Address:	Via T. Crotti, 1 - 42018 - San Martino in Rio (RE)

Declares that:

1) Global and/or Specific migration tests of the following products lines have been done successfully.

FAMILY PRODUCT	
FAMILY CODE	ARTICLE DESCRIPTION
A99300...	AQUA SOFT GREEN TECH MINI
A99310...	AQUA SOFT GREEN TECH MAXI

2) The monomers raw material we use, are all listed in the positive IIIa (3a) and IIIb (3b) file, DL N° 174 dated 6 TH April

3) Migration test reports of the above articles are available in AQUA spa.

San Martino in Rio (RE) on 07 december 2020
Davide Vezzani - Certification Manager



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Dear Customer,

first of all we want to thank you for your confidence in purchasing our product a.

The softener you have purchased has been designed and developed using our best technology.

This equipment is suitable for the treatment of cold water, in rooms protected from the ice and with a maximum ambient temperature of 30 ° C.

Each product is fully checked and packed individually.

GENERAL INFORMATION

This Installation and Use Manual relates to the AQUA SOFT GREEN TECH product, a family of cationic resin softeners suitable for the treatment of drinking water hardness. The models available are the following:

Modello <i>Model</i>	Formato bombola <i>Pressure vessel size</i>	Capacità resina (Lt)* <i>Resin capacity (Lt)*</i>	Capacità ciclica (M ³ /°F) <i>Cyclic capacity (M³/°F)</i>	Consumo medio di sale per rigenerazione (Gr) <i>Average salt consumption per regeneration (Gr)</i>	Portata consigliata (m ³ /h) <i>Flow-Rate recommended (m³/h)</i>
Aqua Soft Green Tech Mini	7"x17"	4,5	31,5	540	1,0
	8"x17"	5,5	38,5	660	1,5
	10"x17"	8,0	56,0	960	2,0

Modello <i>Model</i>	Formato bombola <i>Pressure vessel size</i>	Capacità Resina (Lt)* <i>Resin capacity (Lt)*</i>	Capacità ciclica (M ³ /°F) <i>Cyclic capacity (M³/°F)</i>	Consumo medio di sale per rigenerazione (Gr) <i>Average salt consumption per regeneration (Gr)</i>	Portata consigliata (m ³ /h) <i>Flow-Rate recommended (m³/h)</i>
Aqua Soft Green Tech Maxi	7"x35"	14,5	101,5	1740	2,5
	8"x35"	18,0	126,0	2160	3,0
	10"x35"	28,0	196,0	3360	3,0
	10"x44"	37,5	262,5	4500	4,0
	10"x54"	48,0	336,0	5760	5,0

This Installation and use manual is to be considered part of the same product for the lifetime of the product, even if transferred to third parties, until the demolition and disposal of the same. All rights of reproduction and dissemination of this Installation and Use and the accompanying documentation, are reserved to the manufacturer.

The purpose of this manual is to:

- In order to get the best performance of the product, it is recommended to strictly follow the instructions in this manual to be carefully read and understood in its entirety.
- It is recommended to install the water softener by a professional technician.
- Do not install the softener on a water whose temperature is above 50 ° C.

The guarantee becomes invalid if the softener freezes or if the resin is deteriorated by water that is too hot.

- You should place the softener close to a drain to discharge the water used in the regeneration cycle as well as an overflow compartment of salt.
- This softener can not be used to treat water microbiological quality does not comply with the law or with unknown characteristics.

Do not plug directly into your water softener of a well, rainwater or water from a borehole without prior treatment to conform.

In case of abnormal use of the device as mentioned above, the guarantees may not apply. In caso di uso anomalo dell'apparecchio come citato qui sopra, le garanzie non potranno essere applicate.



The European Directive 2002/96 / EC requires that all electrical and electronic equipment are disposed of in accordance with the requirements on waste electrical and electronic equipment. This directive or similar laws are in force nationally and can vary from region to region. Please refer to provincial laws and local know the procedures for the disposal of this equipment.

