Professionals in Service en Onderhoud

USER MANUAL

AUTOMATIC WATER SOFTENER STATION

BHS-KING

Date of Installation ……..
Serial Number …….

Installer Stamp

Please read the operating manual before startup!
The manufacturer is not responsible for malfunctions caused by faulty operation and failure to comply with the provisions of this documentation.
Store for later use! This operating manual is an integral part of the device.

Table of contents

General instructions

1. The relevant installation and operation instructions contained in this manual must be read prior to the installation and operation of this device.
2. The manufacturer will not bear responsibility in case of improper use and incorrect operation of the device.
3. The system is used only for removing unwanted mineral substances, which accumulate as lime scale (Calcium and Magnesium). This device is a part of the system protection.
4. It is forbidden to make change in the system without consultation with the manufacturer. The manufacturer will not bear responsibility in case of any damage caused by this type of modification.
5. The temperature in the device operating room must be at least 10 □C
6. The general regulations and provisions as well as provisions concerning accident prevention must be observed at the installation location of the device.
7. The installation location of the device must be secured from any damage caused by water (e.g. by the existing floor drain). The manufacturer is not responsible for any damage caused by water.
8. The appliance in which the filter is used must be free of limescale and gypsum deposits prior to installation.
9. Do not assemble near sources of heat and open flames.
10. Protect the filter system from mechanical damage.
11. Installation and maintenance of the filter system may only be carried out by trained and authorised personnel.
12. For cleaning do not use any abrasive chemicals, cleaning solutions or astringent cleaning agents
13. The proper name and serial number of the device must be provided with any enquiries and ordering of spare parts. Only then an effective and quick reply or order implementation is ensured.

Transportation and packaging

Prior to shipment our systems are carefully packed and controlled.

Damage during transportation cannot be excluded in case of shipment by a shipping company.
It is necessary therefore to check the package at receipt of the product.

1. Check the completeness of the delivery based on the delivery receipt.
2. In case of damaged packaging: perform a visual inspection of the goods and record conclusions in the shipping documentation provided by the shipping company. Make photographic documentation of the damaged package and the device. In the shipping documentation place an annotation of possible claiming of hidden damages, which may be revealed after start-up. Immediately contact the shipping company because otherwise the shipping insurance will not be available. Save the package for the purpose of any later inspections by the shipping or insurance company.
3. In case of returning the package, it must be packed in a way to be protected against any mechanical damage.
4. Drain water from the system prior to the shipment. This will help reduce shipping costs. It will also prevent the packaging from damage due to potential water leakage.

After storage and transport below 0 °C, the product must be stored in the open original packaging for at least 24 hours before it is commissioned at the stated ambient temperatures for operation.

Liability Exclusion

Installation must be performed precisely in accordance with the instructions in this manual.
Manufacturer shall not be held liable for any damage, including subsequent damage, arising from the incorrect installation or use of the product.

How it works

Hard water contains the combination of calcium (Ca), magnesium (Mg) and iron (Fe). The softening process serves the removal of the positively charged ions by means of ion-exchanged resin. When the ion-exchanged resin loses its effectiveness it is regenerated by the reagent.

Regeneration:

The regeneration is based on rinsing the deposits using the tablet salt solution and rinsing out the absorbed calcium and magnesium ions into the sewage.

Regeneration takes place automatically in a time mode. You can set the frequency of regeneration between 1 and 99 days. During regeneration hard water is not available.

Regeneration process consist of 4 cycles:

1. Backwashing
2. Brine and Slow Rinses
3. Refilling
4. Fast Rinsing

Standards, provisions and statutory regulations

1. Water supplying the device must comply with the requirements of the utility water use regulation.
2. Parts that are in contact with treated water must be made of material resistant to treated water,
3. In the room for the water treatment floor drainage must be installed. The purchaser is responsible to ensure the drainage.
4. Maximum temperature of the supply water is 40 ° C

1. Description of the device

1.1. System structure

The system of water purification type BKS-King is a device of high quality and precision.
Properly installed and maintained guarantees infallible functioning for many years.
The water softener station of small efficiency type BHS-King is used where the water flow does not exceed 35l/m.

System structure:

1. **Water softener Type: BHS-King**
2. **Drain hose ½"**

1.2. Technical description

Quantity of softened water for 10°dh /regeneration	[liters]	1950
Salt Consumption	[kg]	1,0
Flow Rate	[l/min]	0-30/35
Operating pressure	[bar]	2,0 - 6,0
Time of regeneration	[min]	61
Connections	[cal]	¾"
Height	[mm]	470
Depth	[mm]	410
Width	[mm]	280
Maximum water temperature	[^{0}C]	40
Salt storage capacity	[kg]	15

The system is configured to use 1,0 kg of reagent per each regeneration.

