

SOFT-XB




User Manual

Read the User Manual carefully before using the product

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Using Attention

 Prohibition sign	Any content with this mark must be prohibited, otherwise it may cause damage to the product or endanger the personal safety of users or cause property loss.
 Warning sign	Any content with this mark must be operated in strict accordance with the requirements, otherwise the product may be damaged or the personal safety of the user may be endangered.
 Attention sign	Any content with this mark must be paid attention to by users, otherwise the product will be damaged or other losses will be caused due to improper operation.

The installation, commissioning or maintenance of this water softener must be carried out by the company's authorized personnel. Our company will not be responsible for any consequences such as pipeline leakage, bad installation that affects the normal operation and performance of the water softener, adverse effects or damage to the water softener, and all the losses caused by the installation of the water softener without the approval of our company.

Using Attention

■ Notices

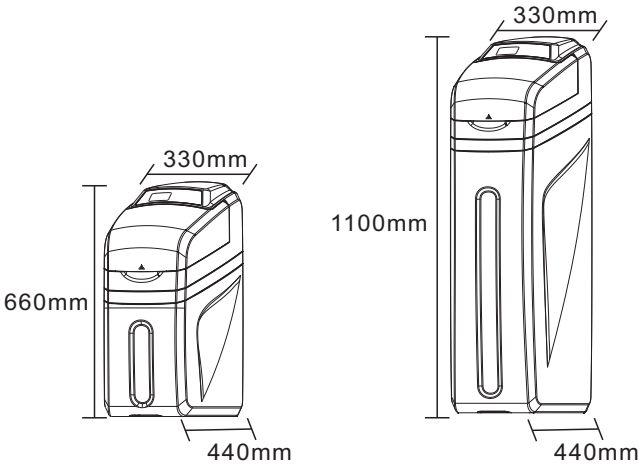
- The water softener can only use 12V=1500mA power supply. During operation and maintenance, please observe all safety precautions related to electrical appliance operation.
- If the power cord of the water softener is damaged, it must be handled by the manufacturer or an authorized service center. The water softener is only used to filter the municipal tap water that has been pretreated. It cannot be used to filter water with unknown microbial status.
- The water softener cannot be directly drunk, please do not drink directly.
- Do not immerse the water softener in water.
- Do not block the overflow pipe and drain pipe of the softener.
- Do not place any objects on the top of this softener.
- Do not use the softener outdoors or in the direct sunlight.
- The inlet water temperature of the softener shall not be greater than 38°C.
- After the water softener has been out of service for a period of time, a regeneration operation shall be added manually before reuse to ensure the quality of produced water.
- During the use of the water softener, do not cut off the power supply to avoid the clock error on the water softener, which will affect the original set regeneration start time of the water softener, so that users may misuse the water that has not been softened. If the water consumption increases sharply (relative to the normal usage) or the hardness of raw water increases, the regeneration cycle shall be shortened accordingly or the hardness of raw water shall be set to increase the regeneration times.
- As the hot water will cause serious damage to the internal treatment system of the softener, users who need to connect the heating hot water boiler or water heater behind the softener should ensure that there is at least 3 meters of connecting pipe between the outlet of the softener and the inlet of the water heater. If the three meters' connecting pipe cannot be maintained, it is recommended to install a check valve between the softener and the hot water boiler.
- To ensure safe usage, overflow pipe must be installed when the softener is installed.
- The environment temperature of the system is 5~40°C, and the ion exchange resin loaded in the barrel is easy to freeze and crack. Please pay attention to antifreeze to avoid resin failure.

Using Attention

- During the operation of the softener, water hammer shall be prevented, such as quickly opening or closing the valve and emergency stop of the water pump.
- Do not exert external force on the machine, and avoid direct sunlight and radiation from other heat sources.

Product Introduction

■ Product Model and Technical Specifications

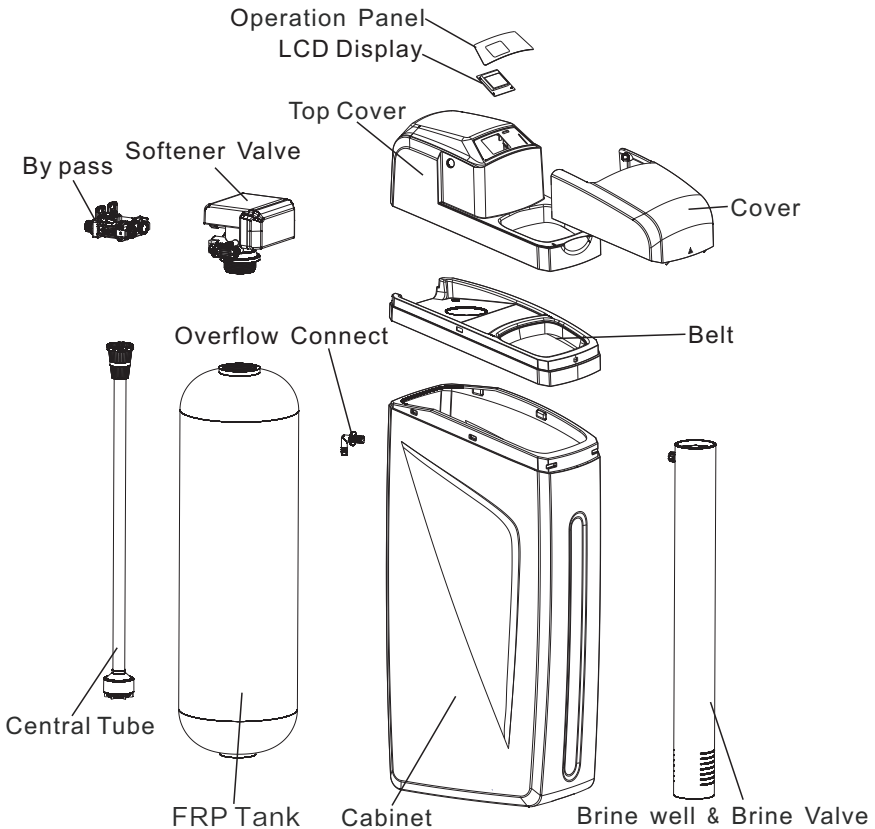


Model	SOFT-XB1	SOFT-XB2
Voltage	AC100~240V	
Power	18W	
Humidity	≤90%	
Temperature	5℃ ~ 40℃	
Water quality	Municipal tap water	
Water pressure	0.15MPa~0.45MPa	
Water temperature	5℃ ~ 38℃	
Protecting Electrifying Type	II Type □	
Regeneration salt consumption	1.2kg~1.4kg(depending on the water quality, for reference only)	2.0kg~2.2kg(depending on the water quality, for reference only)
Flow Rate	1.5m ³ /h	3m ³ /h
Total purified water volume	3000m ³	6000m ³
Water production volume in regeneration cycle	1.78m ³	3.6m ³