INSTALLATION REQUIREMENTS

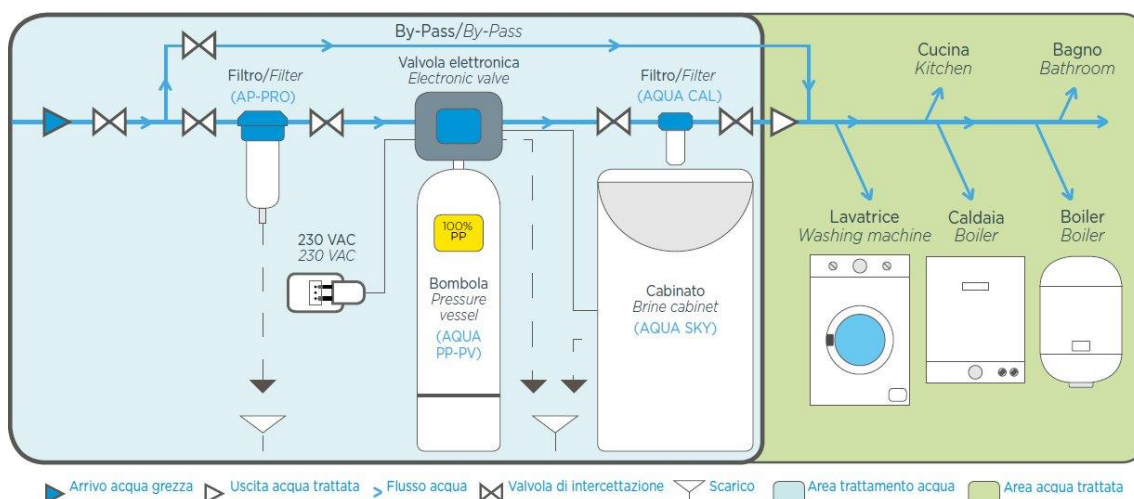
- Handle the softener carefully.
- Do not install the softener under the direct sunlight or near a heat source.
- The water softener has a maximum allowable pressure of 8 bar and a minimum of 2 bar.
- If necessary, use a pressure reducer.
- Power the softener alone with his 24V transformer supplied.
- Be sure to attach the transformer and a plug is protected by a protective device against power surges as a circuit breaker or fuse.

INSTALLATION SCHEME

Install the water softener in the arrival area and after the main counter.

Let a sufficient distance between your softener, walls or other equipment to facilitate the supply of salt or for maintenance.

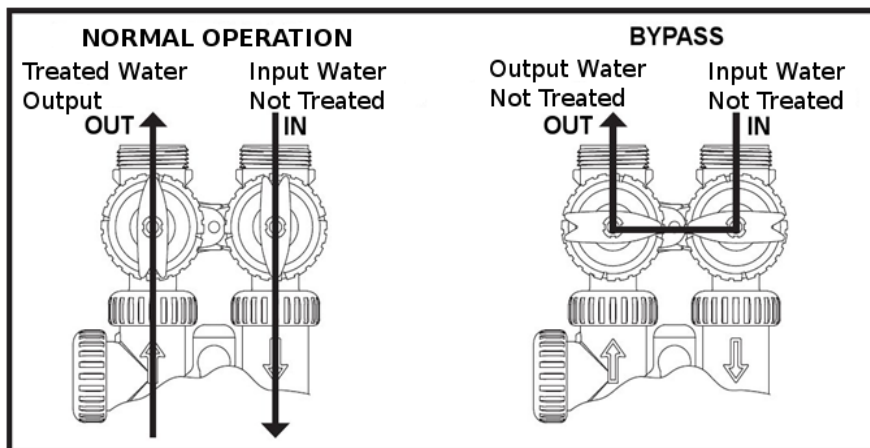
A water softener must be installed before the water heater or boiler.





WARNING: before proceeding with installation ensure to discontinue water coming home at counter water

INSTALLATION BYPASS (OPTIONAL)



- Enter bypass in the valve taking care to tighten the collars (IN) and output (OUT)
- Connect to bypass the water Not Treated Treated IN side and the water toward the home side OUT



WARNING: take care of the installation of the pipe to bypass the body, which must be well aligned, and fixed its weight should not weigh on the valve of the softener as it can cause major damage.

INSTALLING THE DRAIN OF REGENERATION

- Fix the drain hose to the fitting located on the head of the softener (we recommend using a hose clamp)



- Cut the pipe length needed to get to the outlet of the discharge
- Connect the exhaust pipe of regeneration to a drain (better if provided with siphon)



CAUTION: Through the drain pipe is ejected the water used during the regeneration phase. The water is discharged under pressure. For this reason it is recommended to properly secure and stable so the pipe to prevent flooding in the place of installation of the water softener.

INSTALLING THE OVERFLOW PIPE MAGAZINE SALE

- Fix the drain hose to the overflow elbow of the salt (it is recommended to use a hose clamp)



- Connect the hose of the overflow compartment of salt directly to a drain.



CAUTION: The discharge of the overflow is performed by gravity, it is **ESSENTIAL** to ensure that the elbow of the overflow of the salt is at a higher level than the point of entry of the discharge.

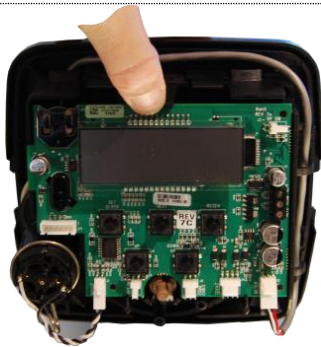
IMPORTANT: Do not connect the pipe overflow compartment of salt to the drain of regeneration with a T or Y. If you do not respect this point, the water sent to the drain at the time of regeneration can go to fill the salt instead to be expelled.