Calculating the amount of softened water between regenerations:

The amount of water between regenerations is calculated according to this formula:

Z = 1950x10/y

Where

Z – is the amount of softened water between regenerations

Y – is the examined water hardness according to ‘n (German degree)

An example of calculation the amount of softened water ‘z’ between regeneration.

Data: the examined water hardness = 15’n

The amount of ‘z’ water between regenerations is calculated according to the formula:

Z = 1950 x 10/15 = 1300 liters.

At the water hardness of 15’GH we get 1300 liters of softened water.

TAB. 1. CAPACITY – BHS-KING

Water Hardness				
English degree	French degree	PPM	German degrees	Efficiency BHS-King
12,5	18,0	178,6	10	1950
13,8	19,8	196,5	11	1773
15,0	21,6	214,3	12	1625
16,3	23,4	232,2	13	1500
17,5	25,2	250,0	14	1393
18,8	27,0	267,9	15	1300
20,0	28,8	285,8	16	1219
21,3	30,6	303,6	17	1147
22,5	32,4	321,5	18	1083
23,8	34,2	339,3	19	1026
25,0	36,0	357,2	20	975
26,3	37,8	375,1	21	929
27,5	39,6	392,9	22	886
28,8	41,4	410,8	23	848
30,0	43,2	428,6	24	813
31,3	45,0	446,5	25	780
32,5	46,8	464,4	26	750
33,8	48,6	482,2	27	722
35,0	50,4	500,1	28	696
36,3	52,2	517,9	29	672
37,5	54,0	535,8	30	650
38,8	55,8	553,7	31	629
40,0	57,6	571,5	32	609
41,3	59,4	589,4	33	591
42,5	61,2	607,2	34	574
43,8	63,0	625,1	35	557
45,0	64,8	643,0	36	542
46,3	66,6	660,8	37	527
47,5	68,4	678,7	38	513
48,8	70,2	696,5	39	500
50,0	72,0	714,4	40	488

The stated capacities were calculated based on standard application and machine conditions. This information may vary according to external influencing factors (for example, fluctuating raw water quality).

1.3. Control function

Steering Valve
Before starting, you should program the time and frequency of regeneration.

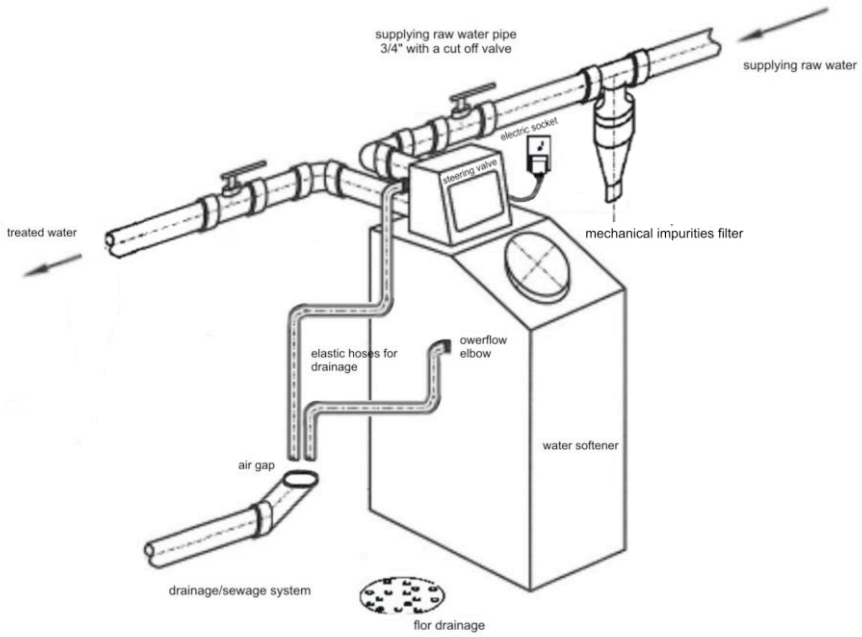
The controller is factory programmed for regeneration at 2.00 at night, every third day.

Depending on water use and water hardness set the correct frequency and time of regeneration using the control valves setting

2. Preparation for installation

2.1. Installation preparation plan

Picture 1.



