AQUA SKY MINI & EQUO SOFT MINI

rev. 2019

PROGRAMMING MANUAL

Bemærk at dette produkt udelukkende er godkendt til teknisk vand, og ikke må anvendes til drikkevand i Danmark.

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 INTRODUCTION

This Installation and use 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.

TECHNICAL SPECIFICATIONS

Formato bombola	**Contenuto resina (lt)**	**Capacità ciclica (m3/°F)**	**Consumo medio sale per rigenerazione (gr)**	**Portata max consigliata (m3/h)**
Vessel size	*Resin capacity (lt)*	*Cyclic capacity (m3/°F)*	*Average salt consumption for regenaration (gr)*	*Flow-rate recommended (m3/h)*
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

MODELLO MINI

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 (41F°-107F°);
- Test invecchiamento: 250.000 cicli – 0-12 BAR;
- Colori standard: cabinato bianco/grigio, bombola nera.

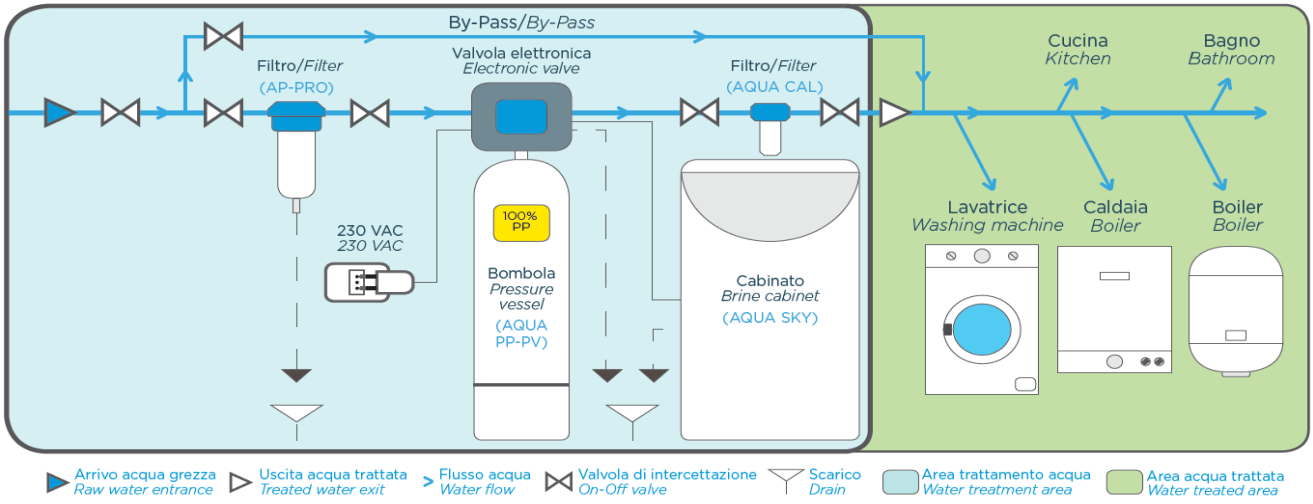
TECHNICAL FEATURES

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

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.

SCHEMA DI INSTALLAZIONE/*INSTALLATION SCHEME*



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

INSTALLATION OF THE DRAIN PIPE AND OF THE BRINE PIPE

- Fix the **drain pipe** to the fitting located on the softener head (we recommend using a hose clamp)
- Cut the pipe to the length necessary to reach the outlet of the drain
- Connect the regeneration drain hose to a drain (preferably fitted with a siphon)

ATTENTION: The water used during the regeneration phase is expelled through the exhaust pipe. The discharged water is under pressure. For this reason it is advisable to fix the pipe correctly and stably so as to avoid flooding in the place where the water softener is installed.

- Fix the **brine pipe** (if it is not already connected) to the fitting with hose clamp located on the softener head.

Once connected the 2 pipes appear as shown in the following picture.

INSTALLATION OF THE OVERFLOW PIPE OF THE BRINE TANK

- For water softeners equipped with overflow pipe of the brine tank, fix the drainpipe to the fitting fixed on the brine tank with a hose clamp.