CONNECTION TO THE GRID

In order to properly connect the softener to the mains you must follow the steps following streams:



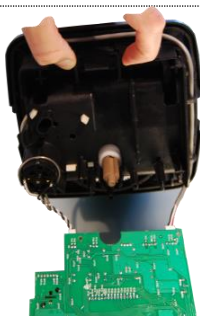
REMOVE THE
FRONT COVER



LIFT TAB TO
REMOVE THE PCB



REMOVE THE PCB
FROM THE VALVE



LIFT TABS TO
REMOVE THE
SUPPORT OF THE
PCB



UNPLUG THE
SUPPORT OF THE
PCB



THREAD CABLE
TRANSFORMER AS
YOU SEE IN
PICTURE



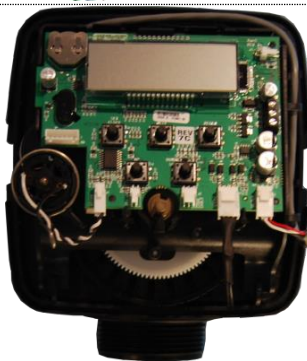
PASSING THE
CABLE ON RIGHT
SIDE OF THE
VALVE AS SHOWN;
THREADING
CABLES IN
SPECIAL THROUGH



REFIT THE PCB
SUPPORT MAKING
SURE THAT YOU
PROPERLY
POSITIONS AND
BLOCKS



REFIT CARD
MAKING SURE THAT
POSITION AND
PROPERLY BLOCK



CONNECT THE
SUPPLY AS
SHOWN



MOUNT THE COVER
VALVE AND CHECK
THAT THE KEYS ARE
IN THE RIGHT
POSITION

INSTALLATION KIT CHLORINE GENERATOR (OPTIONAL)

This appliance is a multifunction chlorine producer for automatic softening valves. While using a softener, the water entering the water softener may contain organic substances and / or bacteria which can lead to a bad smell or taste in the water.

A chlorine generator such as the one in question is equipped with an electrolytic cell which by exploiting the chlorides present in the brine, through electrolysis, produces chlorine, activating a disinfectant action of the resins.

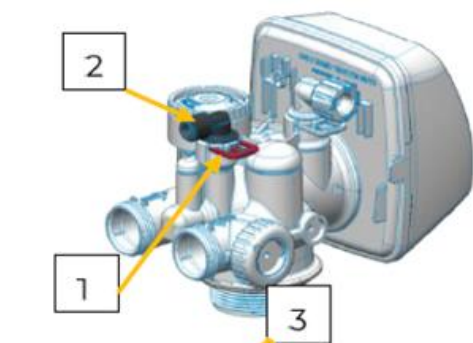
The chlorine generator, in fact, has the purpose of disinfecting the resins during the regeneration phase of the softener.

Once installed and set, the chlorine generator works automatically and is activated during the brine extraction phase.

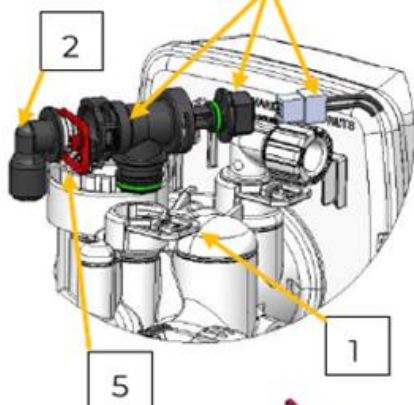


Attention: this equipment requires regular periodic maintenance in order to guarantee the maintenance of the drinking water requirements of the treated drinking water. The chlorine production of the disinfection cells is not to be considered a purification system. The installation must be performed exclusively by qualified personnel in compliance with DM 25/2012, with materials compliant with DM 174/2004.

HYDRAULIC CONNECTION



Remove the safety fork (1) and remove the fitting (2).



Once the fitting has been removed, mount the chlorine generation cell (3) in its place and lock it with the safety fork (1).

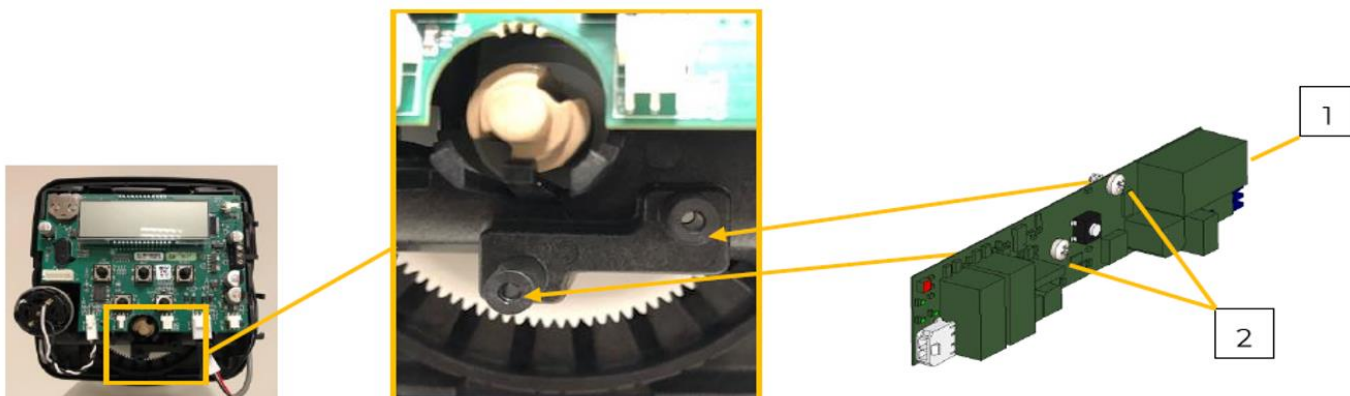
Fit the fitting (2) on the cell and lock it with the safety fork (5)



Remove the mask (6) from the valve, using the special side tabs.

