



EQUO SOFT

WATER SOFTENER

OPERATION AND MAINTENANCE MANUAL



FOR OTHER INFORMATION



MINI



MAXI

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CE **DICHIARAZIONE DI CONFORMITA'**

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

Con la presente dichiara che i prodotti denominati:

• **EQUO SOFT** addolcitori

Rispondono alle principali caratteristiche delle seguenti direttive europee:

- **2014/30/CE del 26/02/2014** - *Armonizzazione delle legislazioni degli Stati membri relative alla compatibilità elettromagnetica – Direttiva EMC*
- **2014/35/CE del 26/02/2014** - *Armonizzazione delle legislazioni degli Stati membri relative alla messa a disposizione sul mercato del materiale elettrico destinato a essere adoperato entro taluni limiti di tensione – Direttiva BASSA TENSIONE*
- **2011/65/UE del 08/06/2011 con successivo aggiornamento 2015/863 del 31/03/2015** – *Direttiva ROHS III*
- **2012/19/UE del 04/07/2012** – *Direttiva RAEE per i rifiuti elettrici ed elettronici*

La presente dichiarazione è rilasciata sotto la responsabilità esclusiva di Aqua S.p.A.

San Martino in Rio (RE) - 22 dicembre 2020

Davide Vezzani
Responsabile Certificazioni - Aqua S.p.A.



1. GENERAL INTRODUCTION

This Operation and Maintenance Manual refers to the “**EQUO SOFT Water Softener**” in its **MINI** and **MAXI** versions and describes the conditions required to ensure its correct functioning and maintenance over the years.

The water softener is designed for softening potable (drinking) water and uses cationic resins that are regenerated with brine, a solution obtained using salt specifically made for water softeners.

This manual is an integral part of the product and must accompany it during its entire life, even if it changes ownership, until its demolition and disposal. It is advisable to strictly follow the instructions in this manual. Make sure it is read in its entirety and understood.

This will ensure the best possible performance from the product.



GENERAL WARNINGS

- It is recommended to have the water softener installed by a certified professional technician.
- Product suitable for cold water: do not install the softener if the water temperature exceeds 30°C (86°F).
- The resins deteriorate if the water in the softener freezes or if hot water passes through them.
- The resins also deteriorate if the raw (inlet) water is turbid or contains ferrous iron. For this reason, a depth filter should always be installed before the softener.
- The softener must be positioned close to a drain in order to eliminate the water used in the regeneration cycle and any discharge from the salt compartment overflow.
- This softener is suitable to treat potable (drinking) water; it cannot be used to treat water that, microbiologically, does not comply with legislation or of unknown quality.
- Do not connect your water softener directly to a well, rainwater or borehole water unless the water has undergone prior treatment to make it potable.



Under European Directive 2002/96/EC, all electrical and electronic equipment must be disposed of in compliance with the requirements set out for electrical or electronic waste.

This directive or similar laws are in effect at the national level and may vary from region to region. Refer to provincial and local laws to learn what the disposal procedures are for this type of equipment.

2. TECHNICAL SPECIFICATIONS

Formato bombola	Contenuto resina (lt)	Capacità ciclica (m3/°F)	Consumo medio sale per rigenerazione (gr)	Portata max consigliata (m3/h)
<i>Vessel size</i>	<i>Resin capacity (lt)</i>	<i>Cyclic capacity (m3/°F)</i>	<i>Average salt consumption for regeneration (gr)</i>	<i>Flow-rate recommended (m3/h)</i>
7"x17"	6,0	33,0	900	1,0
8"x17"	8,0	44,0	1200	1,5
10"x17"	12,0	66,0	1800	2,0
7"x35"	14,0	77,0	2100	2,5
8"x35"	18,0	99,0	2700	3,0
10"x35"	28,0	154,0	4200	3,0
10"x44"	35,2	193,6	5280	4,0
13"x44"	54,0	297,0	8100	4,0
10"x54"	44,0	242,0	6600	4,0
13"x54"	75,0	412,0	11250	5,0

MINI MODEL



CARATTERISTICHE TECNICHE

- Stampaggio a iniezione;
- 100% materiale non tossico, riciclabile e per uso alimentare (PP), conforme a D.M. 174/04;
- Bombola indipendente dal pozzetto, a singola saldatura e connessione da 2" 1/2;
- Estrema facilità di manutenzione e pulizia senza la necessità di disassemblare la struttura;
- La parte superiore, estraibile, consente la completa accessibilità al vano del pozzetto senza dover rimuovere la valvola;
- Resina cationica per addolcitore inclusa. Indice nominale 5500/150;
- Capacità contenitore salamoia: 36 Lt;
- Valvola elettronica da 1" con BY-PASS integrato;
- Rigenerazione in controcorrente;
- Alimentazione: 230 VAC 50Hz;
- Pressione di esercizio: 2 - 8 BAR (29 - 116 PSI);
- Temperatura d'esercizio: 5° - 42°C (41°F-107°F°);
- Test invecchiamento: 250.000 cicli - 0-12 BAR;
- Colori standard: cabinato bianco/grigio, bombola nera.

TECHNICAL FEATURES

- *Injection moulded;*
- *100% non-toxic, recyclable and food grade material (PP), in conformity Italian Ministerial Decree 174/04;*
- *Unique brine/pressure vessel separation chamber. Pressure vessel with single mirror welding and inlet size 2" 1/2;*
- *Easy clearing and maintenance without disassembling the system;*
- *Detachable salt lid for easy accessibility to brine compartment without removal of valve;*
- *Cation exchange resin included. Par value 5500/150;*
- *Brine capacity: 36 Lt;*
- *Electronic valve 1" with BY-PASS integrated;*
- *Upflow regeneration;*
- *Power supply: 230 VAC 50 Hz;*
- *Working pressure: 2 - 8 BAR (29 - 116 PSI);*
- *Working temperature: 5° - 42°C (41°F-107°F°);*
- *Cycle test: 250.000 cycles - 0-12 BAR;*
- *Standard color: white/grey cabinet, black tank.*

MAXI MODEL



CARATTERISTICHE TECNICHE

- Stampaggio a iniezione;
- 100% materiale non tossico, riciclabile e per uso alimentare (PP), conforme a D.M. 174/04;
- Bombola indipendente dal pozzetto, a singola saldatura e connessione da 2" 1/2;
- Estrema facilità di manutenzione e pulizia senza la necessità di disassemblare la struttura;
- La parte superiore, estraibile, consente la completa accessibilità al vano del pozzetto senza dover rimuovere la valvola;
- Resina cationica per addolcitore inclusa. Indice nominale 5500/150;
- Capacità contenitore salamoia: 78 Lt;
- Valvola elettronica da 1" con BY-PASS integrato;
- Rigenerazione in controcorrente;
- Alimentazione: 230 VAC 50Hz;
- Pressione di esercizio: 2 - 8 BAR (29 - 116 PSI);
- Temperatura d'esercizio: 5° - 42°C (41°F-107°F°);
- Test invecchiamento: 250.000 cicli - 0-12 BAR;
- Colori standard: cabinato bianco/grigio, bombola nera.