- Connect the overflow pipe directly to a drain.

PAY ATTENTION: **The discharge of the overflow of the brine tank is gravitational; therefore it is IMPORTANT TO VERIFY that the elbow of the overflow of the tank rises both at a level higher than the point of entry of the drain.**

IMPORTANT: Do not connect the overflow pipe of the brine tank to the regeneration drain pipe with a T or Y fitting because the water sent to the drain at the time of regeneration may fill the brine tank instead of being expelled, thus generating malfunctions.

FILLING THE SALT COMPARTMENT

Enter an adequate amount of salt into the tank, at least equal to the level reached by the water introduced in the Brine Restoration phase.

To allow resin regenerations, it is advisable to put a salt content suitable to guarantee the regeneration process of at least one cycle in the brine tank.

RE-TESTING THE PLANT TO PRESSURE AND LEAKS

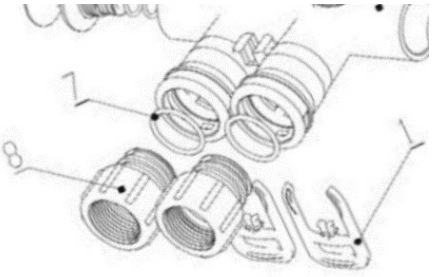
Before proceeding with the commissioning of the softener, it is NECESSARY to follow the following steps to stabilize the pressure and expel the air present in the softener:

1. Close the general supply tap at the system inlet;
2. Open 2 taps (or more) of cold water downstream of the softener;
3. Position the bypass in the BY-PASS position;
4. Slowly open the general supply tap and let the water run until it flows smoothly from the open taps. There must no longer be air or irregular problems, or phenomena called "water hammer";
5. At this point you can place the by-pass in SERVICE operation. This action must be carried out slowly to avoid any rapid increase in pressure in the water softener.
6. Wait about 3 minutes, then open a domestic hot water tap (if present) until the flow becomes regular, then close it;
7. Close all cold water taps and check that there are no leaks on the new hydraulic connection made.

ATTENZIONE: When the valve is in regeneration phase it is still possible to take water from the taps but it is untreated.

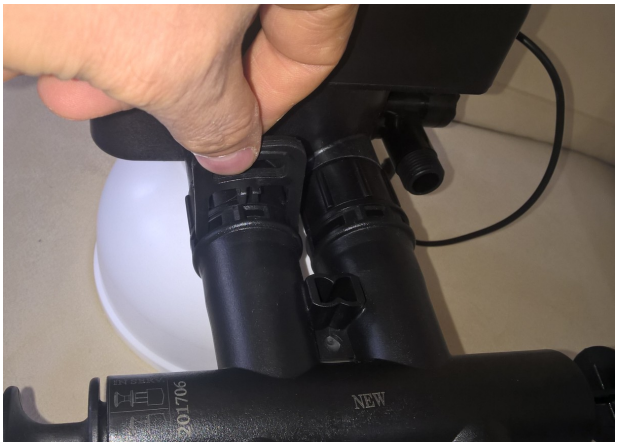
BYPASS VALVE and MIXTURE

The automatic valve is equipped with a by-pass on which the output water flow meter is installed.



The by-pass must be joined to the valve body by inserting the clamp on unions and inserting the appropriate clips. Make sure to insert the gaskets (see n.7 small image).

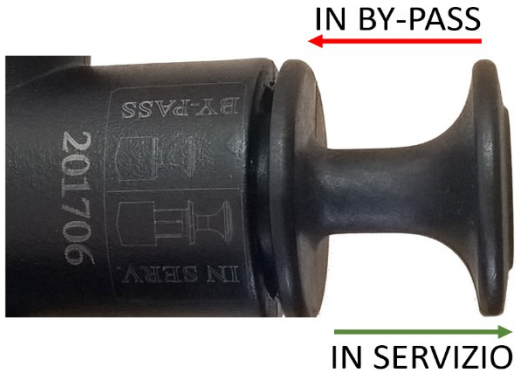
Lastly, the flow meter sensor must be inserted in the special housing, as shown in the following images.



