



UMA

SOFTENER.

**INTUITIVE.
INTERACTIVE.
INTELLIGENT.**



INSTALLATION MANUAL

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1. INTRODUCTION

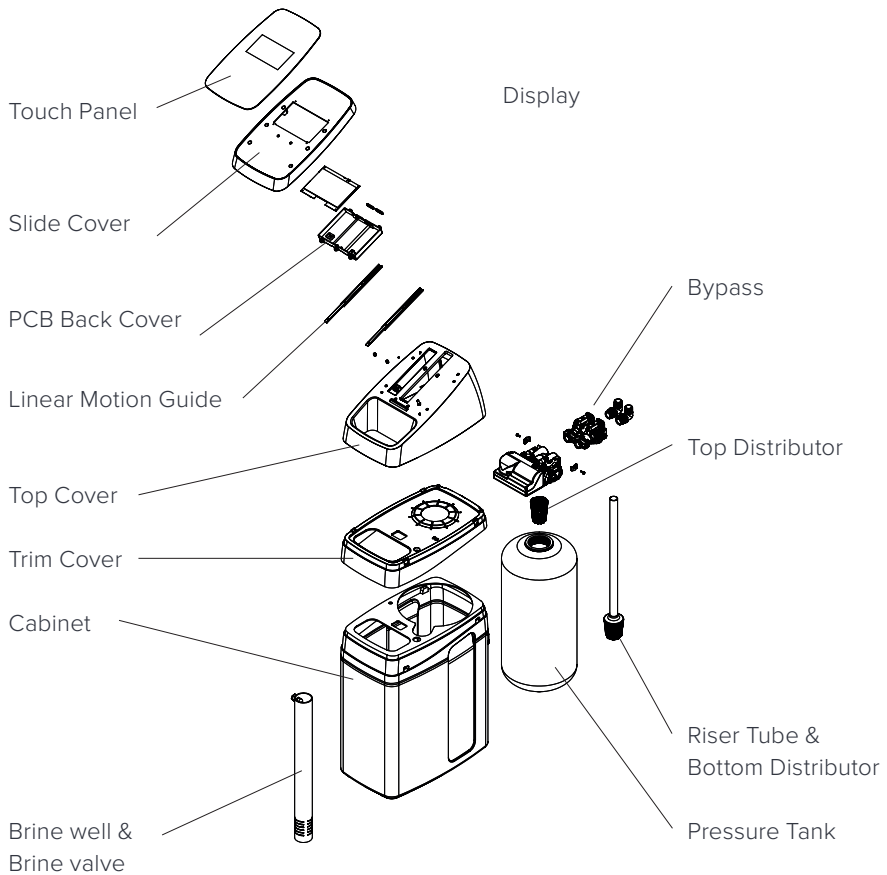
We would like to thank you for acquiring our UMA water softener. You have made an excellent choice that will allow you to benefit from the highest quality of water in the future.

The UMA is delivered in a cardboard box together with a by-pass. Please check the softener carefully, in the presence of the delivery man, to ensure you that it was not damaged during transport.

Before starting up your softener, please read this manual carefully. Proper installation guarantees a long service life and high performance of your water softener.

The packaging can be fully recycled, please dispose of it in a suitable place.

2. PRESENTATION



3. SAFETY INSTRUCTIONS

The installer/user should read the manual in full. The installer must ensure that the manual is available to the user in a legible form. The installer must ensure that all safety measures are followed and maintained.

The following safety and installation instructions are applicable:

- Never install or operate damaged products.
- Only use unaltered and compatible original parts.
- If the equipment is opened improperly, is wrongly installed, commissioned or operated, there is risk of physical injury and material damage.
- The equipment contains parts that can be swallowed.

INSTALLATION

Follow all instructions for installation. See chapter 4 'Installation softener'.

PROPER USE

The equipment is to be used on city water. The user is solely responsible for any damage incurred by improper use of the equipment.

EXCLUSION OF LIABILITY

The manufacturer accepts no liability for personal injury or material damage incurred due to misuse or errors caused by improper installation, commissioning or operation.

The safe and fault-free use and the operational safety of the equipment is only guaranteed with proper use according to the specifications of this operating manual.

4. FUNCTIONING

4.1. GENERAL FUNCTIONING OF A WATER SOFTENER

A water softener provides softened water by removing ions such as Calcium and Magnesium from the incoming water. The incoming water is sent to the valve that directs the water over a vessel filled with special softener resins. These resins will exchange the “hard” Ca- and Mg-ions present in the water for soft “Na”-ions. The softened water coming out of the vessel is then sent via the valve to the different tap-points in the house.