TECHNICAL FEATURES

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- *Working temperature: 5° - 42°C (41°F-107°F°);*
- *Cycle test: 250.000 cycles - 0-12 BAR;*
- *Standard color: white/grey cabinet, black tank.*

3. TRANSPORT AND HANDLING

The equipment must be transported in its original packaging, which has been made and arranged to minimise impacts and protect protruding parts subject to damage.

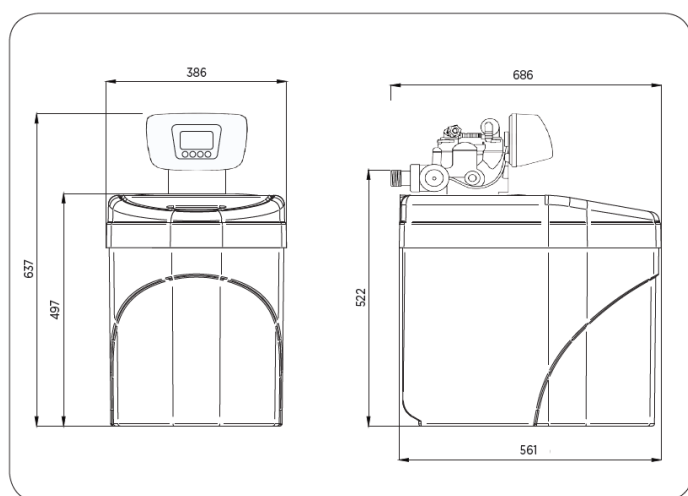
If the equipment has to be transported at any time following installation (e.g. return for repair or replacement), re-use the original packaging or, if unavailable, use sufficiently robust packaging and protect the equipment with shock-absorbing material (e.g. bubble wrap).

The external packaging must ensure the integrity of the equipment in case of a fall from a height of 1 metre.

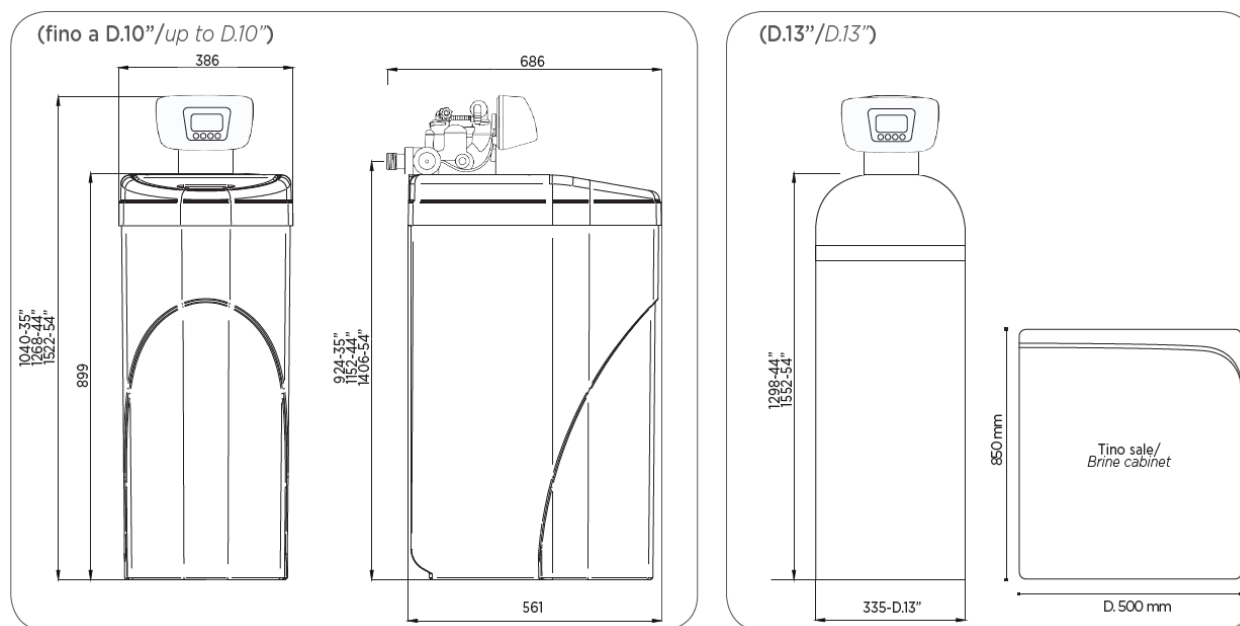
4. DIMENSIONS

The water softener must be placed in a suitable place that includes electrical power supply, water supply and drain line. It has the following dimensions:

MINI



MAXI



5. INSTALLING THE WATER SOFTENER

5.1 GENERAL INSTRUCTIONS

Handle the water softener with care during installation to avoid damaging plastic parts.

Do not install the water softener under direct sunlight or close to a heat source because this can cause the plastic material to deteriorate over time.

The water softener works with a minimum raw (inlet) water pressure of 1.5 bar and can withstand a maximum pressure of 8 bar. In case of higher pressures, use a pressure reducing valve adjusted to maximum 8 bar before the softener.

The water softener valve is pre-programmed at the factory for an inlet pressure of **2 bar**. If the raw (inlet) water pressure is significantly higher, the times for the various phases must be re-programmed using the tables in the RUNXIN valve manual, otherwise water and salt consumption during regeneration will be higher than is strictly necessary.