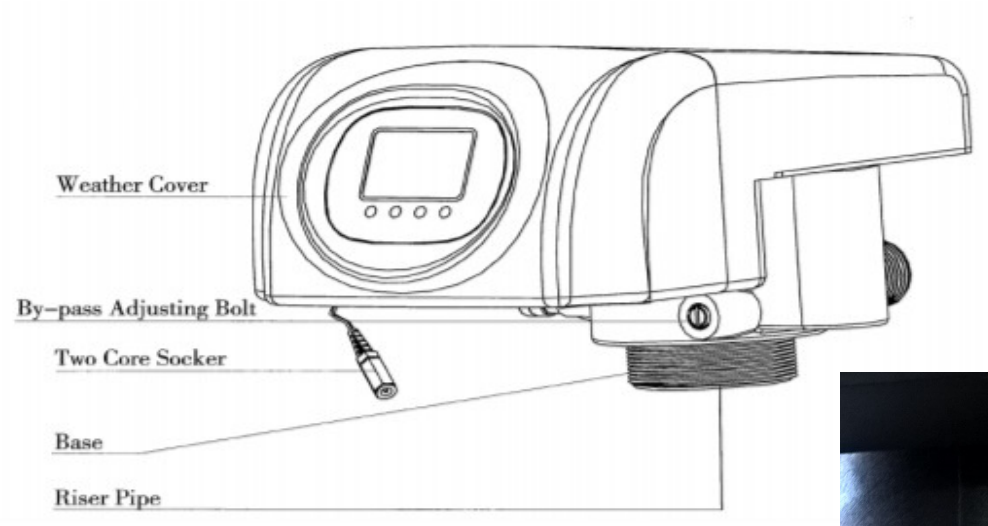
Take care to insert the sensor from the part in which the flowmeter is installed (normally on the outlet pipe).

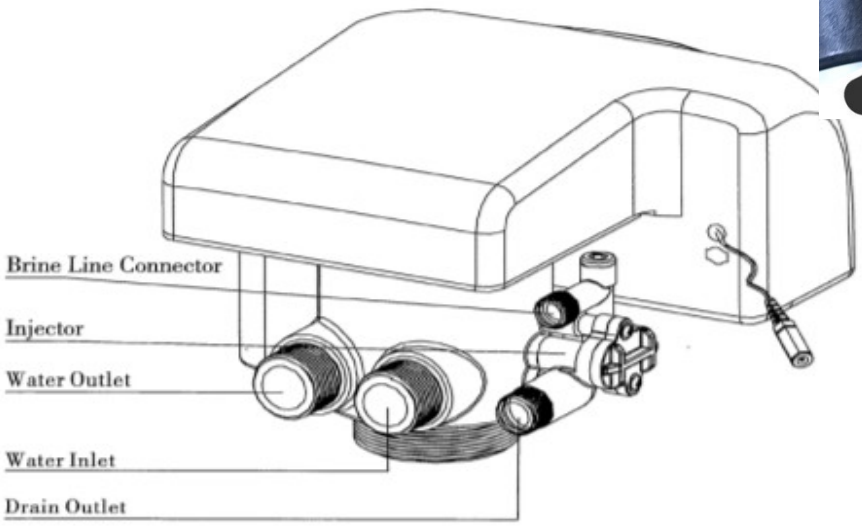
Once the bypass is installed, it is necessary to connect it to the water system in service to the user.

The by-pass has two positions: by-pass or commissioning mode, positioned as shown below:



THE AUTOMATIC VALVE





Once the softener is definitively in commissioning mode, it is necessary to calibrate the mixing valve shown in the following image, located below, on the front of the valve.
By adjusting this screw with the appropriate screwdriver, it is possible to obtain the desired water hardness, normally comprised in between 10-15 ° F.