The resins have a certain capacity to remove hard ions from the water. The harder the water or the higher the water consumption, the faster the resins will be exhausted. As the water hardness is known and fixed, the resin bed will be exhausted after a certain amount of water. At this moment, the resins have to be regenerated in order to bring them back to their initial capacity. This regeneration is done by bringing them in contact with brine (dissolved salt (Na-ions)). In order to be able to create the brine, the softener-cabinet is to be filled with salt-tablets. After brining, the resin bed has to be rinsed

and backwashed so that there is no salty taste and the resin bed is in perfect condition to capture again incoming hardness ions (Ca- and Mg-ions).

The heart of the softener is the valve, equipped with a controller that manages the softener in a fully automated way. Water consumption is measured and the valve will trigger at the appropriate moment a regeneration. A regeneration consists out of 4 cycles:

- **Backwash:** water is sent over the resin bed in the opposite way in order to remove possible impurities on top of the bed and to unpack the resin bed.
- **Brining and slow-rinse:** brine is being sent over the resin bed.
- **Refill:** water is sent to the part of the cabinet where the salt is located. This water will dissolve a part of the salt so that the necessary brine will be available to perform the next regeneration.
- **Fast rinse:** the last traces of brine are removed and the bed is packed again.

- The UMA softener keeps track of the water consumption via an integrated water meter. The amount of water that can be softened depends on the water hardness of the incoming water and is programmed when commissioning the system.
- When the resin bed is exhausted, the UMA softener will perform a regeneration. This regeneration is programmed by default at 2 a. m. because there is no softened water available during regeneration. If necessary, the regeneration hour can be modified.
- The UMA softener will optimise the moment of regeneration based on the real water consumption of the user.
- The UMA softener disposes of a large touchscreen where the functioning of the softener can be monitored and parameters can be set or changed.
- Most of the parameters of the UMA softener are preprogrammed in the factory so that only a few user-specific parameters have to be set when commissioning the unit.
- Parameters are stored in the memory and will not be lost due to power outage.
- The UMA softener allows to configure the outgoing hardness by turning the hardness screw.
- The UMA softener allows to trigger a manual regeneration for special cases where this could be needed.

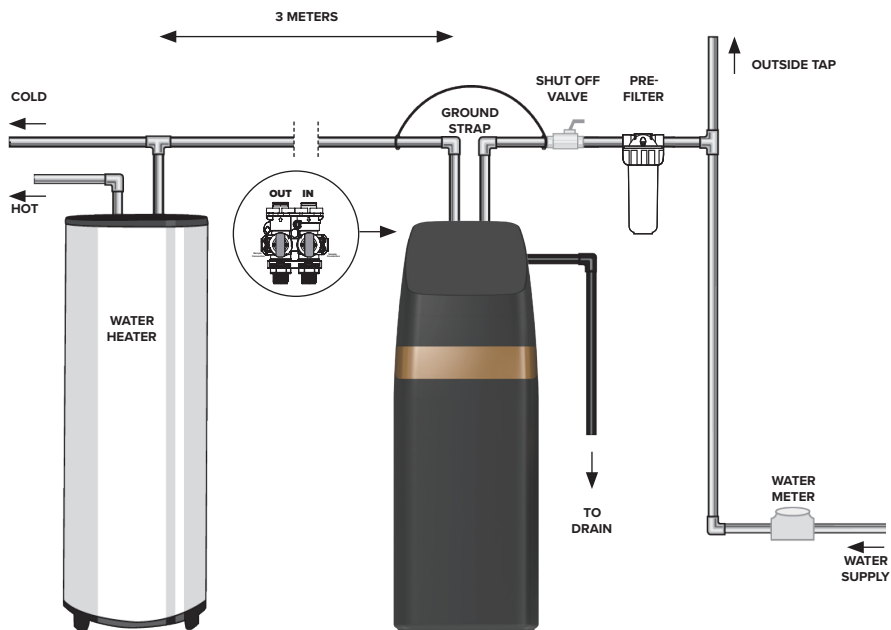
4.2. TECHNICAL SPECIFICATIONS

The **UMA Softener** has the following characteristics:

Model	MINI	MIDI	MAXI
Dimensions (HxWxD)	497 x 240 x 424	726 x 240 x 424	854 x 300 x 500
Exchange capacity (kg CaCO ₃)	0.22	0.45	0.9
Control System	BNT-850SE		
Regeneration system	Upflow		
Tank size	7 x 13	7 x 22	10 x 24
Unit size	5	10	20
Service flow rate (m ³ /h)	0.6	0.9	1.7
Peak flow rate (m ³ /h)	1.5	1.5	3
Water used (L/regen.)	32	54	97
Salt used (kg/regen.)	0.63	1.25	2.50
Connections	Includes 3/4" or 1" straight fittings		
Electrical rating	220 - 240 V AC 50/60 Hz		
Water supply	Municipal		
Water temperature	3 - 38°C		
Operating pressure	2 - 7 bar		

5. INSTALLATION

5.1. PREPARATION OF THE INSTALLATION



Location

The device is only to be used for interior operation. Install your softener on a flat, firm and clean surface. The unit must be close to a drain line to allow an easy connection. Check if there is an electrical earth grounded plug to power the unit. It is essential to foresee sufficient space for installation, commissioning and easy maintenance. It is also important to ensure good access for filling salt.