Phase 1: Electronic board assembly.

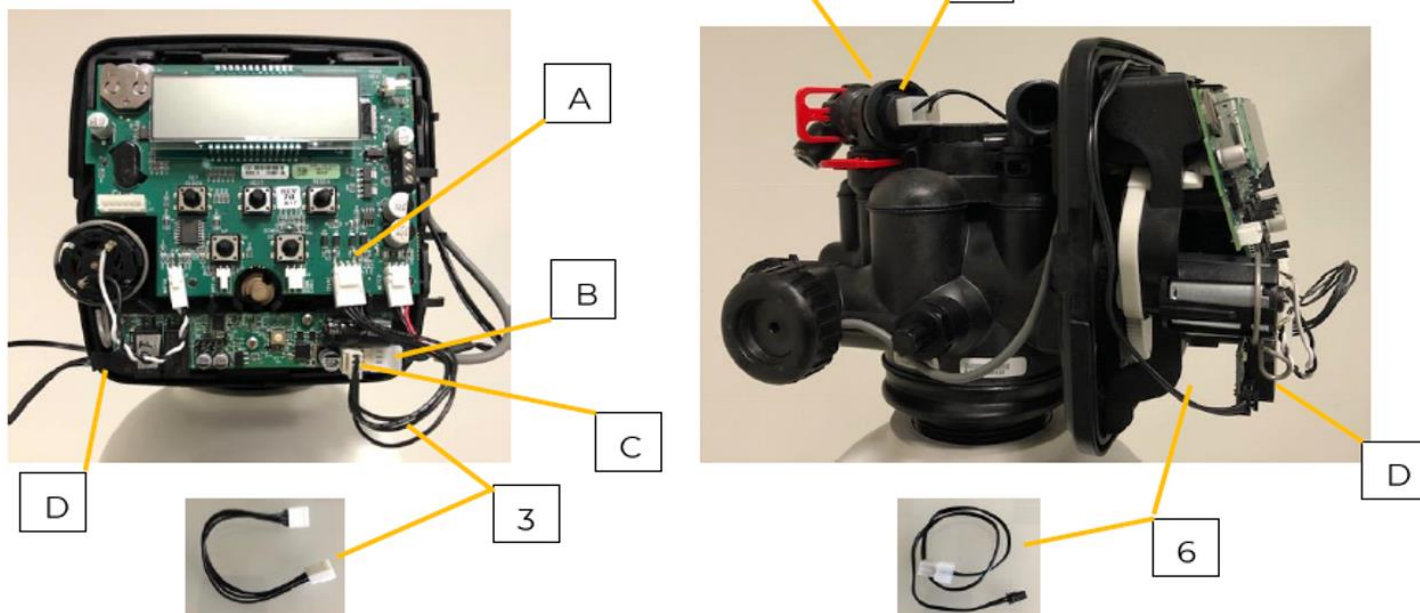
Once the mask has been removed, fix the electronic board (1) supplied with the appropriate screws (2) in the housing, as shown in the following figure:



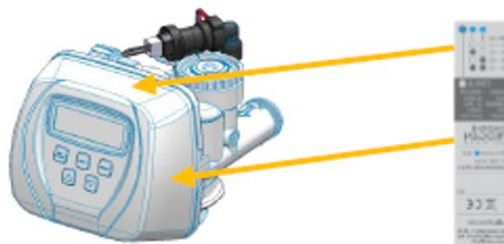
Phase 2: Electrical connections

Disconnect the valve power connector from its original position (A) and move it to the port (B). Connect the power cable (3), on one side to the connection (A) on the valve electronic board and on the other side, to the connection (C).