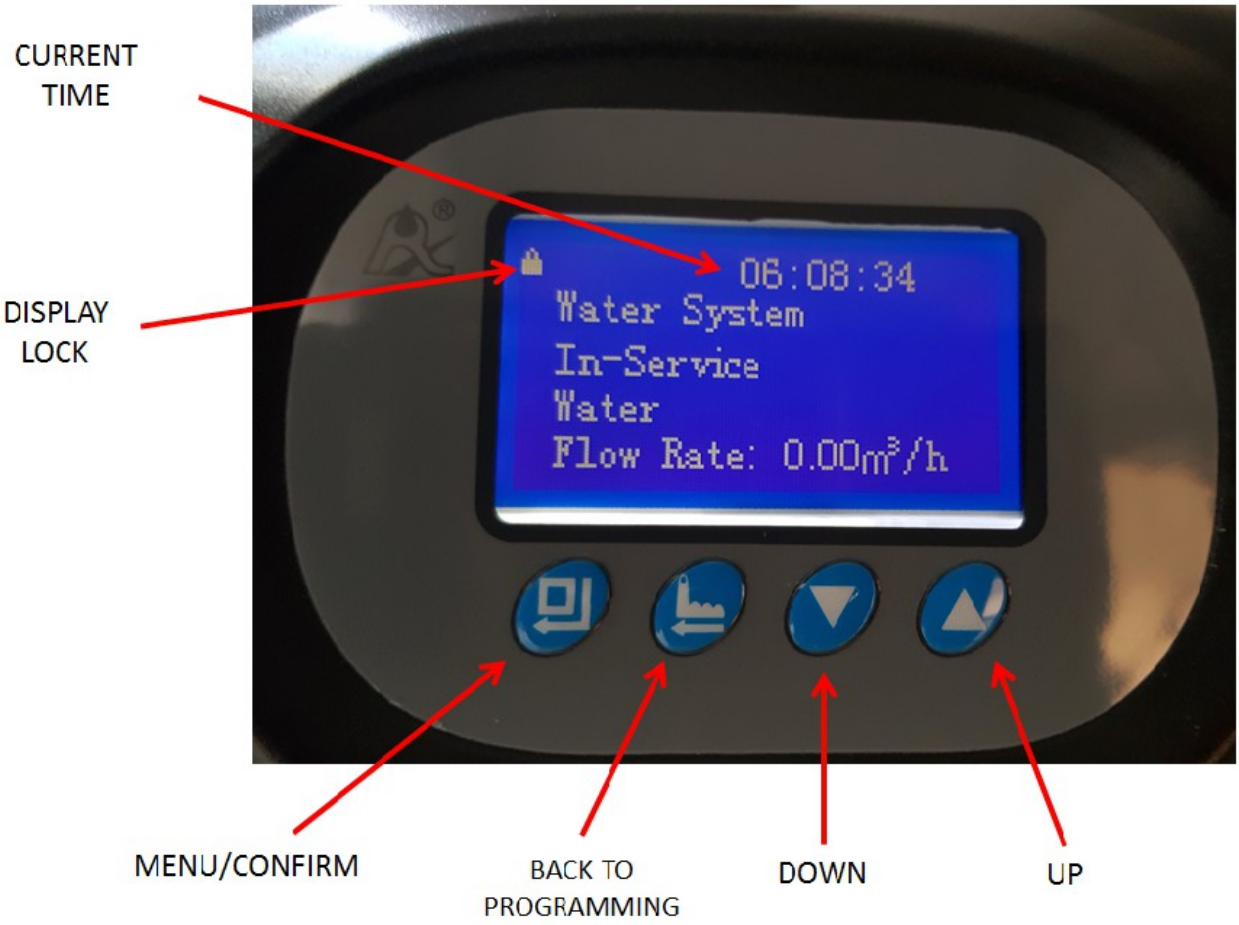
This mixer mixes a part of water treated by the softener (at 0 ° F) with a part of untreated water. The adjustment of the valve allows, after a few attempts, to find the correct mix that permits to have the desired hardness at the taps.

ACCESSORIES

The bulkhead separating the salt and the safety float of the overflow vat are available as accessories (to be ordered separately). To assemble, fit the bulkhead into the guide (remove the "U" bar) and attach the float system to this, to which the brine suction valve is connected, as shown in the figure to the side.