Product Introduction

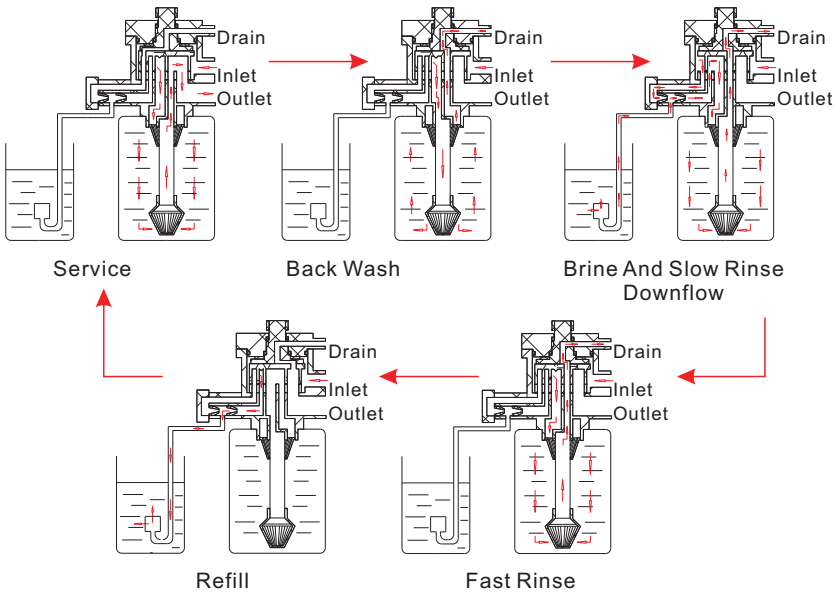
■ Product Parts

Automatic multi-functional control valve	<ol style="list-style-type: none"> 1) Made of high-strength engineering plastics (food grade), reliable and durable 2) Corrosion resistant and rust free 3) Scientific design and excellent structure
Synthetic material FRP tank	<ol style="list-style-type: none"> 1) Manufacturing of advanced synthetic materials (food grade) 2) Light weight, strong bearing force 3) Corrosion resistant and rust free
Softening material	Senior ion exchange resin (food grade)



Product Introduction

■ Working Principle



■ Functions & Features

1) Automatic operation

① Built-in time controller, with 24-hour time control, can automatically calculate the amount of renewable water according to the set resin capacity, raw water hardness and regeneration coefficient, and regenerate when the remaining produced water is 0 and the time reaches the set regeneration initiation time (the default time is 2: 00 in the morning). Or when it runs to the set regeneration interval days, when the remaining water production is not 0 and the time reaches the set regeneration initiation time (the default time is two o'clock in the morning), it is forced to regenerate.

② The control system can calculate and design an economical and effective soft water treatment scheme according to the actual water source situation and actual water consumption of users.

Product Introduction

③ Cyclic function program:

Service:After the raw water flows through the water softener at a certain pressure and flow rate, the Na^+ units in the active groups contained in the ion exchange resin are exchanged with cations such as Ca^{2+} and Mg^{2+} in the water, so that the concentration of Ca^{2+} and Mg^{2+} in the water is reduced and the water quality is softened.

Back Wash:After the ion exchange resin is saturated, it should be backwashed before regeneration. It's purpose is to wash out the suspended impurities trapped and agglomerated on the surface of the resin and some broken resin. Second, the loose and compacted resin layer is conducive to the full contact of resin particles with the regeneration liquid during regeneration, which provides good conditions for ion exchange resin regeneration.

Brine and Slow Brine:The salt solution with a certain concentration and flow rate flows through the entire ion exchange resin layer to regenerate the saturated resin and restore it's softening exchange capacity.

Refill:Add water to the salt tank to dissolve the regeneration salt, and generate saturated salt solution for regeneration.

Fast Brine:Remove the residual salt solution in the resin layer, and clean until the effluent is qualified;Compress the resin layer to achieve the best softening effect.

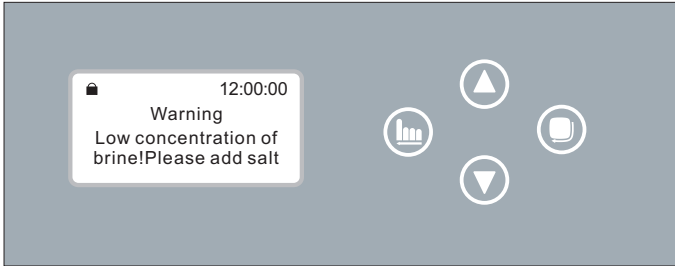
2) Generate saturated salt solution with uniform concentration.

The water in the salt tank is replenished from the bottom to the top, and the salt water settles from the top to the bottom, so that the salt water can be mixed evenly by natural convection, and the saturated state can be better achieved.

3) Salt shortage alarm reminder function (optional)

When salt shortage is detected, it will automatically enter the salt shortage alarm interface to remind the user to add salt in time. If the user has finished adding salt, he can press any key at the water supply station to remove the salt shortage alarm (after adding salt, the salt dissolution time takes about 6 hours).

Product Introduction



Installation and maintenance

■ Packing Details

No.	Name	QTY
1	Water Softener	1
2	Transformer	1
3	User Manual (certificate of approval and warranty card)	1
4	Pipe connector	2
5	Big clip	2
6	Overflow pipe and drain pipe are 3meters in total	1
7	Clamp	2

■ Installation Notices (User must Read)

To avoid installation failure, please read the following carefully before installation.

- As the control components are controlled by electronic circuits, when your home is powered off for three days (72 hours) or the power supply is unstable, the time on display of the control valve will be different from the actual time, which will lead to the regeneration of the water softener at an incorrect time (generally, check the time on display of the control valve and the actual time after working continuously for about 3 months). After the power failure is restored, please check whether the time displayed on the control panel is correct in time. If not, please refer to the related contents in the instruction manual of the control valve to calibrate the clock of the control valve of the water softener.
- If the water pressure is lower than the specified operating pressure of this water softener, please install a booster pump, which should be installed at the front of the water inlet of this water softener. At the same time, the output pressure of the booster pump must not exceed 0.45MPa, otherwise, a pressure reducing valve must be installed between the booster pump and the water softener, otherwise, the company will not be responsible for the adverse effects or damages caused by the excessively high output pressure of the booster pump on the water softener and all the losses caused thereby.

Installation and maintenance

- When the water supply in the community is stopped, the main valve of the water inlet pipe should be closed immediately or the bypass valve of the water softener should be switched to the bypass station, so as to prevent the water softener from being damaged due to the negative pressure on the pipeline caused by the municipal water supply.
- When the water supply in the community is restored, firstly switch the bypass valve of the softener to the bypass station, open the tap in the home, drain the water from the polluted water supply pipe, and then switch the bypass valve to the water supply station. Because when the water supply is restored, a large number of pollutants in the water pipe will pollute the softener. The softener shall not be tilted or laid horizontally during transportation, installation and usage.
- The floor where the water softener is installed should be flat, and the bearing capacity should be greater than $300\text{kg}/\text{m}^2$. Meanwhile, it should have AC power supply, water inlet and outlet interface, sewage pipe and floor drain.
- SOFT-XB1 Installation area: $W \times D \times H \geq 380 \times 580 \times 860\text{mm}$
- SOFT-XB2 Installation area: $W \times D \times H \geq 380 \times 580 \times 1300\text{mm}$
- Please do not install the softener near the place with acid and alkali substances or gases to avoid corrosion to the softener.
- The water softener is required to be installed indoors, and thermal insulation measures must be taken for the body and pipes, especially for frost prevention, and sun protection and waterproof.
- It is prohibited to install the softener on the water supply pipeline with water pressure exceeding 0.45MPa . If the water inlet pressure exceeds 0.45MPa , a pressure reducing valve must be installed (purchased separately), otherwise the company will not be responsible for the consequences such as adverse effects or damages caused to the softener by excessive water inlet pressure and all losses arising therefrom.
- The water softener must be installed and used in a room with a floor drain with smooth drainage. If the drain pipe or floor drain is blocked, and the drain pump cannot drain normally due to power failure or other failures, please immediately close the main water inlet valve of the building. The company will not be responsible for the loss caused by the drainage failure. The installation area shall ensure that in case of water leakage of the softener or connecting pipeline, the articles in the adjacent area or the lower layer of the building will not be damaged or flooded. The company will not be responsible for maintenance or compensation for the loss caused by the nonconformity of the

Installation and maintenance

installation position.