On the purchaser's side:

1. Utility water **supply pipe** (cold) 3/4" with a cut off valve.
2. **Drainage** (sewer) at a max. height of 100 mm, connection DN 50.
3. **Electric socket** 230 V / 50 Hz, 16 A
4. **Floor drainage** must be in the room.
5. **Sediment filter** should be use before water softener

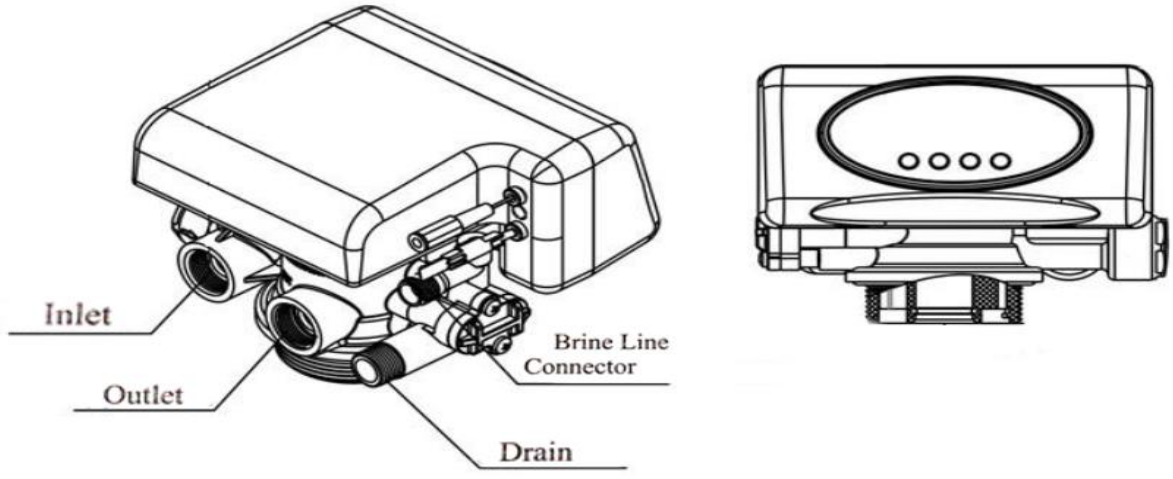
2.2. Dismantling and utilization

The device is dismantled after it lifetime has expired (for final destruction or scrap).
The reversed assembly steps are to be commenced.
Note!
First clean the system thoroughly with fresh water and drain the tanks and pipes completely!
Comply with workplace safety instructions in this respect!
Different parts of the device must be utilized in accordance with binding regulations of utilization and waste management!

3. Installation

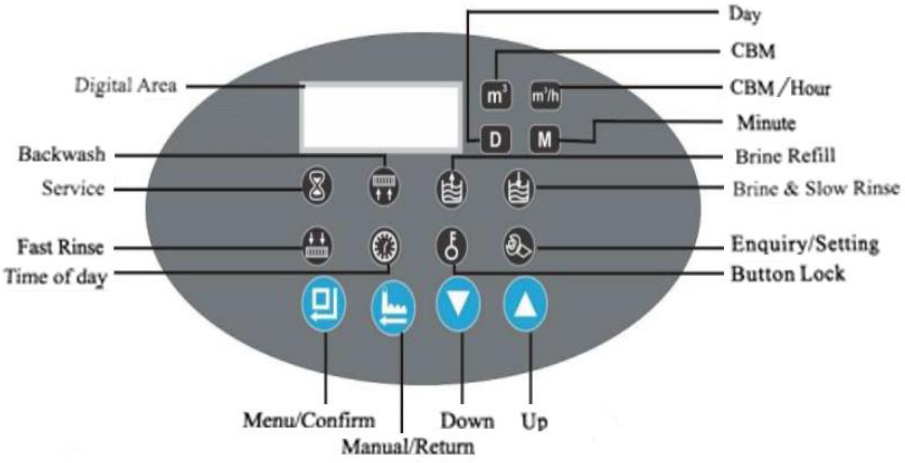
- After preparation for mounting, the device is to be placed in the designated room in accordance with the system structure.
- All inlets and outlets are to be connected on the water's side. The device connections are shown in the following figure:
  - · Connect the inlet (1) and outlet (2) to water supply;
  - · Connect the elastic pipe (1/2') draining the sewage to the stub connector pipe (3) and to a sewage grating or a draining installation.
  - · The sewage draining should be permeable enough to drain 5l/m of the flushing water. The draining pipe should be stiff enough to avoid its breaking, which may cause blockage and result in the overflow in the tank with the reagent as well as faulty regeneration process;
  - · Before water softener should be used mechanical sediment filter to protect device from mechanical damage caused by sediments from water pipes.
- The brine tank of the water softening device is to be filled with salt tablets (max. filling 100 mm from the upper edge of the brine tank). Next add 4 liters of water using bucket.
- Check and tighten all fittings connecting the device.
- Connect to electric Power socket.
- The device is factory adjusted. The **fine tuning** is done by the user on site.
- Program the steering valve (**see point 3.2**)
- Before launching the current time should be set and the frequency of regeneration (1-99 days) depending on water hardness and daily water consumption (see table from page 5)
- **The Valve is preset for the regeneration at 2 a.m. every third day. Depending on the water hardness set the appropriate number of days after which the regeneration is to start (Examine the water hardness and use the table from the page 5) and set the regeneration frequency.**
- Open the **water supply** to the water softening device.
- The **water pressure** must be at least 2,0 bars and a maximum of 6,0 bars.
- Initiate regeneration by pressing button You will hear the humming of an electric engine, which means that device driver has started its regeneration. During the regeneration process the system de-aerates and refills the reagent tank with water. Once the regeneration is over, the device is ready to work again. During the regeneration hard water is not available.
- While programming it is **not allowed** to change : Backwash, Brine and Slow Rinse, Refilling and Fast Rinsing settings. These are the manufacturing settings for the **MiniBoy T** system; in case they are changed the system will not work properly and manufacturer shall not be held liable for the consequence of incorrect operation of the system .

