

ROXY

SOFTENER.



OPERATING MANUAL



**MAKE
WATER
COUNT**

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1. INTRODUCTION

- You must read and understand the contents of this manual before installing or operating your water softener. Personal injury or property damage could result if you fail to follow instructions in this manual.
- This system and its installation must comply with state and local regulations. Check with your local public works department for plumbing and sanitation codes. Local codes should be followed in the event the codes conflict with any content in this manual.
- This water Softener must be operated on pressures between 0.2MPa(30 psi) to 0.86MPa(125 psi). If the water pressure is higher than 0.86MPa(125 psi), use a pressure reducing valve in the water supply line to the softener.
- This unit must be operated at temperatures between 4°C - 43°C (40°F and 110°F)
- Do not use this water softener on hot water supplies.
- Do not install this unit where it may be exposed to wet weather, direct sunlight, or temperatures outside of the range specified above.
- The appliance is only to be used with the power supply unit provided with the appliance.
- The appliance must only be supplied at safety extra low voltage corresponding to the marking on the appliance.
- Apply provided NSF certified lubricant to all o-rings during installation. Do not use pinched or damaged o-rings during installation.
- Softeners are exposed to high levels of iron, manganese, sulfur, and sediments. Damage to pistons, seals, and/or spacers within the control valve are not covered in this warranty due to the harsh environment.
- It is recommended to annually inspect and service the control valve. Frequent cleaning and/or replacement of piston, seals, and/or spacers may be necessary depending on how harsh the conditions are.
- Do not use water that is microbiologically unsafe without adequate disinfection before or after this system.

- This publication is based on information available when approved for printing. Continuing design refinement could cause changes that may not be included in this publication.
- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.
- Children shall not play with the appliance.
- Cleaning and user maintenance shall not be made by children without supervision.

INSTALL NOTES & SAFETY MESSAGES

Watch for the following messages in this manual:



WARNING

ELECTRICAL SHOCK HAZARD! Unplug the unit before removing the cover or accessing any internal control parts.



CAUTION

Disassembly while under pressure can result in flooding.



NOTE

Check and comply with your state and local codes.
You must follow these guidelines.



2. SOFTENER SYSTEM SPECIFICATIONS

System configuration

Model	CS6S - II-1035
Control System	BNT10650 Control Valve
Regeneration Mode	Calender clock, meter immediate, meter delay, meter override
Tank size (inch)	10x35
Media loaded	yes
Resin quantity (l)	25
Distributor Pilot	OD 1.05
Salt storage capacity (kg)	61

Valve configuration

Regeneration type	Downflow
Injector	00# purple
BLFC (gpm)	0.16
DLFC (gpm)	2/4

Performance (96g/l salt dosage)

Hardness removal (g)	1094
Back wash flow rate (l/m)	9
Rated service flow rate (m3/h)	2.0
Salt used per regeneration (kg)	2.4
Water uses per regeneration (l)	112

Recommended cycle settings (96g/l salt dosage)

Backwash duration setting (min)	2
Brine duration setting (min)	70
Rinse duration setting (min)	5
Refill duration setting (min)	11

Installation requirements

Water supply	municipal
Operating pressure (MPa)	0.21 - 0.86
Water temperature (°C)	1 - 39
Plumbing connections	1" fittings available
Electrical requirements	input 100V - 240V AC 50/60 Hz output 12V DC 2.0A