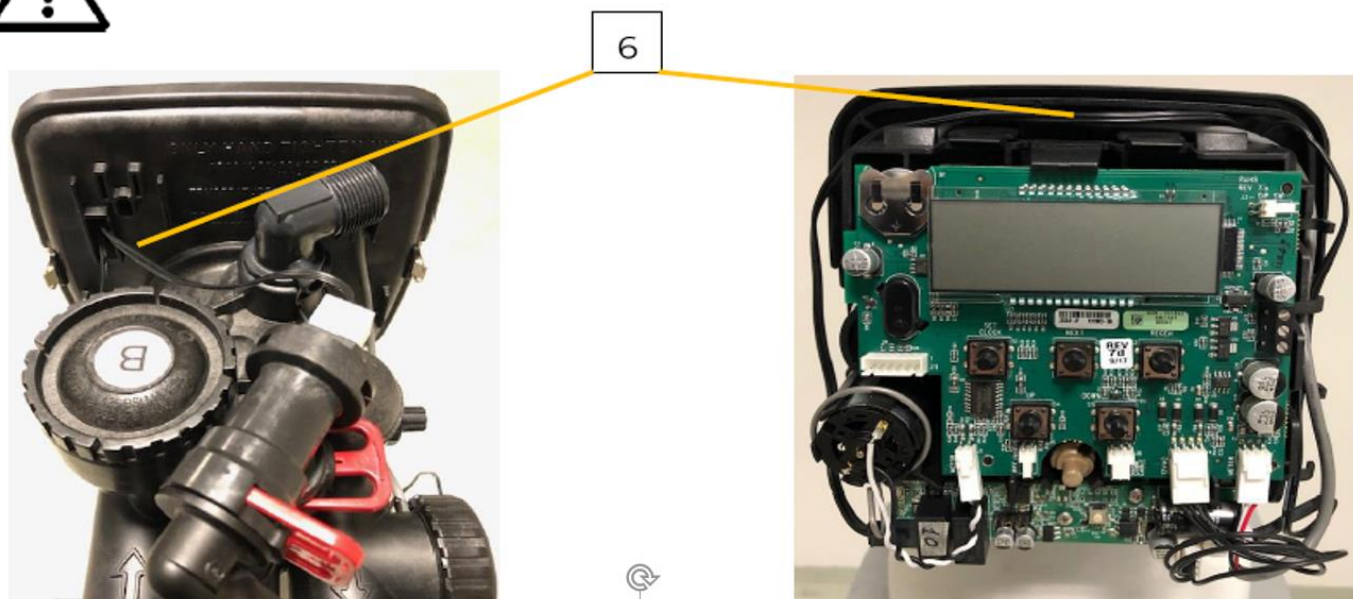
Connect the cable gc WL (6) of the chlorine generation cell supplied, on one side in the connection (D) of the mounted board, on the other side on the connection (E) of the chlorine generation cell (4).



Apply the adhesive label (7) on the mask in a visible position.



Make sure that the board and electrode connection cable is wired as shown in the following photos, in order to avoid crushing damage.



Be sure to unplug the power supply from the power outlet before performing any maintenance on the valve.

STARTING



LED	COLORE/COLOUR	DESCRIZIONE	DESCRIPTION
	VERDE / GREEN	Stand-by e misurazione della salinità nella cella	Stand-by and salinity measurement in the cell
	BLU / BLUE	Clorazione in corso per il tempo impostato	Chlorination in progress for the set time
	ARANCIO / ORANGE	Inibizione dopo fine tempo clorazione	Inhibition after end of chlorination time
	ROSSO / RED	Allarme cella scollegata o in corto circuito	Cell disconnected or short-circuited alarm
	VIOLA / PURPLE	Allarme bassa tensione alimentatore	Power supply low voltage alarm

Time programming must be set using the "PROGRAM TIME" button, according to the values recommended in the following table:

LED	TEMPO / TIME (min)	RESINA / RESIN (lt)
	15	< 15
	25	< 25
	40	< 50
	60	> 50



Use a thin tool to press the "PROGRAM TIME" button.

CHECKING THE PRESSURE AND LOSSES

Before proceeding with the commissioning of the water softener, you MUST follow the following steps to stabilize the pressure and expel the air nell'addolcitore:

1. Open two taps (or more) of cold water downstream of the softener
 2. Place the bypass BYPASS position
 3. Slowly open the supply tap general and let the water run until it runs regularly from the taps open. There must be more air or that have irregular or phenomena called "water hammer".
 4. Place the bypass in NORMAL OPERATION. Action to be performed slowly to avoid too rapid an increase in pressure nell'addolcitore.
 5. Wait about 3 minutes, then open a hot water faucet until the flow becomes regular, then close it.
1. Close all cold water faucets and check for leaks on new water connections made.

FILLING THE MAGAZINE OF SALE

- Add at least a lot of salt 25 kg.

BEFORE STARTING REGENERATION

Start the first regeneration manually by holding the REGEN button until the valve will move to the first position of regeneration.

This will allow the valve to expel all the micro dust and air inside.

Let the water from a faucet until it returns to normal. Press the button again REGEN to complete all phases of the regeneration cycle, without waiting without waiting for the timetable for each phase.

MAINTENANCE AND TROUBLESHOOTING

In the softener, the only moving part is the multifunction valve, so any operating problems are almost always attributable to the valve itself.

Directly from the manufacturer's manual (Clack) there are the intervention indications on the main faults.