Pressure

A minimum incoming pressure of 2 bar is needed to allow the valve to perform a proper regeneration.

Always use a pressure reducer upstream of your installation to ensure a regular pressure during the day and to withstand water hammer during the night.

Power connection

Be sure that the power cannot be switched off accidentally by a wall switch.

If the power cable is damaged, please ask a skilled electrician to change it.

When the unit is disconnected from the electrical network for a number of days, do not forget to reprogram the clock.

When the unit stays disconnected from the electrical network for a long period of time, please verify if all parameters are still set at the correct values.

Plumbing

The plumbing must be in good state. In case of doubt, please change it.

All plumbing for the water inlet, distribution and drain line should be done correctly and in accordance with the legislation in force at the time of the installation (e.g. EN1717).

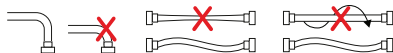
The use of a backflow preventer on the inlet line is recommended.

Possible soldering should be done before installing the softener. Failing to do so can generate irreversible damages. For any operation, shut down water inlet, unplug your softener and open faucets at the top and at the bottom of your house to drain your installation.

The connection to the softener must be done using flexible hoses.

The connection to the drain should be done in accordance with legislation. Often an airgap is needed.

Ensure there is enough slack when installing the flexible hoses. They should not pull on the softener or bend at an awkward angle.



Filter

A pre-filter is needed upstream of the softener in order to protect the valve from impurities present in the water that might cause damage to the valve or its seals.

Water temperature

The temperature of water should not exceed 45 °C and the installation should not be subjected to freezing conditions (risk of very serious damage).

Do not use the softener on hot water!

Salt

Only use salt tablets for water softening applications (purity should be at least 99.5%). Other types of salt, for example, finely granulated are not permitted.

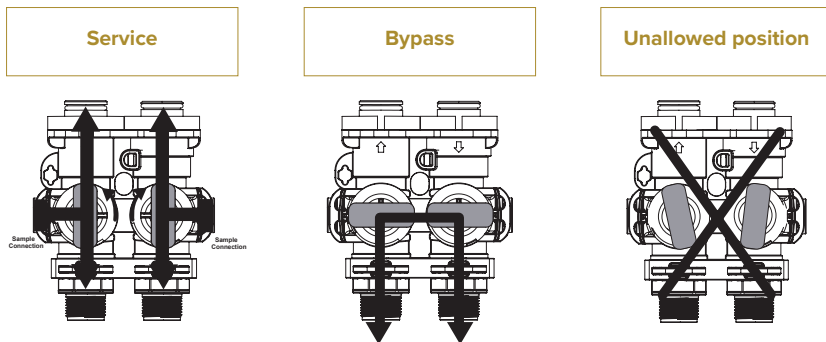
PHYSICAL INSTALLATION

After unpacking the system, please put the power supply, bypass valve and any other accessories apart. When moving the system, pay attention not to hold or move the softener by hoses, valves or other parts not suited for that purpose. In cold weather, it is recommended

that the UMA is brought up to ambient temperature before proceeding with the installation. The UMA must be positioned so that it is protected from freezing temperatures. Do not install the unit where it is exposed to direct sunlight or high temperatures (45 °C max).

Installation of the bypass on the softener:

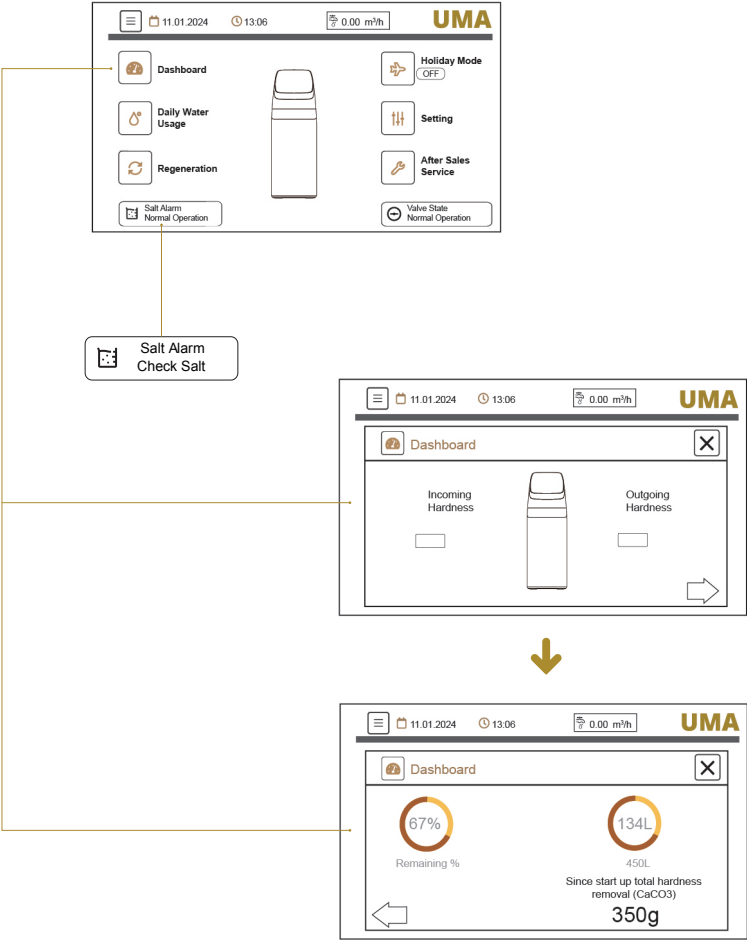
- The installation In case of an emergency such as softener maintenance, you can isolate your water softener from the water supply using the bypass valve located at the back of the control. In normal operation the bypass is open with the ON/OFF knobs in line with the INLET and OUTLET pipes. To isolate the softener, simply rotate the knobs to the BYPASS position.
- You can use your water related fixtures and appliances as the water supply is bypassing the softener. However, the water you use will be hard. To resume treated service, open the bypass valve by rotating the knobs to SERVICE position.
- Please make sure bypass knobs are completely open otherwise the unsoftened water could bypass through the valve.

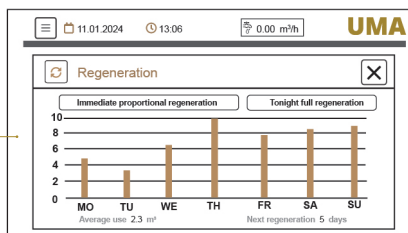
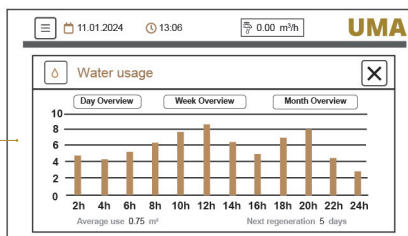
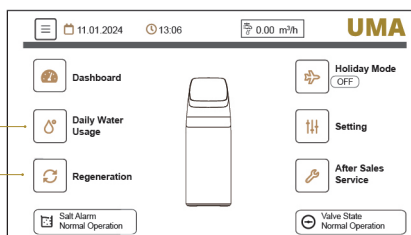


NOTE : Please make sure bypass knobs are completely open otherwise the unsoftened water could bypass through the valve.