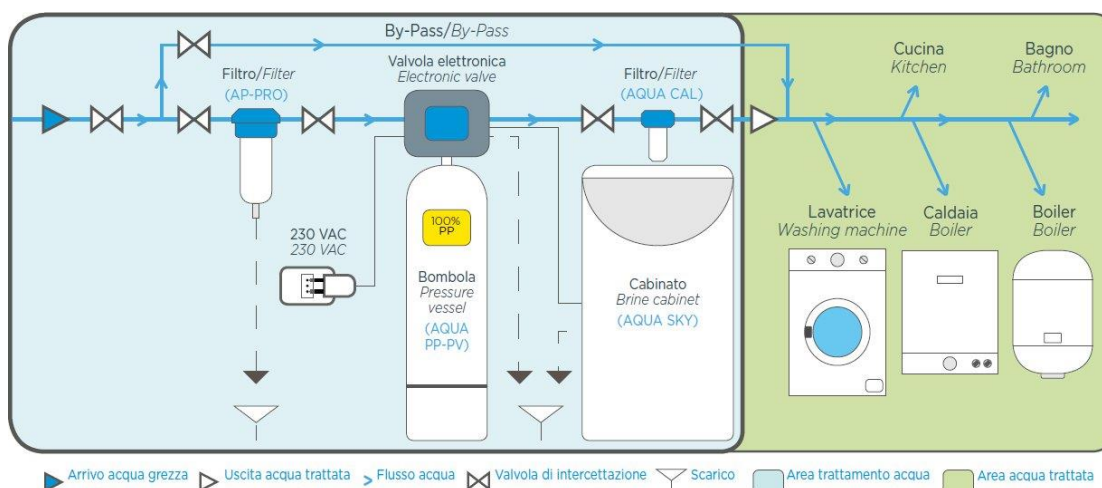
Power the valve using the supplied transformer only.

Make sure to plug the transformer to a compliant 230V outlet with surge protector, such as a switch or a fuse.

Install the water softener at the main water supply of the building or house.

Leave enough distance between your water softener and walls or other equipment for easier salt replenishment and maintenance.

A good rule of thumb is to connect the water softener to the main water supply or, in any case, before water heating devices (boiler, water heater, washing machine, dishwasher, etc.) because limescale forms easily with hot water.



After placing the water softener in the suitable position, a certified installer must see to the plumbing and electrical connections and the first start-up.

The following are the required plumbing connections:

- connection to water supply;
- connection of brine hose;
- connection of backwash drain hose;
- connection of the overflow drain hose.

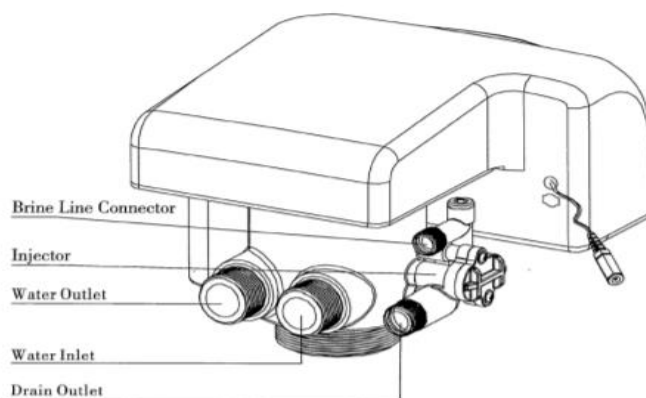
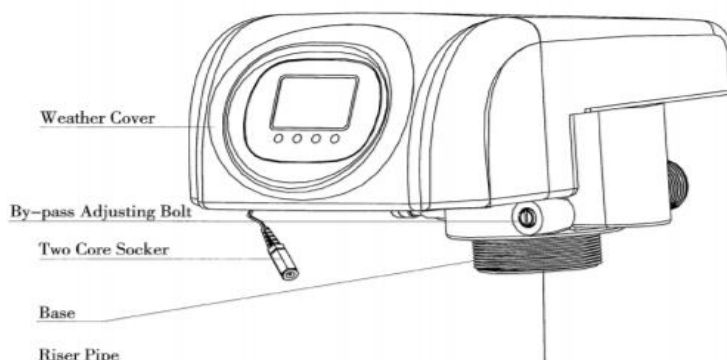
The following are the required electrical connections:

- Electrical supply to the valve with transformer.

The following steps are necessary before the first start-up:

- introduce salt in the salt cabinet (or in the tank);
- introduce water in the salt cabinet;
- adjust the clock and set the language;
- change the water treatment capacity based on the water's hardness level;
- change cycles and times if the inlet pressure is different than 2 bar;
- launch a manual regeneration after waiting at least 30 minutes.
- When regeneration has finished, find the exact position of the adjusting bolt.

Regarding the operations to make on the valve, refer to the adjacent images to identify the related connections.



5.2 PLUMBING CONNECTIONS



WARNING:

BEFORE INSTALLING THE WATER SOFTENER, MAKE SURE YOU CUT OFF THE MAIN WATER SUPPLY

5.2.1 CONNECTION TO THE WATER SUPPLY

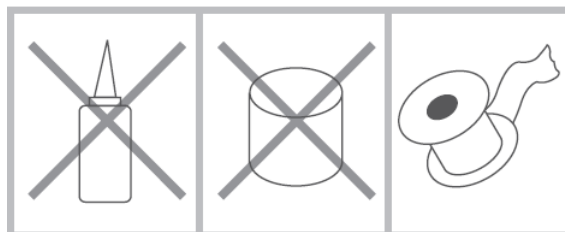
This valve includes bypass with flow meter installed inside.

As a rule, connection to the water supply of the building or house is made on the bypass. However, the valve can be connected directly, without the interposed bypass, but you lose the possibility of measuring the water flow and regeneration will work in “timed” mode only.

Whether connected directly or to the bypass, 1”M threaded connectors are required.

Flexible fittings are best for connection to the water supply line and avoid using sealing pastes, liquid hardeners, silicone, hemp or other; use plumber's (Teflon) tape only.