VALVE PROGRAMMING

USER INTERFACE



During the commissioning phase the message “System in Operation”, accompanied by the current time appears on the screen.

The following information also appears cyclically:
- Working method (immediate, delayed or smart)

- Remaining water (remaining capacity at the end of the cycle)
- Ratio (current water withdrawal)

The valve has a lock/ protect function (sign on) which is automatically activated after 60 seconds of inactivity. To unlock the valve, hold the arrow signs ▲ e ▼ for 5 seconds.

An acoustic signal warns when the valve has been unlocked (sign off).

LANGUAGE SELECTION

Remove electric alimentation. Press the buttons + and simultaneously turn on the electrical alimentation. This way, after 5 seconds, you enter the language selection mode. Select the desired language and press to confirm.
The following 10 languages are available: Italian, English, Spanish, French, Russian, German, Polish, Dutch, Slovenian, Chinese.

PROGRAMMING

To unlock the valve, keep both the arrows sign simultaneously pressed ▲ ▼ for 5 seconds (sign 🔒 off).

With the valve unblocked, press the button ↵ to enter in programming menu.
The programming menu may be scrolled with the arrow ▲ ▼.
To enter and modify the single parameters press this button ↵.

To return the valve to commissioning mode during programming, press this button once ⇐

Option	Operative Mode	Description
A-01	Equicurrent flux with slowed volume Regeneration	Equicurrent regeneration. The valve regenerates when the volume of tretaed water reaches the set of volume and time
A-02	Equicurrent flux with instant volume Regeneration	Equicurrent regeneration. The valve regenerates when the volume of tretaed water reaches the set of volume
A-03	Equicurrent flux with Smart volum	Equicurrent regeneration. If the residue resin capacity is lass than the average consumption of the last seven days, the valve regeneretes at set time.
A-11	Contercurrent flux with slowed volume	Countercurrent regeneration. The valve regenerates when the volume of treated water reaches the set at the time of the preset for the regeneration.
A-12	Contercurrent flux with instant volume	Countercurrent regeneration. Once the volume of water treated reaches the one set, the valve regenerates.
A-13	Contercurrent flux Smart volume	Countercurrent regeneration. If the residue resin capacity is less than the average consumption of the last seven days, the valve regeneretes at set up time.
A-12	Filtering	Like Filter: the valve starts the backwash when the treated water volume is at the preset time

The automatic valve installed on this softener can operate in 7 different modes: 3 for softeners with equal-current regeneration (Down-flow), 3 for softeners with counter-current regeneration (Up-flow) and 1 for operation in filtration mode.

The 3 different modes can be set both for the functioning with equicurrent water softeners and for counter-current water softeners. This correspond to the following possibilities:

1) Regeneration at the set time, when the set cyclic capacity has already been exhausted;

2) Regeneration as soon as the set cyclic capacity is exhausted;