Picture 2. Steering valve description.

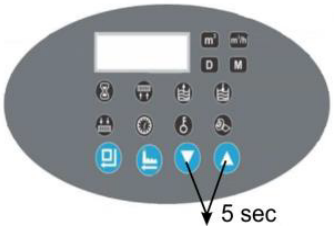


1. Inlet of raw water (3/4", elastic connection)
2. Outlet of treated water (3/4", elastic connection)
3. Drain (1/2", elastic connection).
4. 3/8" brine tank connection

Picture 3. PC BOARD DISCRIPTION



Unlock the keypad



If the symbol is displayed on screen, the buttons are locked.
To unlock the keypad press and hold both and for 5 seconds, after that the light is off.

3.1. Parameter Enquiry

To enter the setting mode press button. The light will show (program display mode is on). Press or to view each value according to below process.

3.2. Programming device – short version for the installer

To program the device must be entered
- The current time -regeneration hour -regeneration frequency

Unlock the keypad by pressing and holding both and for 5 seconds.

The current time
Press button, (the light will show) and use or to reach (Time of a day) , press button, and by using and buttons set the current hour. To confirm and move to minute press button. By using and buttons set the current minutes. To confirm and save press button.

Regeneration hour

Press button. You will see the the display as the figure on right. Press button to enter the regeneration hour and by using and buttons set the regeneration hour. To confirm and save press button (factory valve is set to start regeneration at 2:00 am)

Regeneration frequency

Press button. You will see the the display as the figure on right. Press button to enter the regeneration frequency (days interval between regeneration) and by using and buttons set the regeneration frequency. To confirm and save press button (factory valve is set to start every third day). Leave the programming by pressing button twice.

3.3. Parameter Settings – PROGRAMMING THE STEERING VALVE

In program display mode, press ▲ or ▼ to adjust the value.

The steps of parameter setting to be set No. : 1, 2, 3

No	Action	Item	Process Step	Symbol
1	**To Be Set**	Time of a day 	When time of a day "12:12" continuously flash it reminds to reset. If Light is on, press ▲ and ▼ until the light off. 1.Press M to enter the setting interface (icon will show). The option of "time of a day - " will be selected by system automatically. 2. Then press ▲ or ▼ to set the hour, press M to move for minutes and press ▲ or ▼ to set the minutes. 3. Lastly, press M and hear a sound "Di", then finish adjustment 4. Then press ▼ to move to **REGENERATION HOUR** adjustment.	
2	Pre Set : Regeneration at 02:00 am. Can be changed	Regeneration hour	1.In setting interface (icon will show) when **time of a day** will be adjust, press ▼ and interface will display as the right figure. 2. Press M, to enter the regeneration hour adjustment. Then press ▲ or ▼ to set the hour, press M to move for minutes and press ▲ or ▼ to set the minutes. 3. Lastly, press M and hear a sound "Di", then finish adjustment	
3	Pre Set : Regeneration **every third day** Can be changed	Regeneration frequency	1.In setting interface (icon will show) when **regeneration hour** will be adjust, press ▼ and interface will display as the right figure. 2. Press M, to enter the regeneration frequency adjustment. Then press ▲ or ▼ to set interval regeneration days. 3. Lastly, press M and hear a sound "Di", then finish adjustment	
4	**DO NOT CHANGE!!**	Backwash Time 	DO NOT CHANGE !!!	DO NOT CHANGE!!
5	**DO NOT CHANGE!!**	Brine & Slow Rinse Time 	DO NOT CHANGE !!!	DO NOT CHANGE!!
6	**DO NOT CHANGE!!**	Brine Refill Time 	DO NOT CHANGE !!! NOTE: Too long time to fill the brine tank can cause overflow of water into the sewage system or outside of the device. The supplier is not liable for damages resulting from wrong setting of this parameter.	DO NOT CHANGE!!
7	**DO NOT CHANGE!!**	Fast Rinse Time 	DO NOT CHANGE !!!	DO NOT CHANGE!!