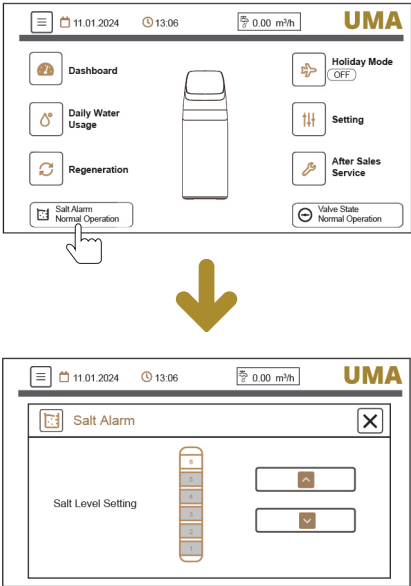
6. PROGRAMMING

6. 1. END USER SETTINGS

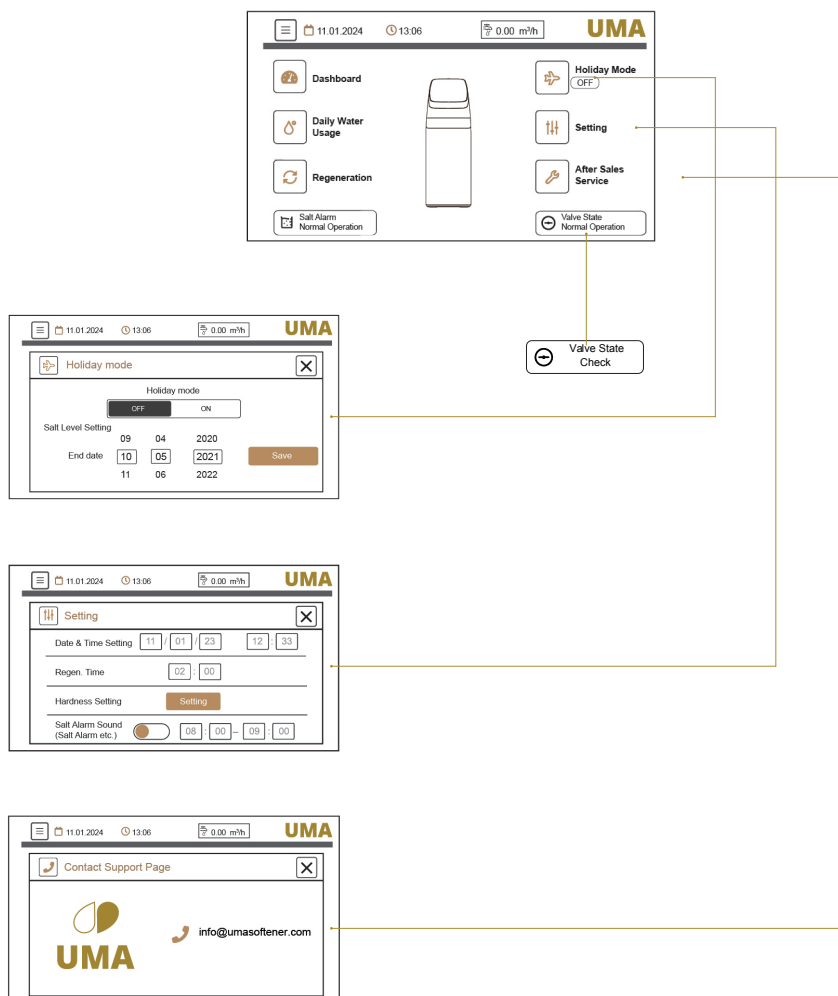




6. 2. ADD SALT SETTING

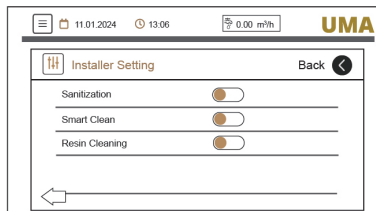
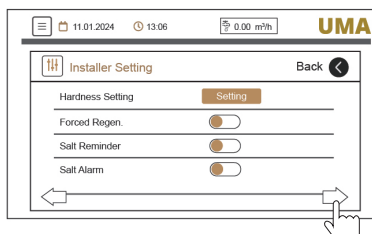
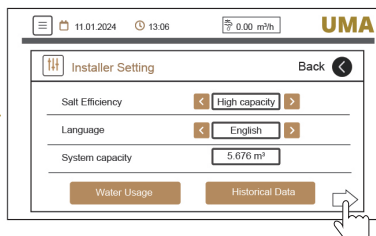
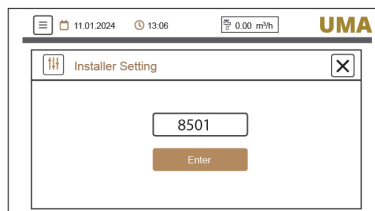
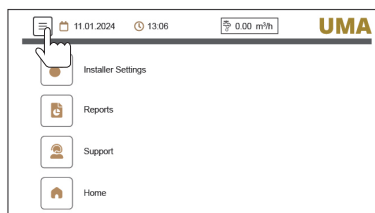
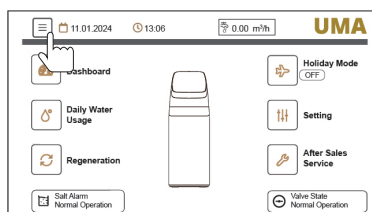


PARAMETER	DESCRIPTION
Immediate proportional regeneration	The system will initiate a regeneration immediately based on how many resins has been exhausted.
Tonight full regeneration	The system will initiate a regeneration at the Regen. Time tonight, this regeneration will recover the system to full capacity.
Salt Alarm Check Salt	This is a reminder that softener is out of salt.
Salt Level Setting	Press the "Salt Alarm" button to enter salt adding level setting, press the "Up" and "Down" button to adjust the salt level to be the same height added in cabinet.