- As shown in the figure below, the drain pipe and overflow pipe must be fixed with ring clips to avoid flushing out during drainage.

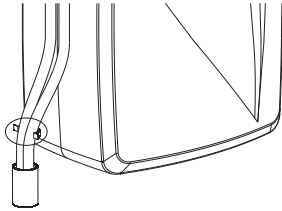


Figure 1

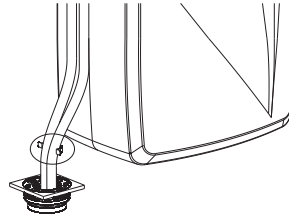


Figure 2

- Before starting to connect the water inlet pipe, please remove the residual impurities and dust in the pipe, then close the main valve before connecting the system.
- The overflow pipe and drain pipe shall be provided with random piping, and the length of piping shall not be increased without authorization, and the pipe diameter shall not be reduced.
- In the process of pipe connection, the pipe should be as close to the wall as possible, the route of the pipe should be straight and the corner should be clear, and the pipe should be fixed on the wall with a ring clamp after pipe laying. Pay attention to the height and placement angle of the pipeline when it is connected, and there should be no obvious stress after the pipeline is connected, so as to avoid water pipe damage and leakage of the water softener or pipeline due to the stress of the pipeline during long-term use.
- It is forbidden to combine overflow pipe and drain pipe into one pipe and introduce it into the sewage outlet.
- When the sewage pipe or floor drain is blocked, it is forbidden to use this water softener.
- After the installation, please check whether there is water leakage at the connecting pipe fittings, the connection between the control valve and the FRP tank, and the bypass connection, and whether there is water level rise in the salt box.
- When connecting threaded parts, seals are generally installed. Therefore, it is not advisable to use too much force, which will easily lead to thread slipping and thread cracking.
- The sewer drainage must be smooth, and there must be an air gap between the sewage pipe (overflow pipe) and the sewage.

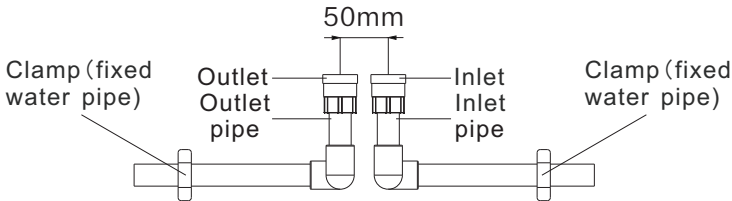
Installation and maintenance

- The sewage pipe(overflow pipe) must not be connected with the sewer in a sealed way, so as to prevent the machine from working normally or the sewage from flowing back to this equipment due to vacuum negative pressure.

■ Installation Method

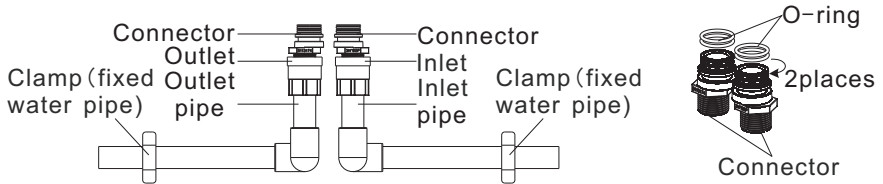
The water softener needs to be installed, debugged and operated for the first time by professionals. The following installation steps are for reference only. (Take PPR pipe as an example)

- 1) Install water inlet and outlet pipes on the wall according to the actual height of the product from the ground(purchased separately).



(Please refer to the actual height and installation environment of the selected product)

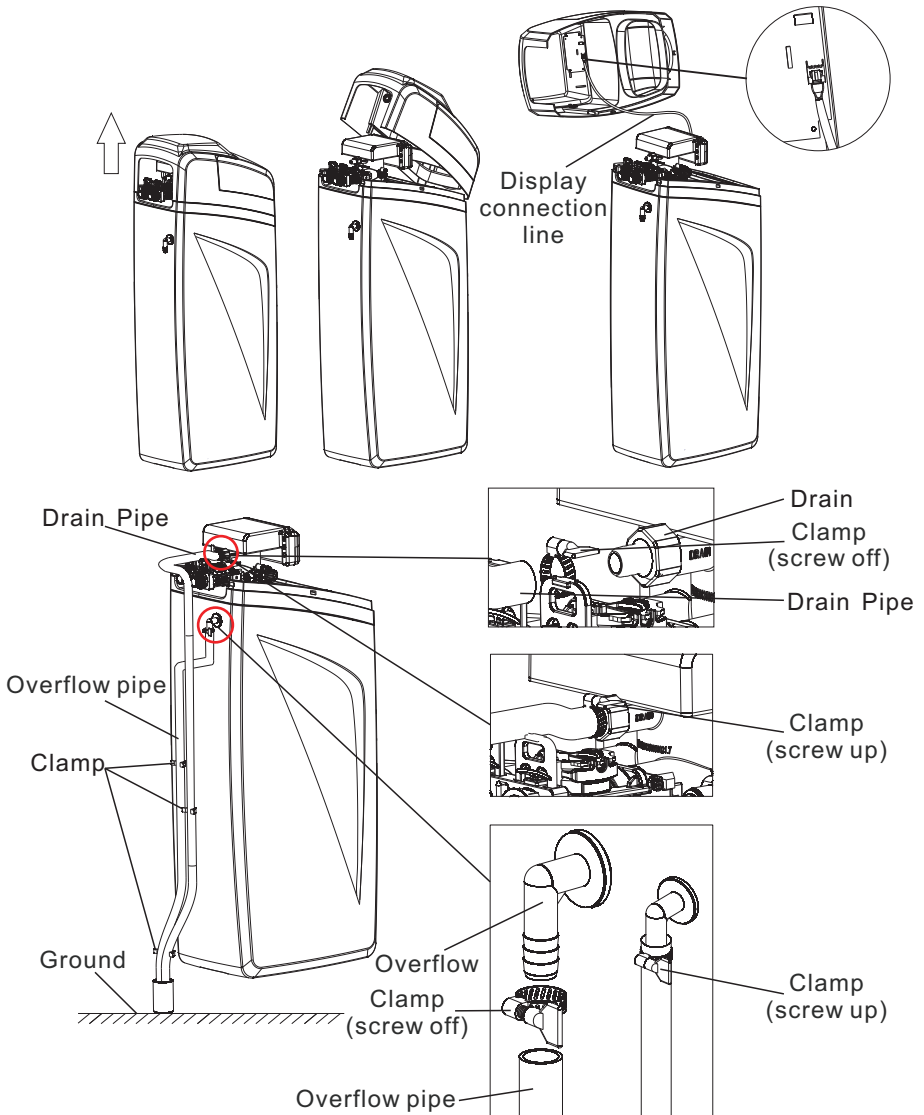
- 2) Connect the bypass pipe connector to the water inlet and outlet respectively.



Note: Please confirm whether the O-ring has been installed.

- 3) Open the upper cover assembly, pull out the connecting line displayed on the operation panel, intercept one sewage pipe and one overflow pipe as needed, install them respectively(fasten the hoses with clamps), sort out the sewage pipe and overflow pipe, and connect them to the floor drain outlet.