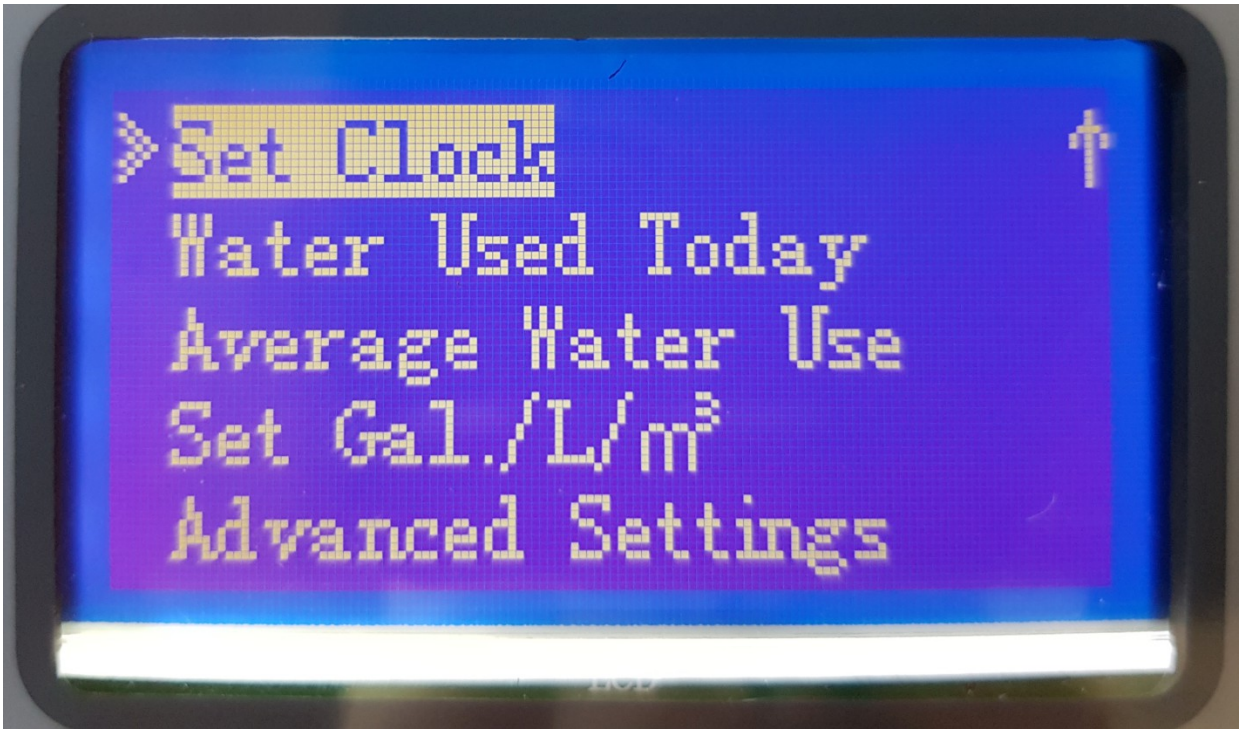
3) Regeneration at the set time only if the valve foresees, based on the average daily consumption of the last week, that it is not possible to arrive at the next day.

In the "filtration" mode, the valve starts backwashing once the capacity is exhausted or after a maximum time beyond which the user requires the backwashing even without having exhausted the capacity of the filtering media.

MAIN MENU

The main menu contains the settings normally used or useful for the user.

It comes with scrolling instructions, selectable by using the buttons ▲ ▼ after which it is possible to enter the other menus with the enter button .



In this menu it is possible to limit the current time, once the automatic valve has been definitively fed (sequence 2).

The other parameters come already preset based on the ordinary configurations. However, the user is free to modify the former if necessary.

Next instruction are based on Italian language.

				Operation mode						
Progr.	**Display**	**Range**		A-01	A-02	A-03	A-11	A-12	A-13	A-21
1	**Select between 12/24 hour**	12 Hr o 24 Hr	Select time display mode, over 12 or 24 hours	default: 24 Hr						
2	**Set current time**	00,00-23,59	Select the current time	to set						
3	**Check the water used during the day**		Indicates the amount of water used during the current day	reading parameter						
4	**Average of water used in the last 7 days**		Indicates the average daily water quantity for the last 7 days	reading parameter						
5	**Choose till Gal/L/mc**	US Gallons Litros MC	Select the desired unit of mesaurement	default: Mc						
6	**Advanced set**		Enter the submenu of the advanced settings, for use by the manufacturer or installer / maintenance technician							

ADVANCED SETTINGS MENU

This menu shows the settings normally used by the softener manufacturer or to be entered by the installer when the softener is put into operation.
In this menu it is possible to set the production of water in cycle (display sequence 6c) since it is related to the hardness in input and to the hardness desired by the user. Therefore, this parameter cannot be set in the factory. Next instruction are based on Italian language.