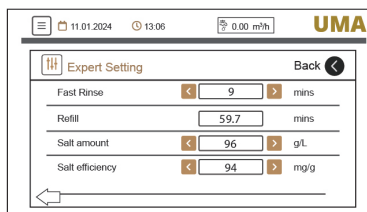
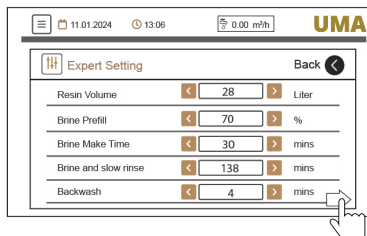
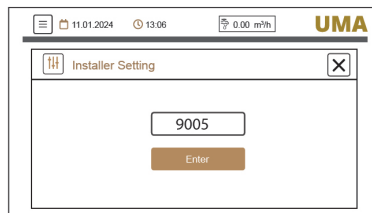
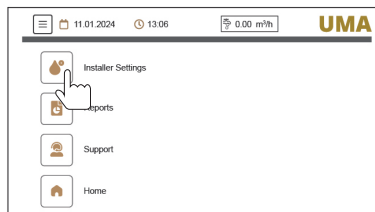
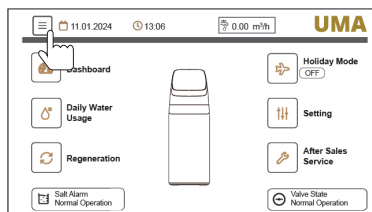
PARAMETER	DESCRIPTION
Holiday Mode	System language used on the valve display
Date & Time Setting	Time of day is for normal operation of system and the scheduling of the regeneration time
Regen. Time	This setting determines the time of day to perform a scheduled regeneration
Hardness Setting	This is raw water hardness and treated water hardness setting
Salt Alarm Sound	When set to ON, as the system run out of salt, it will send alarm beeping within the time setting
Valva State Check	Control valve is malfunctioning, check the valve

6. 3. INSTALLER SETTINGS



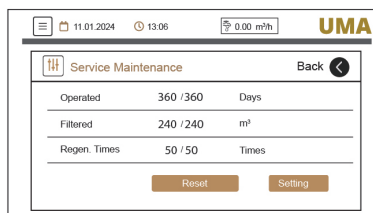
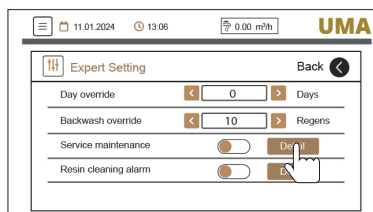
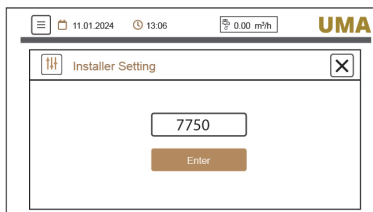
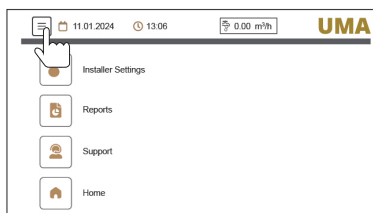
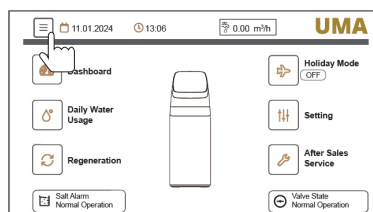
PARAMETER	DESCRIPTION
Salt Efficiency	There are 3 settings to choose in Settings. High Efficiency, Standard, and High capacity. The values for these settings are used to calculate the system capacity and refill time.
Language	System language used on the valve display.
System Capacity	This is how much volume of water the system can treat. The value is automatically calculated and can not change.
Hardness Setting	This is raw water hardness and treated water hardness setting.
Forced Regen.	When set to ON, the system will start a forced regeneration when the remaining capacity reaches 3%. The regeneration consists of 20 minutes of Brine and 10 minutes of Rinse. At the next regeneration time (2:00 AM), the system will automatically perform a standard regeneration to restore capacity to 100%.
Salt Reminder	When set to ON, based on the salt storage and salt consumption per regeneration, as the system run out of salt, it will send alarm beeping within the time setting.
Salt Alarm	When set to ON, the system will send alarm beeping when the chlorine generator detect the salt is short in brine tank.
Sanitization	When set to ON, the system will sterilize the resin media during each regeneration.
Smart Clean	When set to ON, the system will perform a few minutes of rinse if there is no water flow detected after 7 days. This cleaning process will occur at the scheduled REGEN TIME.
Resin Cleaning	When set to ON, as a resin cleaning maintenance has been properly made, system will generate a message in the report to show to end user.