Installation and maintenance

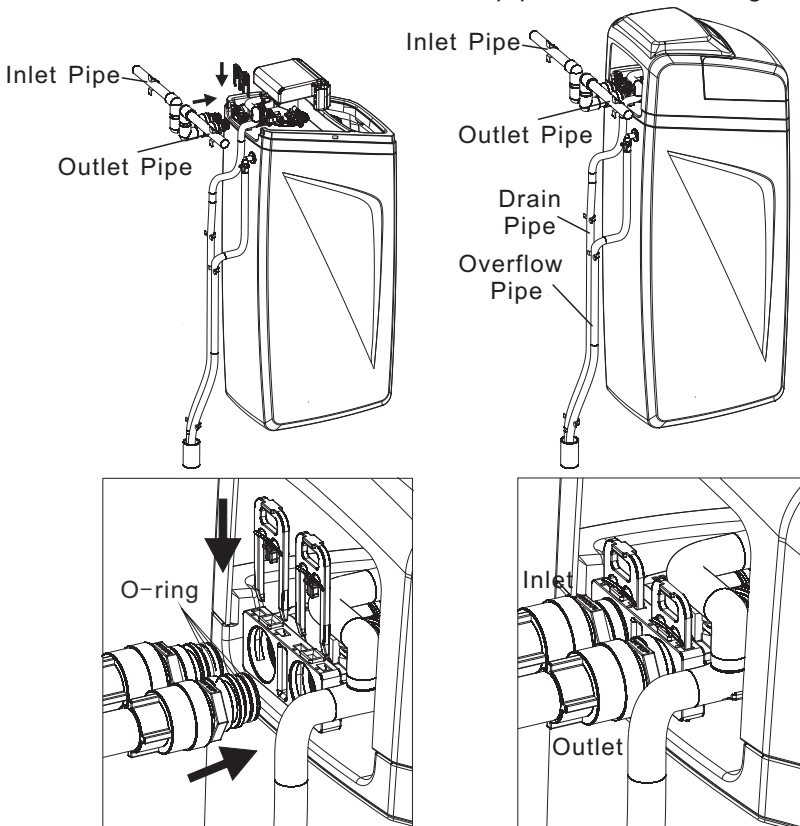


Note: Please fix the sewage pipe and overflow pipe with ring clamp. On the wall to prevent the hose from rushing out of the sewer pipe!

Installation and maintenance

- 4) Go back to the second step, move the product to the corresponding position of the installed connector, connect the water inlet and outlet of the bypass valve with the connector in the corresponding water inlet and outlet direction, then insert the large insert in the accessory package into the slot of the bypass interface card to fix the connection between the bypass valve and the water pipe connector, then connect the display connecting line of the operation panel and cover the upper cover assembly.

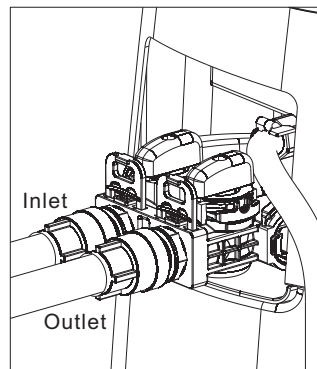
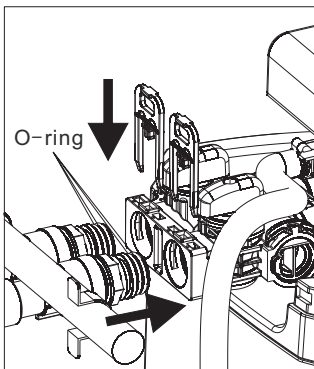
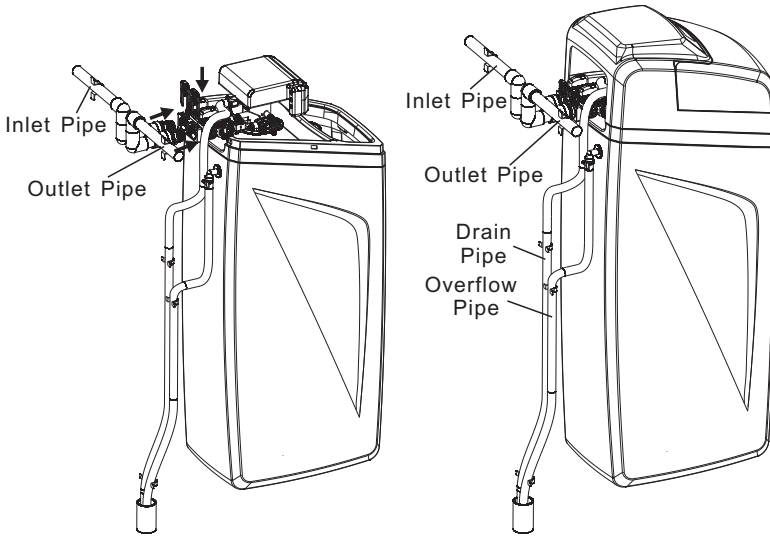
BP-SK inlet and outlet water pipe installation diagram



Note: Please confirm whether the large insert on the bypass valve has been inserted to the bottom.
Please confirm whether the sealing rings on the two bypass pipe connector are installed in place.

Installation and maintenance

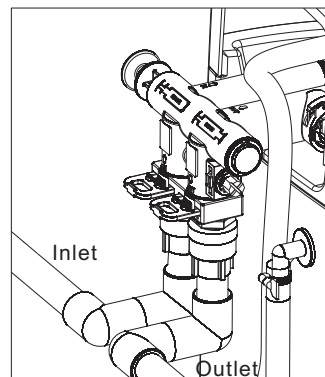
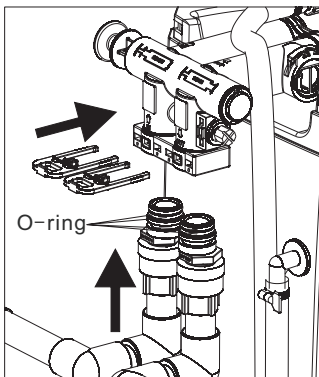
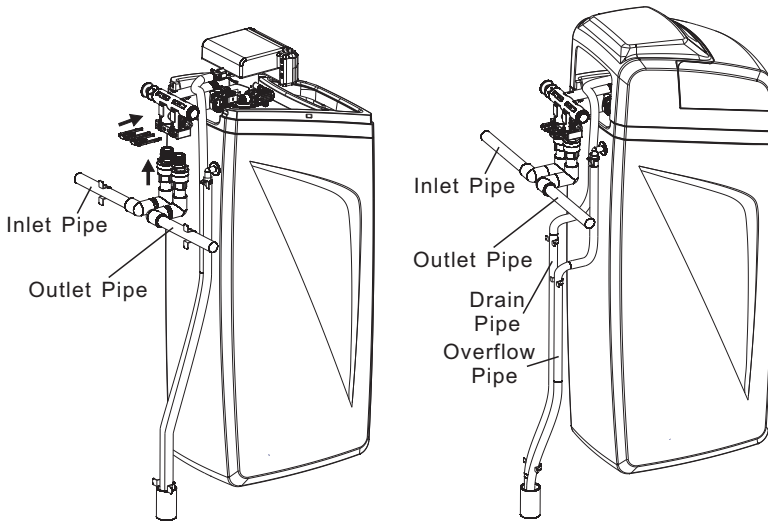
BP-BK bypass valve water pipe installation diagram



Note: Please confirm whether the large insert on the bypass valve has been inserted to the bottom.
Please confirm whether the sealing rings on the two bypass pipe connector are installed in place.