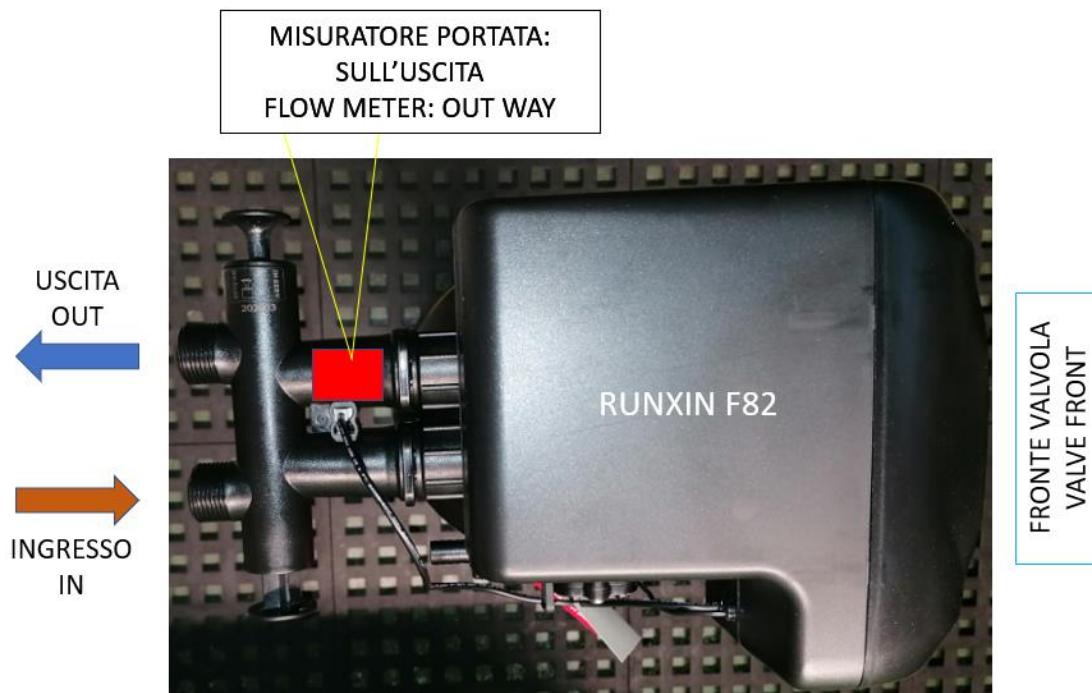
To connect the bypass to the valve, use the specific fittings; the latter must be screwed on to the valve after the gasket has been placed.



Teflon

These fittings are threaded on the valve side but fork fit quick connectors (push-in) on the bypass side.

The valve/bypass assembly looks like the one in the following image:



The bypass-valve connection is made as shown in the following images:



Be sure to slide the flow sensor in from the flow meter installation side (normally on the outlet hose).

The bypass has two operating positions:

- “bypass” mode (the water to be treated does not enter the water softener)
- “in service” mode (the water to be treated enters the water softener)

When the water softener is in operation, the bypass knob must be in the position shown in the following image.



5.2.2 CONNECTING THE BRINE HOSE

The resins regenerate using brine. The brine is drawn by the valve located in the brine tank, passed through the cationic exchange resin and then sent to the drain line.

The brine hose connection is that shown in the adjacent image. Use the hose supplied.

During connection, be careful not to lose the fitting gaskets.



5.2.3 CONNECTING THE BRINE HOSE

During regeneration, a certain amount of brine and water is sent to the drain line in order to clean the cationic exchange resins from clog-causing impurities and regenerate them through the brine.

The drain hose connection is that shown in the adjacent image. Use the hose supplied.

During connection, be careful not to lose the fitting gaskets.



Fasten the drain hose to the fitting on the valve; if necessary, use a hose clamp or a cable tie. Cut the hose to the length required to reach the drain connection. To avoid odours, it is best to use a siphon drain.



WARNING: The water used during regeneration is ejected through the drain hose. The drained water is under pressure. For this reason, attach the hose correctly and ensure it is stable; this will avoid flooding the room where the softener is being installed.

5.2.4 CONNECTING THE SALT CABINET OVERFLOW

The salt cabinet (or salt tank) comes with an overflow that prevents too much water from getting in the cabinet - and thus, water flowing out and flooding the room that houses the softener - in the event of a bad regulation or malfunction of the valve.

For this reason, a drain fitting is installed at the top of the rear side of the cabinet that must be connected to the drain line using the specific hose.

Sometimes it is not possible to connect this fitting to a drain line because it is either too far away (in this case, it is a gravity drain line) or too high.

In such cases, we recommend installing a float valve (OPTIONAL) that stops the water supply to the salt cabinet when a certain safety level is reached.



The float valve is applied to the bulkhead (optional) and looks like the adjacent image.

Make sure in these cases to adjust the float valve slightly below the level of the cabinet's overflow connection.



WARNING: Drainage of the salt tank overflow is by gravity, therefore it is of **UTMOST IMPORTANCE** that the level of the salt tank overflow fitting is higher than the drain inlet. Do not connect the salt tank overflow hose to the regeneration drain hose with a T-fitting or a Y-fitting because the water sent to the drain during regeneration can end up filling the salt tank instead of being ejected, causing malfunctions and/or flooding.

5.3 ELECTRICAL CONNECTIONS



WARNING: BEFORE MAKING THE ELECTRICAL CONNECTIONS, MAKE SURE THERE ARE NO BARE WIRES OR LIVE BARE ELECTRICAL PARTS.

To connect the valve, simply connect the supplied power adapter to a 230V outlet. The plug on the valve must be connected to the socket on the supplied adapter. Once connected, the valve will emit a bip sound and the display will turn on.

5.4 STARTING THE UNIT



WARNING: THE VALVE IS PRE-PROGRAMMED AT THE FACTORY BASED ON THE RESIN LITRE CAPACITY OF THE PURCHASED WATER SOFTENER AND CONSIDERING UP-FLOW OPERATION AND A RAW (INLET) WATER PRESSURE OF 2 BAR. YOU NEED TO SET THE CURRENT TIME AND THE SOFTENER'S TREATMENT CAPACITY BASED ON THE WATER'S HARDNESS LEVEL.

5.4.1 ADDING SALT

Resin treatment (regeneration) is made possible by the use of brine made from water and salt specifically designed for water softeners, placed inside the brine cabinet.

Therefore, in order to activate the water softener, you must put water softener salt in the cabinet.

We recommend using pre-treated salt pellets of the highest purity rate, to prevent the release of water-insoluble matter in the cabinet.