Progr.	Display	Range	Explanation	Operation mode						
				A-01	A-02	A-03	A-11	A-12	A-13	A-21
6a	**Set operation mode**	A-01 A-11 A-02 A-12 A-03 A-13 A-21	A-0 Down-flow regeneration A-1 Up-flow regeneration 1 regeneration vol. delayed 2 Regeneration vol. immediate. 3 Regeneration vol. delayed with averae calculation of daily consuption of the week A21 Control, volume filter or max time filter	default: A-13 - Intelligente/Up-flow						
6b	**Set regeneration time**	00,00 - 23,59	Time at which delayed regeneration must occur (with the exception of A-02 and A-12)	default: 2:00						
6c	**Set poduction water cycle**	0 - 99,99 m3	Indicate the cyclic yield of the softner (not present if regeneration mode A-21 is chosen). By default the Nominal Cycle Capacity is set, e Water Softener 10x35 of 28Lt of resin = 154 mc to be divided by the French degrees of hardness removed (hardness at entry-hardness to the user)	To be set = Cyclic Capacity / Hardness removed(es. 154 mc x°F / 35°F = 4,4 mc) (not request)						
6d	**Set slow washing time**	0 - 99':59"	Backwash duration	Factory setting - son't chane						
6e	**Set slow washing time and salt time**	0 - 99':59"	Brine duration	Factory setting - son't chane						
6f	**Set water filling time**	0 - 99':59"	Fill duration	Factory setting - son't chane						
6g	**Set washing time**	0 - 99':59"	Rinse duration	Factory setting - son't chane						
6h	**maximum days between regenerations**	0 - 40	Set the number of days to be regenerated regardless of water consumption.Eg Set 4 if you want a forced regeneration after 4 days max	default: 15 days						
6i	**set output relè working mood**	b-01 o b-02	b-01: The auxiliary contact is activated at he beginning of a regeneration and deactivatedat the end. b-02: The auxiliary contact is activated only at he beginning of every single egenerative phase as well as upon commissioning	default: b-01						

CHECK ON APPROPRIATE HYDRAULIC INSTALLATION

Before starting to use your water softener it is mandatory to perform a manual regeneration without adding salt. . To unlock the valve, keep the arrows simultaneously pressed ▲ ▼ for 5 seconds (sign 🔒off).

To start a manual regeneration, with the valve released, press the button .

Press this button again to advance the various regeneration phases:

The phases, whose order cannot be changed, are Backwashing, Brine Suction, Brine Restoration, Final Washing.

During the first manual control regeneration, the first two phases can also be performed manually, but the Brine Recovery phase must be regularly completed, both to verify the filling of the water in the brine tank, and to ensure the presence of brine from the subsequent regeneration, which becomes the actually operational one.

The button is necessary if one wants to return the valve to commissioning mode during programming.

WARRANTY

Aqua SpA (hereinafter Aqua), in the presence of faults or defects for which the responsibility is ascertained by the manufacturer, guarantees the softener for a period starting from the date of purchase by the Customer, which is proven by a document valid for tax purposes.

The guarantee refers to the free repair or replacement of the appliance's components that are defective at the origin due to manufacturing defects, except for the hypotheses listed in the paragraph "Limitations of liability".

The right to the warranty will be proven by the original certificate and document valid for tax purposes, from which it can be deduced: the model of the product and the date of purchase. Maintenance operations under warranty will be carried out only for customers in good standing with payments.

LIABILITY OF AQUA

During the warranty period, Aqua undertakes to correct the defect caused by a manufacturing defect, without any cost to the Customer. If the restoration is not possible through repair and / or if it proves to be excessively burdensome compared to the value of the product, considering the unquestionable judgment of the manufacturer, Aqua undertakes to replace the appliance to the end customer **,notwithstanding the deadline and terms of guarantee** ongoing under the original contract and proven by the tax document issued at the time of purchase. In case of replacement of the appliance, if the same model of the replaced appliance is not available for any reason, Aqua reserves the right to change the appliance with another of a similar type, but of a different model, having the same functions and the same purpose.