4. Troubleshooting

Problem	Cause	Solution
1. Softener is pouring water through the overflow (on the side of the softener) to drain during regeneration	The drain is clogged. Softener instead of sucking brine during the "Brine" cycle, is pouring water into the tank with the salt. Then the brine is pouring through the overflow on the side of the softener	-Check the drain hose. If it is bent, collapsed broken or clogged, remove the hose from the drain pipe check if nothing is blocking it. Clean the drainage, if necessary, replace the hose - Make sure nothing is blocking the sewage pipe, clean the drainage
	Leakage between the brine valve (air check) and the steering valve	Check the connections between the brine valve (air check) and steering valve. Remove the hose connecting the steering valve from the brine valve(air check) and check if steering valve sucks the brine during the Brine Slow Rinse cycle
	Clogged restrictor DLFC	Clean the DLFC restrictor (see picture 4 page 16)
	The device does not suck the brine	See problem nr 11 „The device does not suck the brine"
	Improperly connected softener	Check the softener connections. IN – raw water inlet, OUT – treated water outlet (see picture 2 page 7)
	Too long time of refilling the water in the brine tank	Set correct time of refilling the water in brine tank - parameter : Brine Refill (see page 4)
	Power failure during the filling of the brine tank	Check power supply
2.Water is pouring through the top cover of the brine tank during regeneration	Drain outlet from the steering valve is connected to the overflow on the side of the softener. Water during regeneration pours by the overflow (on the side of the softener) to the brine tank	Provide the drain hose separate from steering valve and the overflow on the side of the brine tank. Provide drain for overflow below the overflow elbow and the air gap between the drain pipe and the drain hose (see picture 1 page 6)
	Water from the sewage system goes back and poured through the overflow (on the side of the softener) to the brine tank	Provide drain for overflow below the overflow elbow and the air gap between the drain pipe and the drain hose (see picture 1 page 6)
3. Water is pouring through the top cover of the brine tank during softener work (not during the regeneration)	Resin tank leakage	Check the tank for leaks
	Steering valve pours water into the brine tank very slowly, there was an internal leak in the steering valve, probably scratched, damaged fixed disk (see page 16 - fixed disk – MJT 4)	Replace the fixed disk (see page 16 - fixed disk – MJT 4)
	Leakage from the connections (not tightened hoses for raw supplying water and treated water)	Check the connections (inlet and outlet) for leaks
4. Regeneration does not start automatically, but starts after manual initiation	The steering valve programming incorrectly set (regeneration frequency set on 0)	Enter the programming and set the days of regeneration (at time option) or contact a specialist to correct set the control valve settings