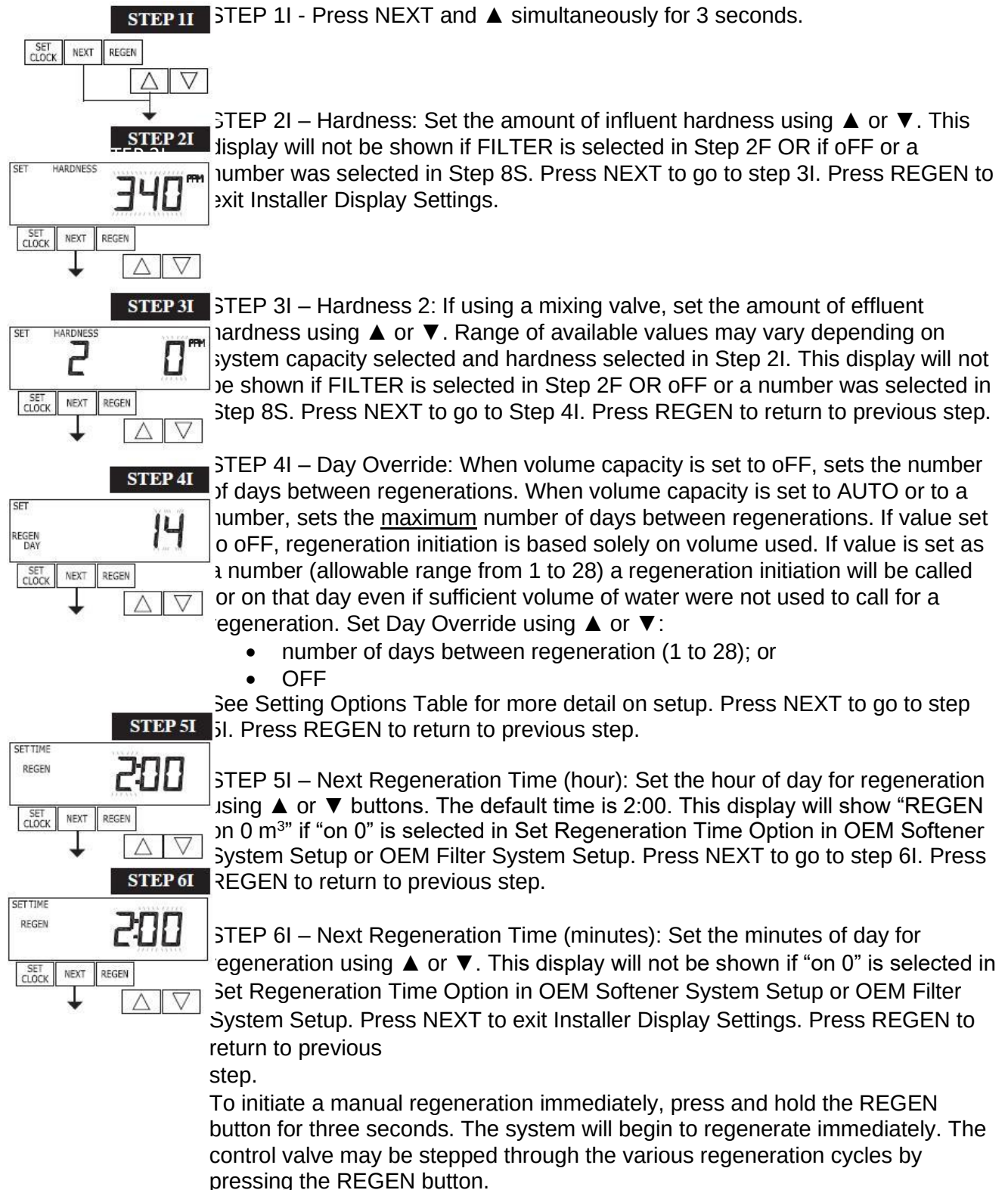
Troubleshooting

TC control valves do not have meters so shaded areas are not applicable for TC control valves

Problem	Possible Cause	Solution
1. Timer does not display time of day.	a. Power Adapter unplugged	a. Connect power
	b. No electric power at outlet	b. Repair outlet or use working outlet
	c. Defective Power Adapter	c. Replace Power Adapter
	d. Defective PC board	d. Replace PC board
2. Timer does not display correct time of day	a. Switched outlet	a. Use uninterrupted outlet
	b. Power outage	b. Reset time of day. If battery is present the battery may be depleted. See Front Cover and Drive Assembly drawing for instructions.
	c. Defective PC board.	c. Replace PC board
3. Display does not indicate water is flowing. Refer to user instructions for how the display indicates water is flowing.	a. Bypass valve in bypass position	a. Put bypass valve in service position
	b. Meter connection disconnected	b. Connect meter to PC board
	c. Restricted/stalled meter turbine	c. Remove meter and check for rotation or foreign material
	d. Defective meter	d. Replace meter
	e. Defective PC board	e. Replace PC board
	f. Meter not installed	f. Install meter
	g. PC board incorrectly programmed	g. Refer to programming instructions
4. Control valve regenerates at wrong time of day	a. Power outages	a. Reset time of day. If battery is 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 incorrect	c. Reset regeneration time
	d. Control valve set at "on 0" (immediate regeneration)	d. Check control valve set-up procedure regeneration time option
	e. Control valve set at NORMAL + on 0 (delay + immediate regeneration)	e. Check control valve set-up procedure regeneration time option
5. Control valve stalled in regeneration	a. Motor not operating	a. Replace motor
	b. No electric power at outlet	b. Repair outlet or use working outlet
	c. Defective Power Adapter	c. Replace Power Adapter
	d. Defective PC board	d. Replace PC board
	e. Broken drive gear or drive cap assembly	e. Replace drive gear or cap assembly
	f. Broken piston retainer	f. Replace drive cap assembly
	g. Broken main or regenerant piston	g. Replace main or regenerant piston
6. Control valve does not regenerate automatically when the correct button(s) is depressed and held. For TC valves the buttons are UP and DOWN. For all other valves the button is REGEN.	a. Power Adapter unplugged	a. Connect Power Adapter
	b. No electric power at outlet	b. Repair outlet or use working outlet
	c. Broken drive gear or drive cap assembly	c. Replace drive gear or drive cap assembly
	d. Defective PC board	d. Replace PC board
7. Control valve does not regenerate automatically but does when the correct button(s) is depressed and held. For TC valves the buttons are UP and DOWN. For all other valves the button is REGEN.	a. Bypass valve in bypass position	a. Put bypass valve in normal operation position
	b. Meter connection disconnected	b. Connect meter to PC board
	c. Restricted/stalled meter turbine	c. Remove meter and check for rotation or foreign matter
	d. Defective meter	d. Replace meter
	e. Defective PC board	e. Replace PC board
	f. Set-up error	f. Check control valve set-up procedure
8. Time of day flashes on and off	a. Power outage	a. Reset time of day. If battery is present the battery may be depleted. See Front Cover and Drive Assembly drawing for instructions.