For the first start-up, put at least 1 bag (25 Kg) of water softener salt in the cabinet.

The salt level must be monitored during normal operation. The salt level should always be above the water line in the cabinet.

5.4.2 ADDING WATER IN THE CABINET

Water is needed inside the cabinet in addition to salt. The water dissolves the salt, creating the brine required for the regeneration.

During the first start-up, you will also have to introduce water in the cabinet (besides salt) in order to subsequently launch the first manual regeneration.

Introduce approximately 10 litres of water in the MINI model and approximately 15 litres of water in the MAXI model. Extreme precision is not important. When in doubt, it is always better to add more rather than fewer litres.

Before launching a regeneration (manual or automatic), you have to wait at least 30 minutes for the water to dissolve the salt and create the brine.

5.4.3 SETTING THE CURRENT TIME AND LANGUAGE

One of the required adjustments to make on the valve is setting the current time.

To make this adjustment, let's first look at what shows up on the valve display:



During service the display shows the message “Valve in Service” and the current time. During the first start-up, the current time flashes at 00:00:00; this is why it needs to be adjusted with the current time.

Besides the time, the following information appears on the display with a cyclical pattern:

- Work mode (immediate, delayed or intelligent)
- Remaining water (end of cycle residual capacity)
- Ratio (current drawing of water)

The valve has a lock/protection (light  on) that is activated after 60 seconds of inactivity.

To unlock the valve, press and hold down the arrows  and  for 5 seconds.

A sound goes off when the valve is unlocked (light  off).

To adjust the clock, make sure the valve is unlocked and press  to enter the BASIC program mode.

This will take you to the following menu:

Sequenza display	Scritta a Display	Range	Spiegazione	Modo di funzionamento						
				A-01	A-02	A-03	A-11	A-12	A-13	A-21
1	Scegli fra 12/24 ore tipo di orologio	12 Hr o 24Hr	Selezionare modalità di visualizzazione orario, su 12 o 24 ore	default: 24Hr						
2	Imposta l'orologio	00,00 - 23,59	Indicare l'ora reale	da impostare						
3	Controlla l'acqua usata nel giorno		Indica la quantità d'acqua utilizzata durante la giornata in corso	parametro di lettura						
4	Media dell'acqua usata negli ultimi 7 giorni		Indica la media della quantità di acqua giornaliera degli ultimi 7 giorni	parametro di lettura						
5	Scegli fra Gal/L/mc	US Gallons Litros Mc	Selezionare l'unità di misura desiderata	deafult: Mc (metri cubi)						
6	Impostazione avanzata		Entra nel sottomenù delle impostazioni avanzate, ad uso del costruttore o dell'installatore/manutentore.							

Scroll through the menu with the arrows ▲ and ▼.

To access an item and set or change a value, you must press . To bring the valve from program to service mode, press  once.

From this menu, you can set the current time (item 2 in the menu). Although pre-set, you can also change items 1 and 5 if different settings are preferred.

Item 6 (advanced setting) is used to subsequently set the water softener's treatment capacity.

The default language on the valve is Italian but you can choose from 10 different languages (Italian, English, Spanish, French, Russian, German, Polish, Dutch, Slovenian and Chinese).

If you wish to change the language, proceed as follows:

- Remove the power supply to the valve;

- Press and hold down buttons  +  simultaneously

- Restore the power supply to the valve; After 5 seconds you will hear a sound and enter the language selection mode.

- Select the desired language and press  to confirm.

5.4.4 ADJUSTING TREATMENT CAPACITY

The water softener has a cyclic capacity in relation to the amount of resin contained in the vessel. The cyclic capacity of the purchased model can be deduced using the table in Section 2.

The cyclic capacity is the amount of water (in cubic metres) that the water softener can treat at each cycle, before regenerating the resins, to remove 1°f (French degrees) of hardness in the raw (inlet) water. Take into account that 1°f = 10 mg of CaCO₃ per litre of water = 10 ppm.

If we only had to remove 1°f of raw (inlet) water hardness, we would simply set the valve with the cyclic capacity value and the softener would activate regeneration after consuming the cubic metres of the cyclic capacity.

In practice, however, we always need to remove several French degrees of hardness so we need to set the correct value on the valve otherwise regeneration will not start at the right time.

Let's see how to calculate the right treatment capacity value to set in the valve with an example:

- Purchased water softener: 10"x35" – 28 L of resin: cyclic capacity 154 m³/°f (from table in Section 2)
- Raw (inlet) water hardness: 40°f
- Desired water hardness: 15°f
- Hardness to remove: 40°f – 15°f = 25°f
- Softener capacity setting for the valve: 154 m³/°f : 25°f = **6.16 m³**



To make the above-mentioned adjustment, you have to determine the hardness of the raw (inlet) water. If unknown, it has to be measured with the specific hardness measuring kit (optional).

After determining the raw (inlet) water hardness, you need to decide what hardness level of water you want (normally between 10-15°f) and divide the cyclic capacity of the purchased model by the difference between the two hardness levels.

Please bear in mind that the tendency is not to use hardness levels lower than 10°f because they are harsh on the metal parts of pipes, taps, gate valves, etc.

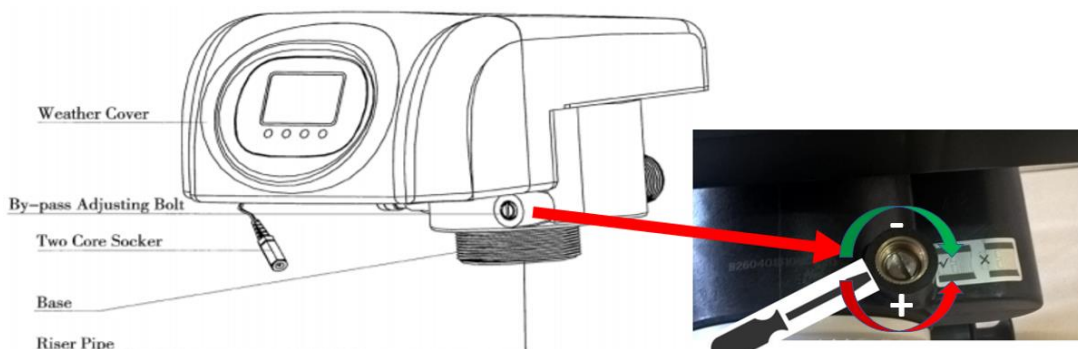
Vice-versa, hardness levels higher than 15°f tend to produce excessive limescale build-up, nullifying the benefits of the water softener.