LIMITATIONS OF LIABILITY

The defectiveness is not attributable to Aqua, if the Technical Personnel states that it has been caused by external conditions. Another issue out of warranty are interventions performed for the replacement of components subject to wear and / or removable parts, unless their breakdown

and / or their malfunctioning cannot be traced back to defects of origin. Furthermore, interventions carried out by persons who do not have specific technical preparation and are not authorized in any way are excluded from the guarantee. It is understood that Aqua declines all responsibility for installation not performed to the rule of the art, carried out directly by the Customer.
Aqua declines all responsibility for any damage that may directly or indirectly affect to persons, things or animals as a result of failure to comply with all the instructions indicated in the instruction booklet concerning the use, operation and maintenance of the appliance.

INTERVENTIONS OUT OF WARRANTY

Once the warranty period provided in the contract has expired, the costs for any restoration work must be borne by the Customer. In this case,
The warranty does not cover labor and all parts that are found to be defective due to negligence or carelessness in use (failure to follow the instructions for the operation of the appliance), incorrect installation or lack of maintenance, maintenance performed by non-maintenance personnel. Damages derived from transport, or of circumstances that, in any case, cannot be traced back to manufacturing defects of the appliance.

LIMITATIONS OF LIABILITY
(Paid interventions not covered by commercial warranty)
For the sole purpose of explanation and without claiming to be exhaustive, some of the main interventions requested by the Customer which are excluded from the warranty are:

- **Situations where the requirements of effectiveness and applicability of the guarantee do not exist (lack of the fiscal document, etc.).**
- **Explanations regarding the operation of the product, periodic checks and maintenance and everything that, at the time of sale, was brought to the attention of the Customer or that the latter could not reasonably ignore.**
- **For defects caused by foreign bodies.**
- **Situations for which no defect has been detected, as reported by the Customer, or for alleged operational problems deriving from incorrect user impressions.**
- **Situations where insufficient or non-compliant electrical flow rates are found**
- **Situations in which negligence, tampering, accidental breakage, damage in transportation, incorrect handling, as well as improper use and maintenance by the Customer occur.**
- **For incorrect installation. In any case, interventions concerning the installation and connection to the power supply systems, as well as the necessary maintenance, are excluded from the warranty services.**
- **Situations in which failure to comply with what is reported and recommended in the user manual is found, including incorrect maintenance of the product and non-compliance of use or installation in accordance with the provisions in the product instruction booklet. The user manual is an integral part of the sales contract.**
- **If damage caused to the equipment by atmospheric and natural events (such as lightning, floods, fires, etc.) is detected.**

Furthermore, damage caused by impacts and accessories in general are not covered by the warranty. All the transports necessary for carrying out the interventions related to the cases mentioned above are also to be intended as payment.

Declarations of conformity

CE DECLARATION OF CONFORMITY

Aqua S.p.A.
Certifies that the electronic board of:

Equo Soft series water softener – rev.2019

Was designed and built according to the rule of art, and complies with the provisions of the following community directives:

Low voltage directive: 2006/95 / CE (where applicable)
Electromagnetic compatibility: 2004/108 / EC

PED DECLARATION OF CONFORMITY

Aqua S.p.A.
Certifies that the pressure tank of:

Aqua Soft series softeners, Equo Soft - rev.2019

Meet the requirements of Legislative Decree n. 93 of 02/25/2000, as implementation of directive 97/23 / EC on pressure equipment (PED).

DECLARATION OF CONFORMITY TO THE ITALIAN LAW

Aqua S.p.A.
Certifies that the family product:

Aqua Soft series softeners, Equo Soft - rev.2019

They meet the required requirements of:

DM 07/02/2012 n. 25 - Technical provisions concerning equipment for the treatment of water intended for human consumption;

DM 06/06/2004 n.174 - Regulation concerning the materials and objects that can be used in fixed collection, treatment, adduction and distribution systems for water intended for human consumption;

and also declares that:

Aqua S.p.A. opera con sistema di qualità ISO 9001:2015 certificato dal TUV.

San Martino in Rio li: 15/05/2019
CEO AQUA spa
Dott. Ing. Emil Anceschi

Etichetta / Label

Timbro rivenditore / Dealer stamp

AQUA

INDUSTRIAL GROUP

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