Problem	Possible Cause	Solution
9. Error Codes 101, 1001 or E1 – Unable to recognize start of regeneration 102, 1002 or E2 – Unexpected stall 103, 1003 or E3 – Motor ran too long, timed out trying to reach next cycle position 104, 1004 or E3 – Motor ran too long, timed out trying to reach home position If other error codes display contact the factory	a. Control valve has just been serviced	a. Unplug power source jack from the printed circuit board (black wire) and plug back in or press button sequence to reset valves: TC valves (three buttons) press and hold SET and DOWN buttons for 3 seconds. (Cover button may have other names like "SET HOUR", "CLOCK" or "SET CLOCK" but the circuit board is labeled with SET.) All other valves press and hold NEXT and REGEN buttons for 3 seconds.
	b. Foreign matter is lodged in control valve	b. Check piston and spacer stack assembly for foreign matter
	c. High drive forces on piston	c. Replace piston(s) and spacer stack assembly
	d. Control valve piston not in home position	d. Unplug power source jack from the printed circuit board (black wire) and plug back in or press button sequence to reset valves: TC valves (three buttons) press and hold SET and DOWN buttons for 3 seconds. (Cover button may have other names like "SET HOUR", "CLOCK" or "SET CLOCK" but the circuit board is labeled with SET.) All other valves press and hold NEXT and REGEN buttons for 3 seconds.
	e. Motor not inserted fully to engage pinion, motor wires broken or disconnected, motor failure	e. Check motor and wiring. Replace motor if necessary
	f. Drive gear label dirty or damaged, missing or broken gear	f. Replace or clean drive gear
	g. Drive bracket incorrectly aligned to back plate	g. Reseat drive bracket properly
	h. PC board is damaged or defective	h. Replace PC board
	i. PC board incorrectly aligned to drive bracket	i. Ensure PC board is correctly snapped on to drive bracket
10. Error Codes for MAV and NHWB 106 or 1006 – MAV/NHNB unable to find proper park position, motor ran too long. 107 or 1007 – MAV/NHNB motor ran too short (stalled) while looking for proper park position If other error codes display contact the factory	a. Foreign matter is lodged in MAV/NHNB	a. Check MAV/NHNB piston and spacer stack assembly for foreign matter
	b. High drive forces on MAV/NHNB piston	b. Replace MAV/NHNB piston and spacer stack assembly
	c. MAV/NHNB motor not inserted fully to engage pinion, motor wires broken or disconnected, motor failure	c. Check MAV/NHNB motor and wiring. Check interconnect wiring to both PC boards. Replace motor or wiring if necessary.
	d. MAV/NHNB drive gear damaged, missing or broken gear	d. Replace MAV/NHNB drive cap.
	e. MAV/NHNB main gear cover assembly incorrectly aligned to drive assembly.	e. Reseat MAV/NHNB main gear cover assembly properly
	f. PC board is damaged or defective	f. Replace PC board