5. Regeneration does not start automatically, and does not starts after manual initiation	No power supply or faulty electrical power	Check electrical connections - fuses, plug, switch. If necessary, regenerate the device manually
	Damaged engine	Replace engine
	Damaged control board	Replace the control board
6. Water softener provides hard water but there is less and less salt in brine tank	Water test has been made by the device dedicated to test KH (carbonate hardness)	Test the water hardness by device dedicated to test total hardness of water GH
	Too little water in the brine tank	Check the setting : time of water filling to the brine tank (see page 4), set properly and regenerate immediate by pressing the regeneration button. After regeneration check the amount of water in the brine tank (there should be about 2-3 liters)
	Improperly connected softener	Check the softener connections. IN – raw water inlet, OUT – treated water outlet (see picture 2 page 7)
	The control valve does not draw brine	See the problem 11 - the device does not suck (draws) brine (dirty injector Contact a specialist or clean the injector)
	Softener during regeneration	Wait until the regeneration ends
	No salt in brine tank or not enough salt in brine tank	Prepare a brine solution in a bucket (about 1.5 kg of salt per 6 liters of hot water and mix to dissolve in). Pour the brine into the brine tank and manually start the regeneration. If water after regeneration is still hard, replace the resin. Refill the salt in the brine tank after regeneration. Salt level in the brine tank should always be above the water level
	The drain is clogged. Softener instead of sucking brine during the "Brine" cycle, is pouring water into the tank with the salt. Then the brine is pouring through the overflow on the side of the softener	-Check the drain hose. If it is bent, collapsed broken or clogged, remove the hose from the drain pipe. Check if nothing is blocking it. Clean the drainage, if necessary, replace the hose - Make sure nothing is blocking the sewage pipe, clean the drainage
	Clogged restrictor DLFC - the device does not draw brine, while pouring water into the brine tank (water level at the height of the overflow elbow)	Clean the DLFC restrictor (see picture 4 page 16)
	The decrease in ion exchange capacity of the resin	Replace the resin
	The resin loss	See problem 14 „Resin loss”
	A leak in the central pipe	Check if the central pipe (distribution pipe) is well set, not cracked, or flattened (due to using hot water in softener)
	Resin is exhausted because of too much water consumption	Softener is too small for such a large water consumption. Change the softener for a larger one or increase the frequency of regeneration

	Incorrectly set softener performance (regeneration frequency)	Examine the GH general hardness of water and re-set the softener performance (use the tab. Softener capacity from page 5)
7. Water softener provides hard water The salt level is the same in brine tank (slat level does not decrease)	Salt has caked, swelled up and is suspended over the water level in the brine tank	Break down manually caked salt. Prepare a brine solution in a bucket (about 1.5 kg of salt per 6 liters of hot water and mix to dissolve in). Pour the brine into the brine tank and manually start the regeneration. If water after regeneration is still hard, replace the resin. Refill the salt in the brine tank after regeneration. Salt level in the brine tank should always be above the water level
	Improperly connected softener	Check the softener connections. IN – raw water inlet, OUT – treated water outlet (see picture 2 page 7)
	Softener does not start regeneration	See problem 4 & 5 „Regeneration does not start automatically”
	The control valve does not fill the brine tank with water	See problem 12 „The control valve does not fill the brine tank with water”
	Open bypass	Close bypass
	Lack of power during regeneration	Provide the electric power supply during regeneration
	Lack of water during regeneration or not enough water during regeneration	Provide water under proper pressure (2,0-6,0 bar) during regeneration
8. Water softener supplies not completely softened water	Amount of salt in the brine tank is too small	Pour salt to the level ¾ of the brine tank (cabinet). The amount of salt in the brine tank should always be above the water level.
	See problem 6,7 „Water softener provides Hard water”	See problem 6,7 „Water softener provides Hard water”
9. Excessive salt consumption	Too much water in the brine tank	Reduce time of filling the water to brine tank, see problem 10 "too much water in the brine tank"
	Too frequent regeneration	Examine the hardness of the water and set the regeneration frequency (use the tab. Softener capacity from page 5)
	Incorrect setting in the programming	Set correct time of refilling the water in brine tank - parameter : Brine Refill (see page 4)
10. Too much water in the brine tank. Amount of water in the brine tank reach the level of the overflow elbow	The device does not draw brine	See problem 11 „The device does not draw brine”
	Drain is clogged or blocked	-Check the drain hose if it is bent, collapsed, broken or clogged. Remove the hose from the drain pipe. Check if nothing is blocking it. Clean the drainage, if necessary, replace the hose - Make sure nothing is blocking the sewage pipe, clean the drainage
	Too long time of refilling the water in brine tank	Set correct time of refilling the water in brine tank - parameter : Brine Refill (see page 4)