6. 4. TECHNICIAN SETTINGS



PARAMETER	DESCRIPTION
Resin Volume	This setting is the amount of ion exchange media used in the system. The value is used to calculate system capacity and refill time.
Brine Prefill	This is the percentage of the water that will be added to the brine tank after a regeneration. The default is 70%. The remaining amount of water will be added just prior to the regeneration and will be proportional to the amount of capacity left in the system.
Brine Make Time	This value is the time allowed for the salt to dissolve in the water to create the brine solution. The value is the amount of time ahead of the scheduled regeneration time that the water will be added to "top off" the brine already prepared in the brine tank.
Brine and slow rinse	Control the brine and slow rinse duration during regeneration cycle.
Backwash	Control the backwash duration during regeneration cycle.
Fast Rinse	Control the fast rinse duration during regeneration cycle.
Refill	Control the refill duration during regeneration cycle. The value is automatically calculated and can not change.
Salt amount	This value will determine how much salt will be used per liter of resin.
Salt efficiency	This setting is the amount of capacity which a certain amount of salt can restore.
Resin Cleaning	When set to ON, as a resin cleaning maintenance has been properly made, system will generate a message in the report to show to end user.

6. 5. FACTORY SETTINGS



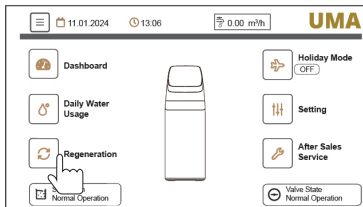
PARAMETER	DESCRIPTION
Day override	This setting can be used to add number of days to override the meter. As an example if the setting is 5, the system will regenerate after 5 days even if there is still volume capacity remaining.
Backwash override	This setting can be used to skip the backwash cycle. As an example if the setting is 10, the system will skip 10 backwash cycles.
Service maintenance	When service maintenance settings is set on, as the time arrives, the control system will remind you to do the maintenance job for the system.
Resin cleaning alarm	When resin cleaning alarm settings is set on, as the time arrives, the control system will remind you to do the resin cleaning job for the system.

7. OPERATION DURING A POWER FAILURE

In the event of a power failure, the valve will keep track of the time and day. The programmed settings are stored in a non-volatile memory and will not be lost during a power failure. If power fails while the unit is in regeneration, the valve will finish regeneration from the point it is at once power is restored. If the valve misses a scheduled regeneration due to a power failure, it will queue a regeneration at the next regeneration time once power is restored.

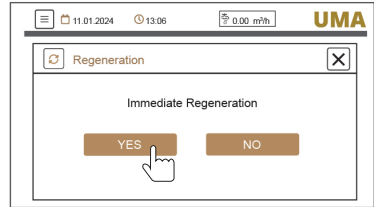
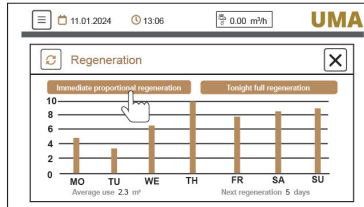
7.1. START-UP INSTRUCTIONS

- Add two liters of water into the cabinet at the time of installation. This is for the unit to achieve proper capacity in the first time of regeneration.
- Plug the power transformer into an approved power source. Connect the power cord to the valve.
- Short press the "Regeneration" button.

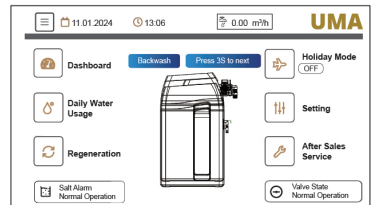
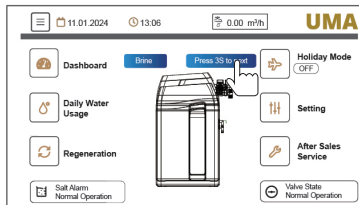


- Short press the "Immediate proportional regeneration" button.

- Short press the "Yes" button to start an immediate regeneration.



- As the valve arrives at Brine position, press and hold the "Press 3S to next" button for 3 seconds to advance to backwash position.



- As the valve arrives at Backwash position, unplug the power and let valve stay at BACKWASH position.
- Slowly open the inlet knob on the bypass valve with the bypass tool supplied and allow water to enter the unit. Allow all air to escape from the unit before turning the bypass fully open. Then allow water to run to drain for 3-4 minutes or until all media fines are washed out of the conditioner indicated by clear water in the drain hose.
- Replug the power.