Installation and maintenance

BP-K bypass valve water pipe installation diagram

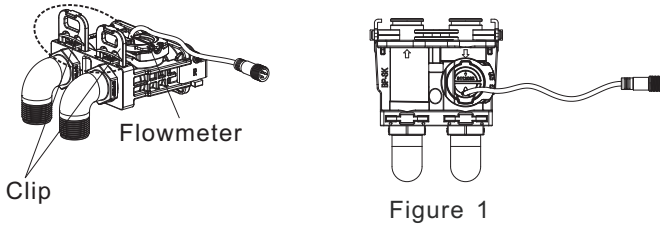


Note: Please confirm whether the large insert on the bypass valve has been inserted to the bottom.
Please confirm whether the sealing rings on the two bypass pipe connector are installed in place.

Installation and maintenance

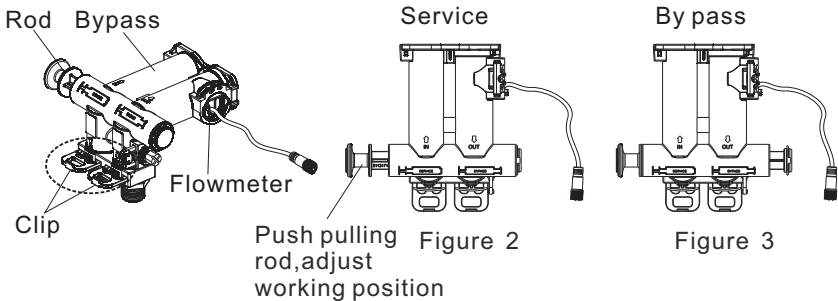
- 5) After the installation steps are completed according to 4), BP-SK water inlet and outlet interface provides water inlet and outlet function, without bypass function.

BP-SK Installation diagram of inlet and outlet interface



- 6) After the installation steps are completed according to 4), please confirm whether the bypass is in the service position (Figure 2). If the bypass is in the bypass state (Figure 3), please pull the push rod to the service position (Figure 2).

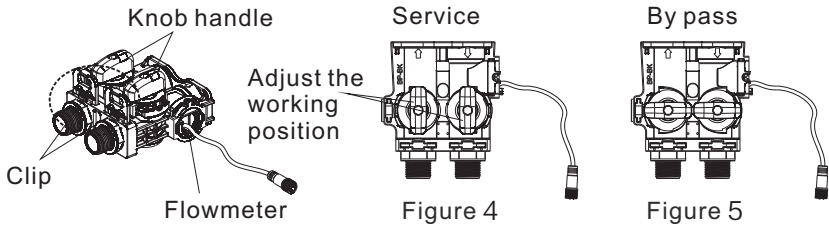
BP-K working position diagram



- 7) After the installation steps are completed according to 4), please confirm whether the bypass is in the service position (Figure 4). If the bypass is in the bypass state (Figure 5), please pull the push rod to the service position (Figure 4).

Installation and maintenance

BP-BK working position diagram



8) Treatment of bypass valve in special cases

In case of equipment failure or other special circumstances, the bypass valve of the machine can be adjusted to the bypass state (push the pull rod to the service position in Figure 3 or confirm whether the bypass is in the service position in Figure 5). You can use municipal water supply directly temporarily. After the failure or problem is eliminated, adjust the bypass valve to the service position (push the pull rod to the state shown in Figure 2 or confirm whether the bypass is in the service position in Figure 4) to restore soft water supply.

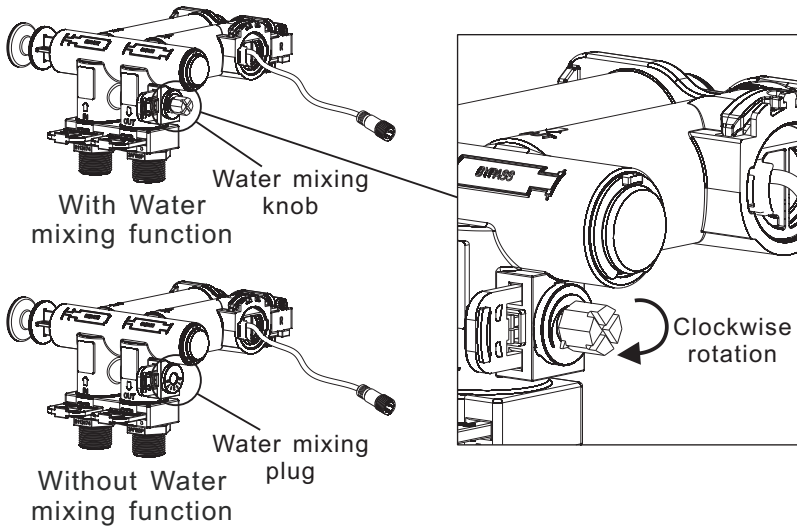
9) For the bypass valve with water mixing function.

BP-K bypass valve is with mixed water function.

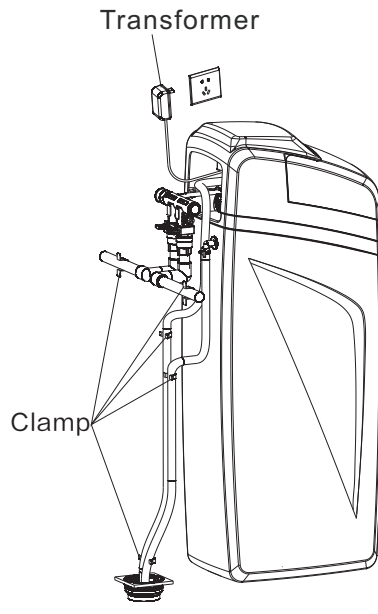
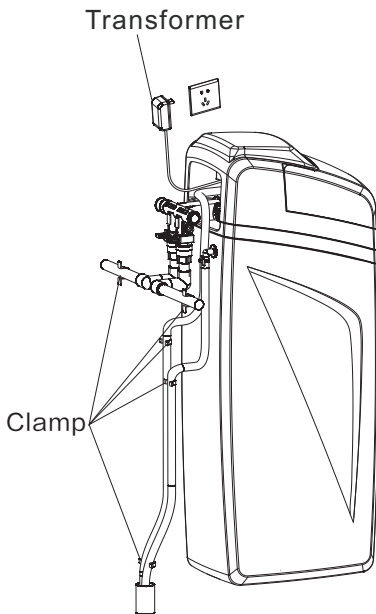
The greater the clockwise rotation angle of the water mixing knob, the higher the proportion of mixed water and the higher the hardness of the outlet water;

If the water mixing function is not required, the water mixing plug can be installed.

Installation and maintenance



10) The general installation diagram is divided into two installation methods. (As shown in the figure below)



Installation and maintenance

If there is an equipment room, it is recommended to follow the installation method in Figure 6;

If not, you can only insert the drain pipe and overflow pipe into the floor drain. As shown in Figure 7, you should ensure that the two hoses are fixed on the wall to prevent the hose from flushing out of the floor drain when discharging, resulting in adverse effects or damage and all losses arising therefrom. The company will not be liable.