	Leakage between the brine valve (air check) and the steering valve	Check the connections between the brine valve (air check) and steering valve. Remove the hose connecting the steering valve from the brine valve and check if valve sucks the brine during the Brine Slow Rinse cycle
	Power failure during refilling water in the brine tank	Check power supply
	Improperly connected softener	Check the softener connections. IN – raw water inlet, OUT – treated water outlet (see picture 2 page 7)
	Resin tank leakage	Check the tank for leaks
	Steering valve pours water into the brine tank very slowly, there was an internal leak in the steering valve, probably scratched, damaged fixed disk (see page 16 - fixed disk – MJT 4)	Replace the fixed disk (see page 16 - fixed disk – MJT 4)
	Clogged restrictor DLFC	Clean the DLFC restrictor (see picture 4 page 16)
	Water from the sewage system goes back and pours through the overflow (on the side of the softener) to the brine tank	Provide drain for overflow below the overflow elbow and the air gap between the drain pipe and the drain hose (see picture 1 page 6)
	Leakage from the connections (not tightened hoses for raw supplying water and treated water)	Check the connections (inlet and outlet) for leaks
11. The device does not draw brine	Blocked or damaged injector	Clean or replace the injector see page 16
	Leakage between the brine valve (air check) and the steering valve	Check the connections between the brine valve (air check) and steering valve. Remove the hose connecting the steering valve from the brine valve and check if valve sucks the brine during the Brine Slow Rinse cycle
	Too low pressure in the water mains	Increase water pressure at the inlet to the water softener to a minimum of 2,0 bar.
	Blocked hose or a brine valve (air chek) supplying brine to the driver	Check a brine hose and remove any lock impeding the flow
	Cracked ball in the brine valve (air check)	Replace the brine valve (air check)
	The drain is clogged.	-Check the drain hose. If it is bent, collapsed broken or clogged, remove the hose from the drain pipe check if nothing is blocking it. Clean the drainage, if necessary, replace the hose - Make sure nothing is blocking the sewage pipe, clean the drainage
	Lack of water in the brine tank	See problem 12 „ Steering Valve does not fill brine tank with water”
12. The steering valve does not fill the brine tank with water	Time of filling the brine tank with water "Brine REFIL", is set incorrectly	Enter the programming and set the correct time of filling the brine tank "Brine REFIL"

13. Water pressure drop	The precipitate of iron in the softener	Clean the control valve and the resin. Increase frequency of regeneration and / or duration of the backwash
	Limescale or blockage in water system	Check whether the settlement from the water did not block the water system before the device
	Entrance to control valve contaminated with the rest of the installation works	Remove all contamination and clean driver
	Contaminated pre-filter	Clean or replace the filter
	Installation pipe or hose supplying / drainage water softener is too small diameter	Insert installation pipes or hoses with larger cross-section
	Air in the system	Check the installation and make sure that the brine is in the brine tank
14. Loss of resin	Water with too high temperature got into the softener	Remove the control valve and check the distribution pipe (central pipe), the upper basket, lower basket, if necessary, replace.
	Damaged upper basket, lower basket or distributor	Replace upper basket, lower basket or distributor
15. Continuous leakage into sewage systems from control valve	Foreign bodies in the valve	Check the inside of the valve, remove impurities and check the operation of the valve in different regeneration positions
	Lack of power during regeneration	Check the power supply. Regeneration will be complete when the power turns on. In case there is no possibility to turn power on – close the water supply to the machine until the resumption of power supply.
	There was an internal leak in the steering valve, probably scratched, damaged fixed disk (see page 16 - fixed disk – MJT 4)	Replace the fixed disk (see page 16 - fixed disk – MJT 4)
	Damaged motor	Replace motor
	Faulty power adapter	Replace power adapter
16. Regeneration takes place at the wrong time	Incorrectly set regeneration time	Enter the program and set the proper regeneration time (factory setting: at 2:00 am)
	Incorrectly set time of the day	Set the current time of the day
	Lack of power supply period longer than 3 days	Set the current time of the day
17. Interrupted Or irregular brine	Water pressure too low Or not stable	Increase water pressure
	Air in resin tank	Check and find the reason
	Injector is plugged or faulty	Clean or replace injector
18. Salt taste of soften water	Too short a time brining or fast rinse	Enter the programming and set the correct time of brining and fast rinse (see page 4)