- Press and hold "Press 3S to next" button for 3 seconds to advance to the Rinse position, when it arrives, check the drain line flow. Allow the water to run for 3-4 minutes or until the water is clear.
- Press and hold "Press 3S to next" button for 3 seconds to advance to the Refill position. Check that the valve is filling water into the brine tank. Allow the valve to refill for the full amount of time as displayed on the screen to insure a proper brine solution for the next regeneration.
- Then valve will automatically advance to the Service position. Open the outlet knob on the bypass with the bypass tool supplied. With the bypass open, open the nearest treated water faucet and allow the water to run until clear.
- Add salt into the cabinet. The unit will automatically fill the water to the correct level when it regenerates.
- Program unit.

8. TROUBLESHOOTING

Problem	Possible solutions
CONDITIONER DELIVERS HARD WATER	
A. Bypass valve is open	A. Close bypass valve
B. No salt in brine tank	B. Add salt to brine tank and maintain salt level above water level
C. Injector or screen plugged	C. Replace injectors and screen
D. Insufficient water flowing into brine tank	D. Check brine refill time and clean brine line flow control if plugged
E. Leak at distributor tube	E. Make sure distributor tube is not cracked. Check O ring and tube pilot
F. Internal valve leak	F. Replace seals and spacers and/or piston
G. Flow meter jammed	G. Remove obstruction from flow meter
H. Flow meter cable disconnected or not plugged into meter cap	H. Check meter cable connection to timer and meter cap
I. Improper programming	I. Reprogram the control to the proper regeneration type, inlet water hardness, capacity or flow meter size.
CONDITIONER FAILS TO REGENERATE	
A. Electrical service to unit has been interrupted	A. Assure permanent electrical service (check fuse, plug, chain or switch)
B. Timer is not operating properly	B. Replace timer
C. Defective valve drive motor	C. Replace drive motor
D. Improper programming	D. Check programming and reset as needed
UNIT USES TOO MUCH SALT	
A. Improper salt setting	A. Check salt usage and salt setting
B. Excessive water in brine tank	B. See #7
C. Improper programming	C. Check programming and reset as needed
LOSS OF WATER PRESSURE	
A. Iron build-up in line to water conditioner	A. Clean line to water conditioner
B. Iron build-up in water conditioner	B. Clean control and add resin cleaner to resin bed. Increase frequency of regeneration
C. Inlet of control plugged due to foreign material broken loose from pipes by recent work done on plumbing system.	C. Remove piston and clean control
LOSS OF RESIN THROUGH DRAIN LINE	
A. Air in water system	A. Assure that well system has proper air eliminator control. Check for dry well condition.
B. Drain line flow control is too large	B. Ensure drain line flow control is sized

Problem	Possible solutions
IRON IN CONDITIONED WATER	
A. Fouled resin bed	A. Check backwash, brine draw and brine tank fill. Increase frequency of regeneration. Increase backwash time.
B. Iron content exceeds recommended parameters	B. Add iron removal filter system
EXCESSIVE WATER IN BRINE TANK	
A. Plugged drain line flow control	A. Clean flow control
B. Brine valve failure	B. Replace brine valve
C. Improper programming	C. Check programming and reset as needed
SALT WATER IN SERVICE LINE	
A. Plugged injector system	A. Clean injector and replace screen
B. Timer not operating properly	B. Replace timer
C. Foreign material in brine valve	C. Clean or replace brine valve
D. Foreign material in brine line flow control	D. Clean brine line flow control
E. Low water pressure	E. Raise water pressure
F. Improper programming	F. Check programming and reset as needed
CONDITIONER FAILS TO DRAW BRINE	
A. Drain line flow control is plugged	A. Clean drain line flow control
B. Injector is plugged	B. Clean or replace injectors
C. Injector screen is plugged	C. Replace screen
D. Line pressure is too low	D. Increase line pressure (line pressure must be at least 20 psi at all times)
E. Internal control leak	E. Change seals and spacers and/or piston assembly
F. Improper programming	F. Check programming and reset as needed
G. Timer not operating properly	G. Replace timer
CONTROL CYCLES CONTINUOUSLY	
A. Timer not operating properly	A. Replace timer
B. Faulty microswitches and/or harness	B. Replace faulty microswitch or harness
C. Faulty cycle cam operation	C. Replace cycle cam or reinstall
DRAIN FLOWS CONTINUOUSLY	
A. Foreign material in control	A. Remove piston assembly and inspect bore. Remove foreign material and check control in various regeneration positions
B. Internal control leak	B. Replace seals and/or piston assembly
C. Control valve jammed in backwash, brine or rinse position	C. Replace piston and seals and spacers
D. Timer motor stopped or jammed teeth	D. Replace timer motor and check all gears for missing teeth
E. Timer not operating properly	E. Replace timer

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SOFTENER.