INSTALLER PROGRAMMING

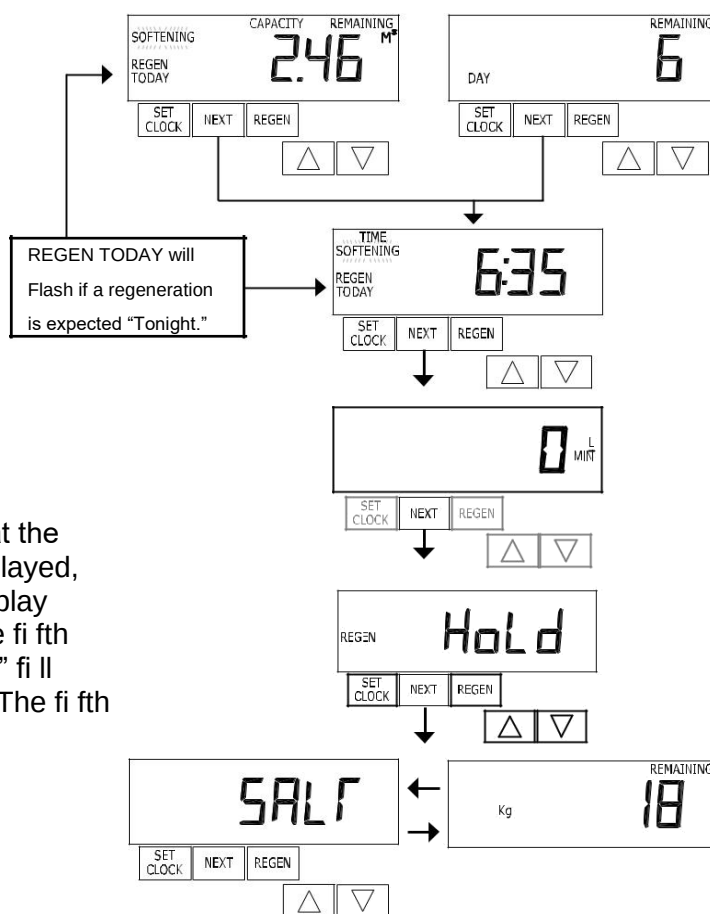


USER PROGRAMMING

When the system is operating, one of five displays may be shown. Pressing NEXT will alternate between the displays. One of the displays is always the current time of day. The second display is one of the following: days remaining or volume remaining. Days remaining is the number of days left before the system goes through a regeneration cycle. Capacity remaining is the cubic meters that will be treated before the system goes through a regeneration cycle. The third display shows the current treated water flow rate through the system. If 1.0 is selected in Step 2CS, an "A" in front of the flow rate indicates that the tank with the control valve on it is in service. If "b" is displayed, the tank with the in/out head is in service. The fourth display will show either dP or hold if the dP switch is closed. The fifth display shows the kg of salt remaining or flashes "SALT" fill when the calculated kg of salt falls below a safety level. The fifth display will not appear if the valve is a WS2, set up as a filter or if the Set Low Salt Warning is set to off (see last step in OEM Softener System Setup). The user can scroll between the displays as desired.

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, the word "Softening" or "Filtering" flashes on the display when water is being treated (i.e. water is flowing through the system).



In Alternator Systems when a unit is waiting to initiate the first cycle step of regeneration, "REGEN PndG" is displayed.

REGEN Pndg

"STbY" is displayed in Alternator Systems when a valve is in Standby state.

STby

"REGEN PndG FILL RINSE" is displayed whenever a zero-capacity tank has transferred to an off-line state and is currently waiting to initiate the second portion of a regeneration cycle. Viewed only when Delayed Rinse and Fill is set to ON.

REGEN Pndg FILL RINSE

Regeneration Mode

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

When the system begins to regenerate, the display will change to include information about the step of the regeneration process

and the time remaining for that step to be completed. The system runs through the steps automatically and will reset itself to

provide treated water when the regeneration has been completed.

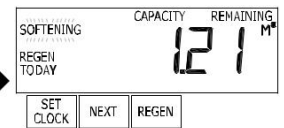


Manual Regeneration

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

because of guests or a heavy laundry day. To initiate a manual regeneration at the preset delayed regeneration time, when the regeneration time option is set to "NORMAL" or "NORMAL + on 0", press and release "REGEN". The words "REGEN TODAY" will flash on the display to indicate that the system will regenerate at the preset delayed regeneration time. If you pressed the "REGEN" button in error, pressing the button again will cancel the request. Note: If the regeneration time option is set to "on 0" there is no set delayed regeneration time so "REGEN TODAY" will not activate if "REGEN" button is pressed. To initiate a manual regeneration immediately, press and hold the "REGEN" button for three seconds. The system will begin to regenerate immediately. The request cannot be cancelled. Note: For softeners, if brine tank does not contain salt, fill with salt and wait at least two hours before regenerating.

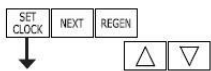
REGEN TODAY will be displayed if a regeneration is expected "Tonight."



Set Time of Day

The user can also set the time of day. Time of day should only need to be set after power outages lasting more than 24 hours, if the battery has been depleted and a power outage occurs or when daylight saving time begins or ends. If a power outage lasting more than 24 hours occurs, the time of day will flash on and off which indicates the time of day should be reset. If a power outage lasts less than 24 hours and the time of day flashes on and off, the time of day should be reset and the non rechargeable battery replaced.

STEP 1U STEP 1U – Press SET CLOCK.



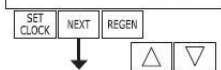
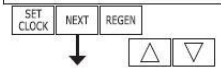
STEP 2U

STEP 2U - Current Time (hour): Set the hour of the day using ▲ or ▼. Press NEXT to go to Step 3U.



STEP 3U

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



RETURN TO THE RULES 'OF SERVICE