The hardness level of the treated (outlet) water in this calculation must match the hardness level to which the valve will actually be set though the hardness blending valve, otherwise the valve will calculate the time to perform a new regeneration of the resins incorrectly.



THE DESIRED HARDNESS LEVEL OF THE TREATED (OUTLET) WATER, IN FACT, IS NOT OBTAINED AUTOMATICALLY BY THE SETTINGS ON THE VALVE DISPLAY; IT HAS TO BE SET MECHANICALLY THROUGH THE ADJUSTING BOLT, FINDING THE RIGHT POSITION AFTER TESTING THE WATER A FEW TIMES.

To achieve the right hardness level of the treated (outlet) water, after the first manual regeneration you need to find the right adjustment of the adjusting bolt located on the valve by testing the hardness of the water each time with the measuring kit (optional).



Once you have determined the water treatment capacity per cycle, you must enter this value in the valve's memory. To do this, use the valve's advanced menu (row 6 of the basic settings) and enter the water treatment capacity per cycle in item 6c.

The advanced menu includes the following controls and related default values, which can be modified by the user.

Sequenza display	Scritta a Display	Range	Spiegazione	Modo di funzionamento						
				A-01	A-02	A-03	A-11	A-12	A-13	A-21
6a	Imposta modo di funzionamento	A-01 A-11 A-02 A-12 A-03 A-13 A-21	A-0 rigenerazione Down-flow A-1 rigenerazione Up-flow 1 Rigenerazione vol. ritardata 2 Rigenerazione vol. immediata. 3 Rigenerazione vol. ritardata con calcolo media consumi giornalieri della settimana A21 Control. filtro a volume o a tempo max	default: A-13 - Intelligente/Up-flow						
6b	Imposta tempo di rigenerazione	00,00 - 23,59	Orario a cui deve avvenire la rigenerazione ritardata (con esclusione di A-02 e A-12)	default: ore 02:00						
6c	Imposta produzione acqua in ciclo	0 - 99,99 m3	Indicare la resa ciclica dell'addolcitore (non presente se si sceglie modo di rigenerazione A-21). Di default viene impostata la Capacità Ciclica Nominale, Es. Addolcitore 10x35 da 28Lt di resina = 154 mc da dividere per i gradi di durezza Francese tolti (durezza in ingresso-durezza all'utenza)	Da impostare = Capacità Ciclica / Durezza tolta (es. 154 mc x°F / 35°F = 4,4 mc)						
6d	Imposta tempo di lavaggio lento	0 - 99':59"	Durata del controlavaggio	Impostazione di fabbrica - non modificare						
6e	Imposta tempo sale e lavaggio lento	0 - 99':59"	Durata del ciclo di salamoia	Impostazione di fabbrica - non modificare						
6f	Imposta tempo di riempimenti acqua	0 - 99':59"	Durata riempimento tino sale	Impostazione di fabbrica - non modificare						
6g	Imposta tempo di lavaggio	0 - 99':59"	Durata risciacqua	Impostazione di fabbrica - non modificare						
6h	Massimi giorni fra rigenerazioni	0 - 40	Impostare ogni quanti giorni deve essere effettuata la rigenerazione indipendentemente dal consumo di acqua. Ad es. Impostare 4 se si vuole una rigenerazione forzata dopo 4 giorni max	default: 15 giorni						
6i	Imposta modo di lavoro relè di uscita	b-01 o b-02	b-01: Il contatto ausiliario viene attivato all'inizio di una rigenerazione e disattivato alla fine. b-02: Il contatto ausiliario viene attivato solo all'inizio di ogni singola fase rigenerativa nonché all'entrata in servizio	default: b-01						

As shown in the table, the valve's default operation is UP-flow (countercurrent regeneration) intelligent mode (regenerates when the capacity is exhausted but only at the preset times and considering the average daily consumption of the last week), with regeneration at 02.00 (at night, when normally no water is consumed), and, in any case, at least every 15 days even if no water has been consumed, to prevent any formation of bacteria in the resin.

These values can be modified if they do not satisfy the user's requirements.

5.4.5 CHANGING THE CYCLES AND TIMES



CYCLE TYPE AND CYCLE TIME MODIFICATIONS MUST BE MADE BY SPECIALISED PERSONNEL.

Factory settings are those under points 6a, 6d, 6e, 6f and 6g as shown in the preceding table.

Parameter “6a” defines how the valve will perform the regeneration.

The default setting is “A-13 UP-Flow-intelligent”, but it can be set to other 5 modes. Never enter A-21 because this mode is for filters and not water softeners.

There are 7 automatic operation modes:

- 3 for water softeners with downflow (co-current) regeneration;
- 3 for water softeners with upflow (counter-current) regeneration;
- 1 for operation in filtration mode.

The 3 different possible modes for both downflow and upflow water softener operation provide the following options:

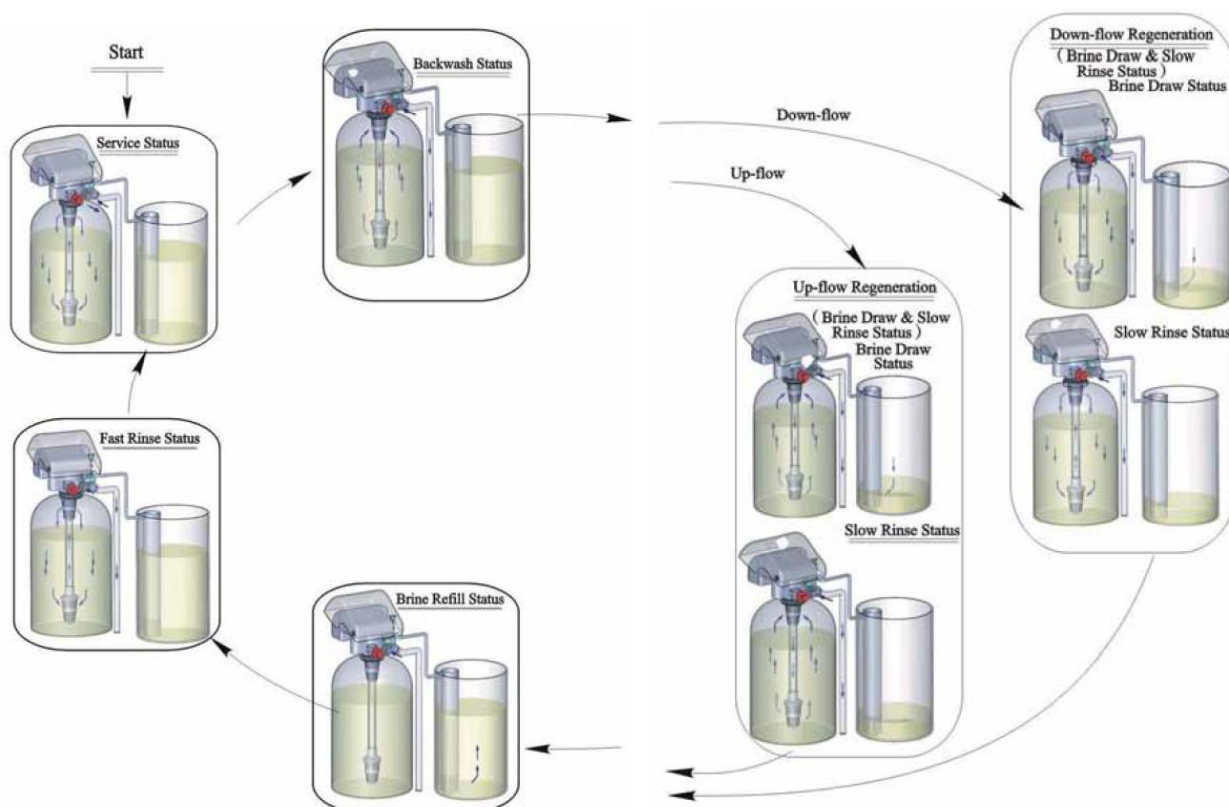
- 1) regeneration at the set hour when the set cyclic capacity is already exhausted;
- 2) regeneration as soon as the set cyclic capacity is exhausted;
- 3) regeneration at the set hour only if the valve predicts that the usage required for the next day will not be covered based on the week's average daily consumption.

The “filtration” mode does not apply to water softeners.

The softener follows slightly different sequential stages depending on the cycle selected.

These can be graphically represented as follows:

Opzione	Modalità Operativa	Descrizione
A-01	Flusso equicorrente Rigenerazione a Volume ritardato	Rigenerazione in equicorrente. La valvola rigenera quando il volume di acqua trattata raggiungere il volume e l'orario impostato
A-02	Flusso equicorrente Rigenerazione a Volume immediato	Rigenerazione in equicorrente. La valvola rigenera quando il volume di acqua trattata raggiungere il volume impostato.
A-03	Flusso equicorrente Volume Intelligente	Rigenerazione in equicorrente. La valvola rigenera all'orario impostato se la capacità residua della resina è inferiore al consumo medio degli ultimi sette giorni.
A-11	Flusso Controcorrente A Volume ritardato	Rigenerazione in controcorrente. La valvola rigenera, quando il volume di acqua trattata raggiunge Quello impostato e all'orario preimpostato per la rigenerazione .
A-12	Flusso Controcorrente Volume immediato	Rigenerazione in controcorrente . una volta che il volume di acqua trattata raggiunge quello impostato la valvola rigenera .
A-13	Flusso Controcorrente Volume Intelligente	Rigenerazione in controcorrente La valvola rigenera all'orario impostato se la capacità residua della resina è inferiore al consumo medio degli ultimi sette giorni.
A-21	Filtraggio	Come Filtro: La valvola inizia il controlavaggio quando il volume di acqua trattata e all'orario pre impostato per il controlavaggio.



Points 6d, 6e, 6f and 6g of the advanced menu, refer to the execution time for each stage of the selected cycle.

These values are pre-programmed at the factory based on “A-13 UP-Flow intelligent” operation mode and a raw (inlet) water pressure of 2 bar.

A specialised technician can modify these times using the tables provided in the RUNXIN valve manual if the inlet pressure differs significantly from 2 bar and/or if an operating cycle other than the factory setting (A-13) is chosen.

5.4.6 FIRST MANUAL REGENERATION



PRIOR TO ACTIVATING THE WATER SOFTENER, EVEN FOR THE FIRST MANUAL REGENERATION, MAKE SURE THERE ARE NO LEAKS OR DRIPPING. PRIOR TO INITIATING THE FIRST MANUAL REGENERATION, WAIT AT LEAST 30 MINUTES AFTER INTRODUCING THE SALT IN THE CABINET.

A manual regeneration is required prior to putting the softener into service in order to clean the resins and container of any dirt or dust resulting from the installation.

In addition, this operation regenerates the resins and thus enables the softener to start with the correct cyclic capacity count.

First of all, the softener has to be filled with water; follow the steps below to stabilise the pressure and allow any air to bleed out of the softener:

- Close the main supply valve at the system inlet.
- Move the bypass to the BY-PASS position.
- Open 2 or more cold water taps downstream of the softener.
- Open the main supply valve slowly and allow the water to flow until it is running out of the open taps. When no more air is coming out of the tap, the stream of water is no longer irregular, and water hammering stops, you can move on to the next step.
- Keep at least 1 tap open and move the bypass to the SERVICE position. Do this slowly to prevent the pressure in the water softener from rising too quickly.

- Check for leaks or dripping; if you find any leaking or dripping parts, tighten them.
- Wait until no more air is coming out of the tap and the water is running smoothly, then close the tap.
- Again, make sure there are no leaks; after this, the water softener is ready for the first manual regeneration.

To launch a manual regeneration, make sure the valve is unlocked and press .

This operation manually launches a complete regeneration, performing all the stages automatically. At each change of stage, the stage currently in progress is shown on the display. When the regeneration process is finished, the message “in service” appears on the display. From this moment, the water softener is programmed to work automatically.

A manual regeneration can be launched at any time by following the steps that were just described.

It is also possible to “skip” stages by pressing the  button again after launching the manual regeneration (or with an automatic regeneration in progress). Every time the button is pressed, the system moves on to the next consecutive stage.