11) Install Connections

- The connection and installation of the piping system shall be carried out in accordance with the provisions of the "Construction Standards for Water Supply and Drainage Pipelines". The inlet and outlet interfaces of the water softener and the water pipe interfaces are connected by 3/4 "inner wire PPR pipe or corrugated pipe and must be installed on the same axis (see the installation diagram). Do not install the inlet and outlet positions reversely.
- Connect the inlet and outlet water pipes, drain pipes and overflow pipes in turn to ensure that all connections are sealed without leakage. It is recommended to use flexible pipes to connect the water softener inlet and outlet, drain outlet and overflow outlet (Note: 304 stainless steel, alloy steel forgings, high-strength engineering plastics and other materials shall be used for connecting pipe fittings and valves, and iron valves and pipe fittings are strictly prohibited).
- Installation of drain pipe and overflow pipe: firstly loosen the clamp and sleeve it into the pre-connected hose, then insert the hose into the drain outlet and overflow outlet to the bottom, and finally turn the clamp to the junction of the hose, drain outlet and overflow outlet and tighten it with force. The drain of drain pipe and overflow pipe must be fixed with ring clamp. (Note: The above practice is to ensure that the hose is not washed off or flushed out of the sewer when the customer's home is plugged into the drainage pipe or the water pressure of the floor drain is high)
- The position of control valve shall be higher than the floor drain, and the length of drain pipe and overflow pipe shall be limited within 2 meters. It is strictly prohibited to install any intercepting

Installation and maintenance

device on the drainage pipeline, and the sealing of pipe fittings can only be made of PTFE.

■ First use instructions

1) First operating system settings

After the softener is powered on for the first time, the system shows that water is being supplied. You can press the "■" key to enter the operating system, and you can set the current time, regeneration time, and raw water hardness.

2) First water supply for water softener

Before the first water supply, close the water inlet valve of the building, switch the bypass valve to the service position, and in the unlocked state, manually press the "■" key to start regeneration (refer to page 24), the display screen will display "the system is back washing", unplug the power, and the water softener will remain in the back washing state after power failure; Slowly open the water inlet valve to the 1/4 position (quick opening may cause damage to the softener and loss of resin) At the beginning, the sound of air slowly discharging should be heard in the blowdown pipe. After the air in the FRP tank is discharged (i. e. when the water in the blowdown pipe flows out steadily), the water inlet valve should be fully opened.

Note: If the water inlet valve is fully opened directly, the water flowing into the softener will be too fast, which will cause the softened resin in the tank to billow, which will easily lead to the rupture of the upper umbrella collector and damage the softener! Therefore, it is necessary to slowly open the water inlet valve to the 1/4 position to let the water flow into the tank slowly, exhaust the air in the tank, and fill the tank with tap water.

In the process of backwashing, the effluent of the blowdown pipe shall be checked for many times until the effluent is completely clean; The backwashing time shall not be less than 5 minutes (see Page 26 for the specific duration).

3) First water filling of brine tank

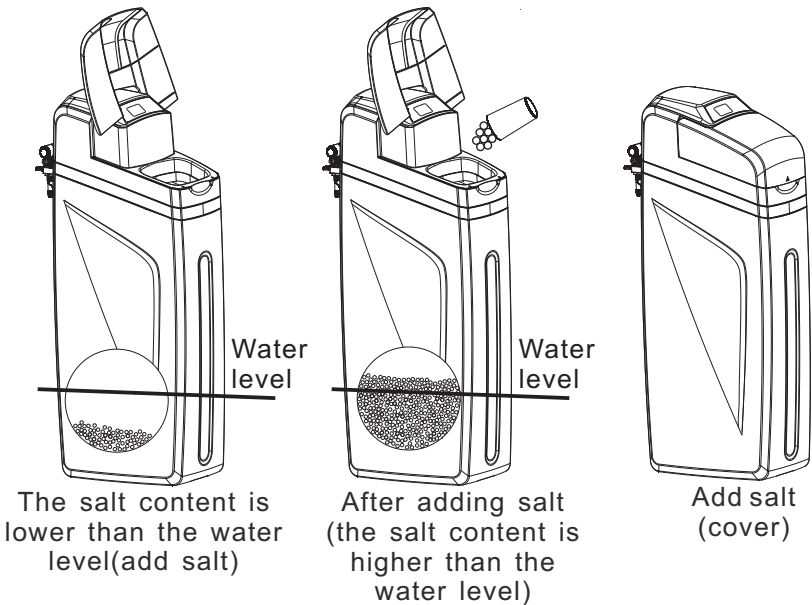
After the above steps are completed, power on the system,

Installation and maintenance

press the "⏏" key to enter the brine and slow rinse position, and then press the "⏏" key once to enter the refill position. The refill position step will replenish a certain amount of water in the brine tank to provide concentrated brine for the next regeneration. After the refill position is completed, enter fast rinse position, which will take about 5 minutes to detect the effluent. When the hardness is qualified, enter the next step and return to the service position to make water.

4) Salt adding in brine tank and salt adding method

Open the cover and add enough softened salt particles into the brine tank. The salt in the brine tank must be above the water level. Generally speaking, the brine tank should be able to see salt without water, and should always be able to see salt particles.



5) First complete regeneration

After the above steps are completed, the water softener shall stand for 6 hours to make the salt particles added into the brine tank sufficient dissolve to produce enough concentrated brine. In the unlocked state, press the "⏏" key to start regeneration(refer to Page 24), so that the system can run automatically and complete a complete regeneration;During

Installation and maintenance

this process, water and power cannot be cut off, and no buttons can be touched.

First use: after 5 minutes of water discharge from the tap, the softened water can be used normally.

■ Maintenance method

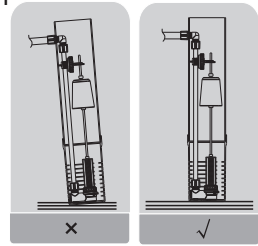
Please check the water softener regularly, including:

- Whether there is leakage or seepage in the water softener pipeline, if so, please contact the service provider.
- If the overflow pipe is blocked, please remove it in time.
- If the salt well is vertical, please straighten it in time. (As shown in the right figure)

The recommended service life of the filter material ion exchange resin is 5-10 years. It should be replaced regularly according to the local water quality and actual water usage. For details, please contact the after-sales service or dealer.

As the product is constantly updated, the actual product is not completely consistent with the manual, and the actual product shall prevail.

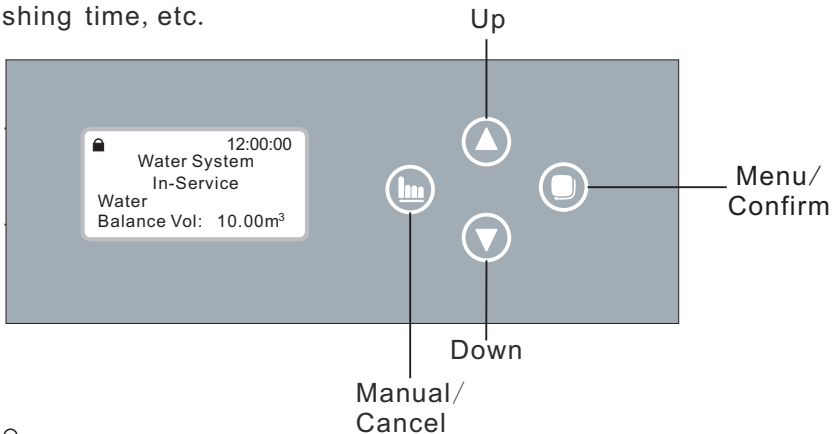
Special reminder: the pressure of the tap water pipeline will change (generally, the water pressure at night will be higher than that during the day), so pay more attention to whether there is leakage at each connection of the equipment two days before the installation and operation.