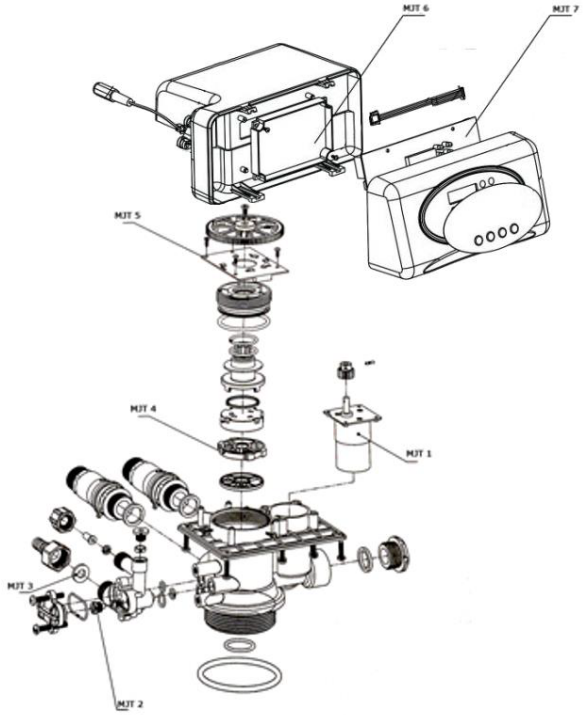
	The air inside unit. The air enters the resin tank during the brine sucking	Check for leaks between the steering valve and the brine valve (air check). Brine valve leaking - check for leaks, check the ball in the brine valve if it close valve tightly after completely sucked from the brine tank.
	Ran out of water during regeneration, brine got into the tank of the resin but was not washed out of it	Manually initiate regeneration by pressing and holding the Regen button. This will allow the correct re-regeneration
	Clogged drains, too small hose to drain	Clean outflow into drains, and DLFC restrictor (see picture 4 page 16)
	Water pressure drop or not enough water during regeneration	Manually initiate regeneration by pressing and holding the Regen button. This will allow the correct re-regeneration
19. Water flow out from drain Or brine pipe after regeneration	Foreign material in valve which unable closing the valve completely	Clean valve, remove the foreign material from the valve
	Water pressure is to high which result in valve doesn't get the right position	Reduce water pressure
20. Water softener efficiency decreased after few months Or years	Regeneration performed incorrectly	Check the settings of regeneration cycles. Set the settings of regeneration cycles correctly and then replace the resin.
	Frequent absence of salt or too little salt in the brine tank	Replace the resin and make sure that the amount of salt in the brine tank will never be below the water level
	Contaminated resin	Replace the resin
	Incorrectly set softener efficiency	Examine water hardness and program the regeneration frequency (see table 1 page 5) If there is no improvement, replace the resin for new
	Increase the hardness of the water before the softener	Examine water hardness and program the regeneration frequency (see table 1 page 5) If there is no improvement, replace the resin bed for new
21. Control valve cycle continuously	Foreign materials stuck in the driving gear	Take out foreign material
	Time of regeneration steps were set to zero	Check program setting and reset
	Controller is faulty	Replace the controller
22. No screen display	No power at the socket	Repair damaged or use working socket
	Power adapter is not plugged to the socket or electrical wire is not plugged to the wire for power outbound from the steering valve.	Put the Power adapter to the electrical socket and to the steering valve in the appropriate slot
	Incorrect supply voltage	Connect the power supply of the correct voltage
	Faulty power adapter	Replace power adapter
	Damaged display board	Replace display board

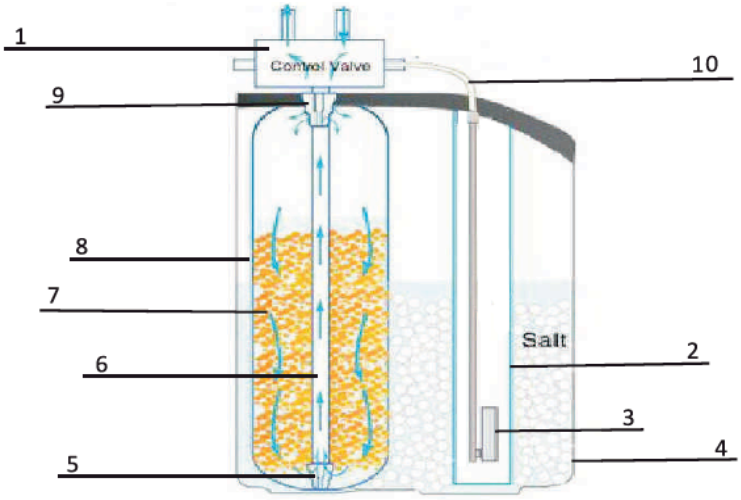
Picture 4. Control Valve parts

5. Spare parts list

Spare parts from the valve:

Description	Spare Part No.
Motor	MJTD 1
Nozzle, Injector	MJTD 2
DLFC	MJTD 3
Fixed Disk	MJTD 4
Locating Board	MJTD 5
Control Board	MJTD 6
Display Board	MJTD 7





Spare parts:

1. Control Valve
2. Brine well
3. Air check
4. Cabinet
5. Lower basket 3/4"
6. Central pipe 3/4"
7. Resin
8. Resin tank
9. Upper basket 3/4"
10. Brine hose

BHS
Professionals in Service en Onderhoud

Verdunplein 8
5627 SZ Eindhoven
Tel. 040-2421425