WARNING: WATER CAN BE DRAWN FROM THE TAPS WHILE THE SOFTENER IS REGENERATING BUT IT WILL BE UNTREATED WATER. THIS IS WHY THE BEST THING TO DO IS SET THE REGENERATION PROCESS TO AN HOUR WHEN WATER IS NOT USUALLY DRAWN.

5.4.7 ADJUSTING THE BLEND ADJUSTING BOLT

Once the water softener has been put in service, you need to make sure that the treated water has the hardness desired and as set in point 6c of the softener treatment capacity.

When adjusting the hardness of the water coming out of the tap, take into account that the water treated by the softener has a hardness of about 0-2°f.

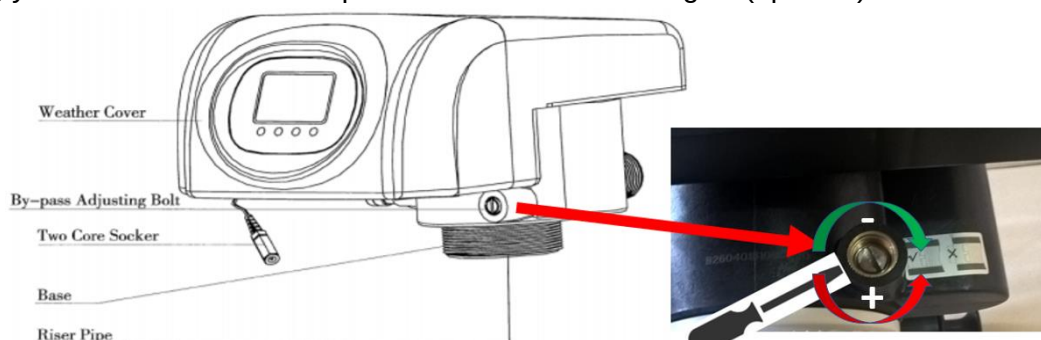
This water is too harsh on pipes and tap metal parts; the hardness level required is usually in the 10-15°f range.

To obtain water with this hardness level, softener treated water and untreated water are blended. These two waters are blended through a conduit inside the valve that can be opened or narrowed using the hardness blend adjusting bolt.

When the bolt is fully screwed in, completely treated water will come out of the water softener (0°f). When the bolt is turned counter-clockwise (i.e. loosened), a conduit gradually opens that leads to the blending with untreated water, which is blended inside the valve.

It will take a few tries to find the right position of the adjusting bolt for the desired hardness at the tap.

For this, you will need to use the specific hardness measuring kit (optional).



6. USING THE UNIT

The unit must be used in accordance with the methods and instructions provided in this manual.

The unit is used to treat potable (drinking) water and, for this reason, only expert personnel is allowed to perform adjustments and/or modifications, where needed.

Once the water softener has been put in service, it will operate automatically. You just need to add salt for the regeneration process when the level is too low.

AVOID UNINTENDED USES of the unit to prevent damage to things and injury to people that could result from flooding, uncontrolled splashes, dripping, electrical contacts, etc.

7. CLEANING AND MAINTENANCE

7.1 CLEANING THE SOFTENER

The unit must be cleaned on a regular basis to ensure efficient operation. It is advisable to clean the unit after maintenance work and salt top-ups.

In particular, periodically check that the salt has not solidified, binding together, in which case it has to be broken up and loosened.

Make sure the salt has not created slush deposits inside the cabinet, otherwise drain the water out of the cabinet and collect the accumulated slush.

7.2 SOFTENER MAINTENANCE

The water softener does not require any particular maintenance under normal operating conditions, except the normal periodical checks.

In general, to avoid malfunctions or sudden stops, take care to carry out the following checks:

- check the electrical and plumbing connections and ensure they are sound;
- check the valve attachments for leaks.

Technical assistance must be provided by expert and authorised personnel only.

Resins have a useful life and tend to deteriorate over time. Gradually, the water softener will become less efficient over the years, due to natural resin degradation.

If the water softener is no longer meeting the user's requirement, replace the water softener or, at least, the resins.

8. WARRANTY

The manufacturer warrants the water softener against defects proven to be the manufacturer's responsibility for a period of time starting from the Customer's date of purchase, as shown by a fiscally valid proof of purchase.

The warranty time and conditions are specified in the manufacturer's "General Conditions of Sales". The warranty shall be construed as the free repair or replacement of component parts of the unit that are found to be defective due to faulty workmanship.

Aqua is not liable for defects that were found by Technical Personnel to be caused by conditions other than the product's operation. The warranty does not cover work for replacement of components subject to wear and/or removable components, unless their breakage and/or malfunction can be ascribed to a defect in workmanship or materials. Also excluded from the warranty are interventions by personnel without specific technical training and unauthorised personnel.

Aqua disclaims any and all liability for installations not performed in a workmanlike manner.

Likewise, Aqua disclaims any and all liability for damages and/or injuries directly or indirectly caused to people, goods or animals due to the failure to comply with the instructions provided in the instructions manual regarding the use, operation and maintenance of the unit.

9. REGULATORY COMPLIANCE

In addition to the CE Declaration of Conformity provided at the beginning of this manual, the following additional conformities apply to this product:

Aqua S.p.A. hereby certifies that the pressure equipment in the products:

EQUO SOFT series Water Softeners

comply with the following requirements:

PED DECLARATION OF CONFORMITY

- Italian Legislative Decree no.93 of 25/02/2000, implementation of Directive 97/23/EC on pressure equipment (PED).

DECLARATION OF CONFORMITY POTABLE WATER PRODUCTS

- Italian Ministerial Decree 07/02/2012 no.25 – Technical provisions on equipment for treatment of water intended for human consumption;

- Italian Ministerial Decree 06/06/2004 no.174 - Regulation on materials and devices that can be used in fixed installations for capture, treatment, introduction and distribution of water intended for human consumption;

and also declares that:

Aqua S.p.A. Operates under a ISO 9001:2015 quality system as certified by TUV.

San Martino in Rio: 22/12/2020

The head of certifications

Engineer Davide Vezzani

10. Registro interventi di verifica e manutenzione
10. Registry of the verification and maintenance

Numero	Descrizione attività verifiche e manutenzione	Data manutenzione	Ore impiegate	Data prossima manutenzione	Note	Firma
Number	Description of the activities of verification and maintenance	Maintenance date	Hours worked	Next maintenance date	note	Signature
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