Settings and descriptions

■ Function and significance of control panel



The functions and parameters of the softener are set in both the foreground and background settings. The foreground mode is applicable to users. Only the current time, regeneration initiation time, raw water hardness and other parameters can be set. The background mode is set by the manufacturer at the factory. Such as back wash, brine and slow rinse, refill, fast rinse, water make-up, washing time, etc.




1)

- When  it is on, it means that the keyboard is locked. At this time pressing any key alone will not work (in any state, when the key is not operated within one minute, it is on, and the keyboard is locked).
- Unlocking method: Press and hold the key  and key  for about 5 seconds until it disappears.

2) button

- In the service position, press the key  to enter the user setting main menu interface, where you can query or set the parameter values.
- Enter each setting menu. After setting, press the key  and the buzzer will beep. The setting is successful and you will return to the main menu interface.

3) button

- Press the key  in the working position to manually control the rotation of the valve, so as to end the current working state

Settings and descriptions

ahead of time and move to the next working position. For example, when the hardness of the outlet water is unqualified, Press the key **⏏** after unlocking to end the water supply for the next instant regeneration. In the process of regeneration or flushing, if you want to end a certain step ahead of time, press the key **⏏** to enter the next step.

- Press the key **⏏** in the user setting interface or system setting interface to return to the water supply status.
- Press the key **⏏** in each parameter setting interface to return to the main menu, and the value set at this time is invalid and will not be saved by the system.

4) ▲ & ▼ button

- In the user setting interface or system setting interface, press continuously or flip up▲or down▼in turn to display each menu line.
- In the parameter setting interface, press continuously or you can adjust each parameter value up▲or down▼.
- Press the▲and▼keys for 5 seconds at the same time to unlock the locked keyboard.

■ Description of parameter

Parameter	Model	Factory setting	Parameter setting range	Explanation
Working type	Common	Volume	Volume	Upflow regeneration, intelligent meter delay
Current time	Common		00:00~23:59	
Water unit	Common	m ³		It can't be modified
Regeneration time	Common	02:00	00:00~23:59	
Maximum regeneration days	Common	30	0~99	Regeneration on the day even though the available water volume of treatment does not drop to 0.
Backwash time	SOFT-XB1	3	0~99	Backwash time (minute)
	SOFT-XB2	8		

Settings and descriptions

Brine& Slow Rinse time	SOFT-XB1	45	0~99	Brine&Slow Rinse time (minute)
	SOFT-XB2	65		
Brine refill time	SOFT-XB1	4	0~99	Brine refill time (minute)
	SOFT-XB2	8		
Fast rinse time	SOFT-XB1	3	0~99	Fast rinse (minute)
	SOFT-XB2	4		
Resin volume	SOFT-XB1	12.5	5~75	Unit is Liter
	SOFT-XB2	25		
Water hardness	In common use	350	50~800	Unit is mg/L

■ Process display

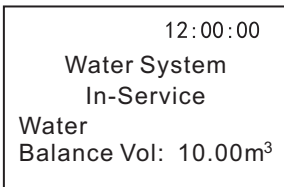


Figure A

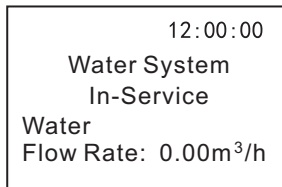


Figure B

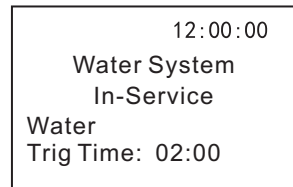


Figure C

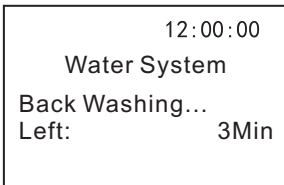


Figure D

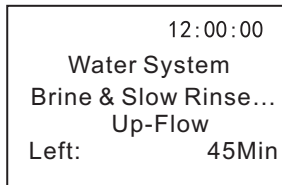


Figure E

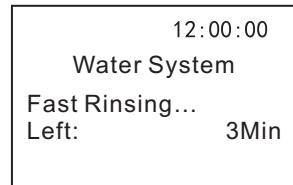


Figure F

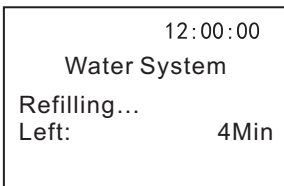


Figure G

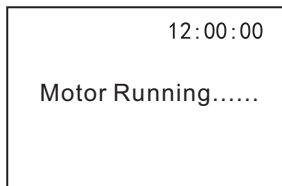


Figure H

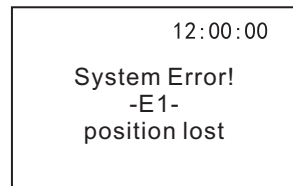


Figure I

Settings and descriptions

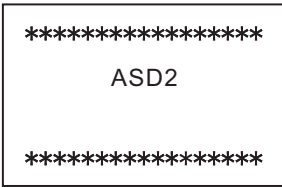


Figure J







Figure K

Explanation:


- At the service position, the display is shown in Figure A/B/C circularly;
At the backwash position, the display is shown in Figure D.
At the brine & slow rinse position, the display is shown in Figure E
At the fast rinse position, the display is shown in Figure F.
At the refill position, the display is shown in Figure G.
- When the valve turns from one working position to another, the display is shown in Figure H.
- If there is a system failure, the display is shown in Figure I. There are four types of system failure, which are E1, E2, E3 and E4. Please contact the local after-sales service department.
The display is shown in Figure J when it is powered on.
- If the duration of outage of power is more than 3 days, the display is shown in Figure K. It is used as a reminder to modify the time.
- Operating process: Service→Backwash→Brine & Slow Rinse→Fast Rinse→Brine→Refill.

■ Parameter setting

1) Set the key description

- : Confirm the current digital modification to enter the next digital modification; Return to the superior menu after confirmation;
- : Discard the current modification and return to the superior menu;
- : Scroll up the menu and add 1 to the number;
- : Scroll down the menu and subtract 1 from the number.

2) User Settings Menu List

In the service position, press the bottom to  enter the user parameter query and setting menu. The displayed menu is related to the operating mode of the control valve. That is to say, different working modes have different setting menus. The setting line

Settings and descriptions

Description of unlabeled working modes is displayed in all modes.

Set Clock
Set Regen Time
Set Water Hardness

Set Clock
12:00

Set Regen Time
02:00

Set Water Hardness
350mg/L

■ Running and debugging

When the system is installed, after carefully reading the parameter settings and instructions, turn on the power supply, and the screen will light up and blink at 12:12. Please adjust the current time according to the setting method in the following table. After adjusting the current time, enter the service position, and users can modify the "Regeneration Initiation Time Setting" (the default is 2:00 a. m. , which generally doesn't need to be modified) and the "Raw water hardness setting" (please refer to the method of "Total Water Hardness and Testing" for raw water hardness testing).

Set Clock
Set Regen Time
Set Water Hardness

Set Clock
12:00

Set Regen Time
02:00

Set Water Hardness
350mg/L










After the water softener is installed, it is necessary to set the above three parameters.

Settings and descriptions


















■ Water hardness and test


- 1) Total hardness of water: the total concentration of calcium and magnesium ions in water, including carbonate hardness (i. e. calcium and magnesium ions that can be precipitated in the form of carbonate by heating, so it is also called temporary hardness) and non carbonate hardness (i. e. the part of calcium and magnesium ions that cannot be precipitated after heating, also called permanent hardness).
- 2) Raw water hardness test: Immerse the reaction zone of the water total hardness test paper in the accessory bag into the tested liquid for 2 seconds, take it out and throw off the excess water drops. After standing for 15 seconds, compare the color with the color card. The color is close to the concentration value, and record the value for later usage.
- 3) Hardness expressed by CaCO_3 concentration can be roughly divided into.

0-75	75-150	150-300	300-450	450-700	700-1000	>1000
Extremely soft water	Soft water	Fairly hard water	Hard water	High hard water	Super high hard water	Extra hard water

Set parameter	Set method	Display interface
Set Clock	<p>When the current time "12:12" flashes continuously, the current time must be reset;</p> <ol style="list-style-type: none"> 1. In the service position, press the button  to enter the user setting interface, as shown in Figure A1. The default "Set Clock" item is selected; 2. Press the button  again to display the current time setting interface as shown in Figure A2. The number of hours "12" flashes. Press the  or  key to adjust the number of hours. 3. Press the button  again, the minute number "12" flashes, and press the  or  button to adjust the minute number; 4. Press the button  again to modify the current time successfully, and press  return. 	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Set Clock Set Regen Time Set Water Hardness </div> <p style="text-align: center;">Figure A1</p> <div style="border: 1px solid black; padding: 5px;"> Set Clock 12:12 </div> <p style="text-align: center;">Figure A2</p>

Settings and descriptions

<p>Set Regen Time</p>	<ol style="list-style-type: none"> 1. In the service position, press the button  to enter the user setting interface, as shown in Figure A3; 2. Press the button  again, select "Set Regen Time", and then press the button  to display the interface of "Set Regen Time" as shown in Figure A3. The number of hours "02" flashes, and press the  or  button to adjust the number of hours. 3. Press the button  again, the minute number "00" flashes, and press the  or  button to adjust the minute number; 4. Press the button  again to modify the regeneration initiation time successfully, and press  return. 	<div style="border: 1px solid black; padding: 10px; text-align: center;"> <p>Set Regen Time 02:00</p> </div> <p style="text-align: center;">Figure A3</p>
<p>Set Water Hardness</p>	<ol style="list-style-type: none"> 1. In the service position, press the button  to enter the user setting interface, as shown in Figure A4; 2. Press the button  again, select "Set Water Hardness", and then press the button  to display the "Set Water Hardness" interface as shown in Figure A4. The number "350" flashes, and press the  or  button to adjust the raw water hardness; 3. Press the  button again to modify the hardness of raw water successfully, and press  return. 	<div style="border: 1px solid black; padding: 10px; text-align: center;"> <p>Set Water Hardness 350 mg/L</p> </div> <p style="text-align: center;">Figure A4</p>

- After setting the parameters, turn on the water inlet switch and observe the operation of the softener. Press the "" key at the service position to let the machine automatically run to the Backwash position to flush the resin. At the same time, check that there is no water leakage from each component and no resin leakage. Under normal usage, the user does not need to perform other operations on the softener except for regularly replenishing a certain amount of salt to the salt tank.

Fault diagnosis and maintenance

If the water softener doesn't work, please check whether there is water supply or power supply problem according to the form below.

If the water softener leaks, please close the tap water valve connected to the water inlet of the water softener.

Problem	Possible Cause	Solution
Control valve does not work	<ol style="list-style-type: none"> 1. Transformer is not plugged in 2. Defective power cord 3. Power off 4. Defective transformer 5. Defective control valve 	<ol style="list-style-type: none"> 1. Connect transformer 2. Repair or replace power socket 3. Restore power supply 4. Replace the transformer 5. Replace control valve
Regeneration time is not correct	Power failure, loose connection of power plug	Calibrate time according to control valve instruction
Leaking	Loose connecting	Tighten or reconnect the joint
Noisy	Air exists in the system	Re-backwash the system to vent air
Water contains bubbles	Air exists in the system	Turn on the tap to vent air
The softened water hardness is too high	<ol style="list-style-type: none"> 1. Poor raw water quality 2. Time of regeneration is too long 3. Leakage of water mixing valve or excessive opening of water mixing valve 4. The sealing ring of the central tube is damaged. 5. The by-pass valve is leaking 	<ol style="list-style-type: none"> 1. Call your dealer 2. Reset time of regeneration 3. Close or readjust the water mixing valve 4. Replace the sealing ring 5. Replace the sealing gasket of by-pass valve
Softener fails to absorb the brine	<ol style="list-style-type: none"> 1. Water pressure is too low 2. Brine line is plugged 3. Injector net is plugged 4. Air leakage of brine line 5. Drain pipe is plugged 	<ol style="list-style-type: none"> 1. Inlet pressure must be at least 0.15Mpa 2. Clean brine line 3. Clean or replace injector net 4. Check the parts of brine line and remove the leakage point 5. Check whether there are foreign matters blocking the drain pipe and drain current limiter

Fault diagnosis and maintenance

Brine tank overflow	<ol style="list-style-type: none"> 1. Refill time error 2. Brine valve error 	<ol style="list-style-type: none"> 1. Reset the refill time according to the instruction of control valve. 2. Call your dealer
The hardness of softened water is too high after regeneration	<ol style="list-style-type: none"> 1. Fail to regenerate automatically 2. Brine tank doesn't have enough salt 3. Injector is plugged 	<ol style="list-style-type: none"> 1. Check power of controller 2. Keep brine tank full of salt 3. Disassemble the injector and wash it
Flowrate of back wash is too high or too low	<ol style="list-style-type: none"> 1. Incorrect DLFC used 2. Foreign matter affecting DLFC 	<ol style="list-style-type: none"> 1. Replace with correct DLFC 2. Wash DLFC

Note: The above solutions are for your reference only. If the machine fails, please contact the local after service department and appoint professional technicians to deal with it.

Environmental protection list

Aft that parts mark with "X" are discarded

If not handled properly, it will pollute the environment and waste resources.

■ Name and content of restricted substances in the product

Name	Harmful substance					
	Pb	Hg	Cd	Cr (VI)	PBB	PBDE
Cabinet	○	○	○	○	○	○
Brine valve	○	○	○	○	○	○
Brine well	○	○	○	○	○	○
Electric control board assembly	×	○	○	○	○	○
Control Valve	○	○	○	○	○	○
FPR Tank	○	○	○	○	○	○
Resin	○	○	○	○	○	○
Package and print	○	○	○	○	○	○
O-ring	○	○	○	○	○	○

List of food contact materials

Name	Material
Softener Valve	PPO
Silicon rubber O-ring	Silicon rubber
EPDM O-ring	EPDM
FPR Tank	PE
Central Tube	ABS
Cabinet	PE
Resin	Ion exchange resin
Brine well & Brine Valve	ABS
Moving disk	Ceramic
Fixed disk	PPS

Warranty Instructions

1. Warranty period

2. The following conditions are not included in the scope of free maintenance, and our company can provide paid services.

Please note:

- 1) Damage caused by improper use, storage and maintenance of consumers;
- 2) Damage caused by self–assembly, disassembly and repair not designated by our company;
- 3) The model of the invoice does not match the model of the maintenance product or is altered;
- 4) Don't have valid invoice;
- 5) Damage caused by force majeure;
- 6) Our company is not responsible for any quality accident caused by using parts other than our company;
- 7) If the water softener is used for non household purposes, the whole machine will be guaranteed for half a year;
- 8) Failure caused by human factors or improper use is not covered by the warranty;
- 9) Please correctly install and use the water softener according to the requirements of this manual. The safe usage life of the water softener is 10 years;
- 10) Failure or damage caused by forced use of the softener beyond normal using conditions is not covered by the warranty.