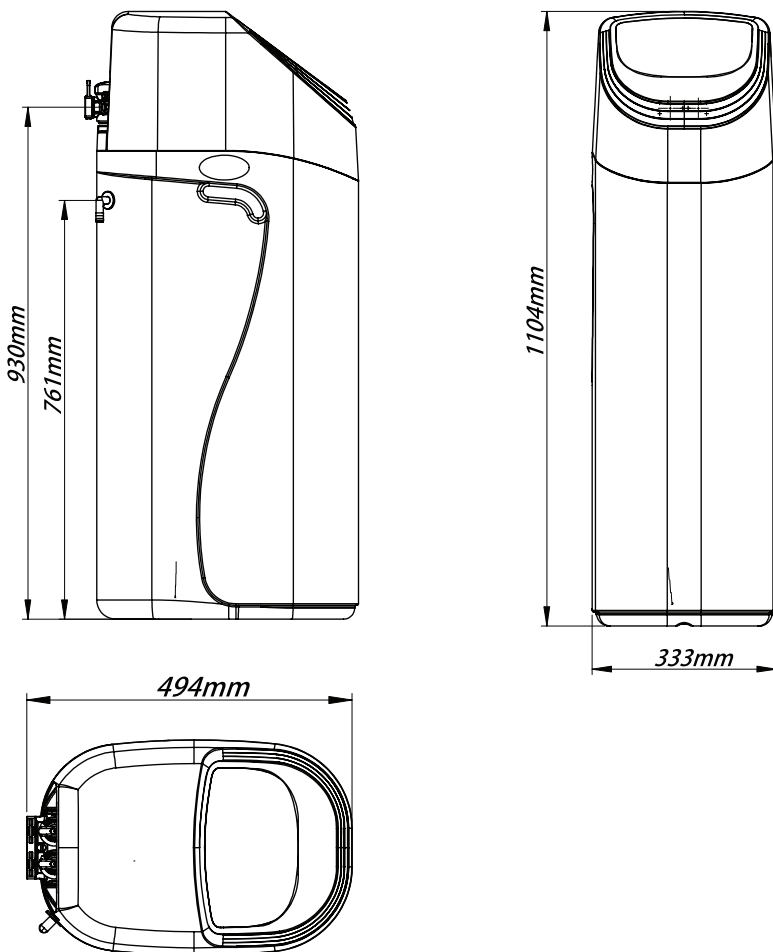
Shipping information

Carton size (mm)	520 x 360 x 1170
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- Capacities of conditioners may deviate from the chart above depending on flow rates and raw water conditions.
- Changing salt settings from factory setting may require changing injector sizes to achieve stated capacities.
- Hardness removal is based on standard salt setting(96g/L).
- Iron content must not exceed 1 ppm. Beyond 1 ppm an iron softener must be used.
- Do not subject the unit to freezing temperatures.
- Do not use water that is microbiologically unsafe without adequate disinfection before or after the system.
- The manufacturer reserves the right to make product improvements which may deviate from the specifications and descriptions stated herein, without obligation to change previously manufactured products or to note the change.

3. SOFTENER SYSTEM DIMENSIONS

1035 TANK



4. UNPACK & INSPECT YOUR WATER SOFTENER

Inspect the water softener for any shipping damage. If damage is found, notify the transportation company and request a damage inspection. Damage to cartons should also be noted.

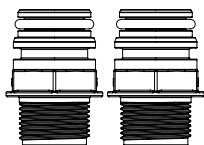
Handle the softener unit with care. Do not drop the unit or set on sharp, uneven projections on the floor. Do not turn the softener unit upside down.

⚠ If there is a severe loss in water pressure when the softener unit is initially placed in service, the softener tank may have been laid on its side during transit. If this occurs, backwash the softener to "reclassify" the media.

The manufacturer is not responsible for damages in transit. Small parts, needed to install the Softener, are in a parts box. To avoid loss of the small parts, keep them in the parts bag until you are ready to install.

ACCESSORIES CONTENTS:

**1 x straight adaptor
(C/W o-ring tool)**



1 x bypass tool

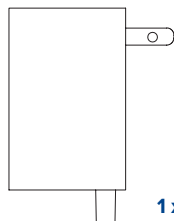


1 x manual

1 x grease packet

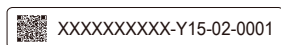
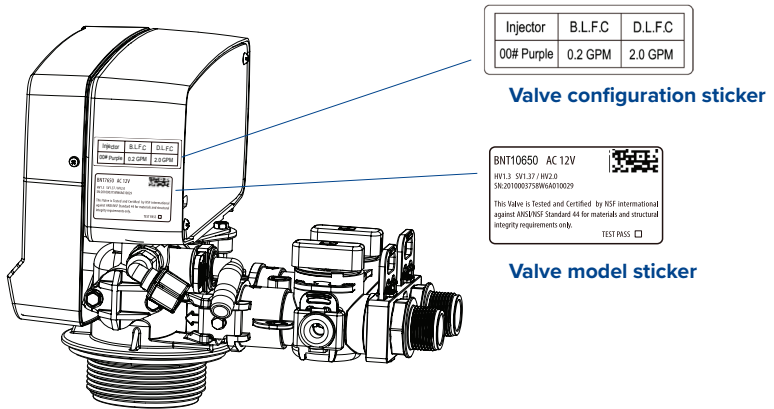


1 x transformer



5. CHECK THE VALVE SERIAL NUMBER

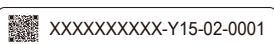
Check to make sure the valve type matches what you ordered. The valve configuration sticker will show the injector, BLFC and DLFC size. The valve model sticker shows model, hardware/software version, serial # and batch code of the control valve. Serial numbers are important for troubleshooting.



VALVE SERIAL NUMBER:
XXXXXXXXXX-Y15-02-0001

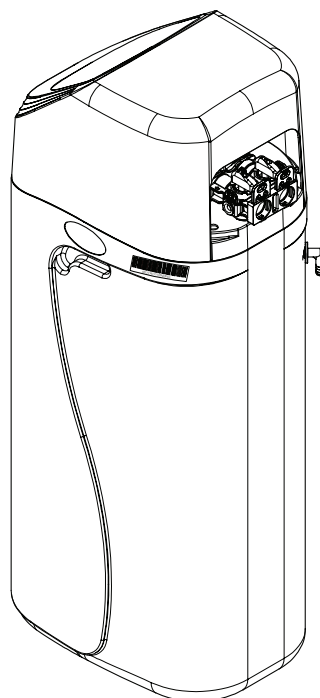
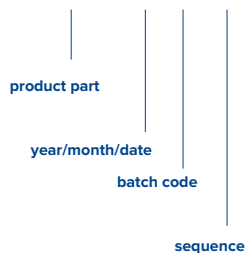
year/month/date
batch code
sequence

Year	Code	Month	Code	Date	Code	Date	Code
2021	V	1	1	1	1	17	H
2022	W	2	2	2	2	18	I
2023	X	3	3	3	3	19	J
2024	Y	4	4	4	4	20	K
2025	Z	5	5	5	5	21	L
2026	AA	6	6	6	6	22	M
2027	AB	7	7	7	7	23	N
2028	AC	8	8	8	8	24	O
2029	AD	9	9	9	9	25	P
...	...	10	A	10	A	26	Q
2052	BA	11	B	11	B	27	R
2053	BB	12	C	12	C	28	S
2054	BC			13	D	29	T
2055	BD			14	E	30	U
...	...			15	F	31	V
				16	G		



VALVE SERIAL NUMBER:

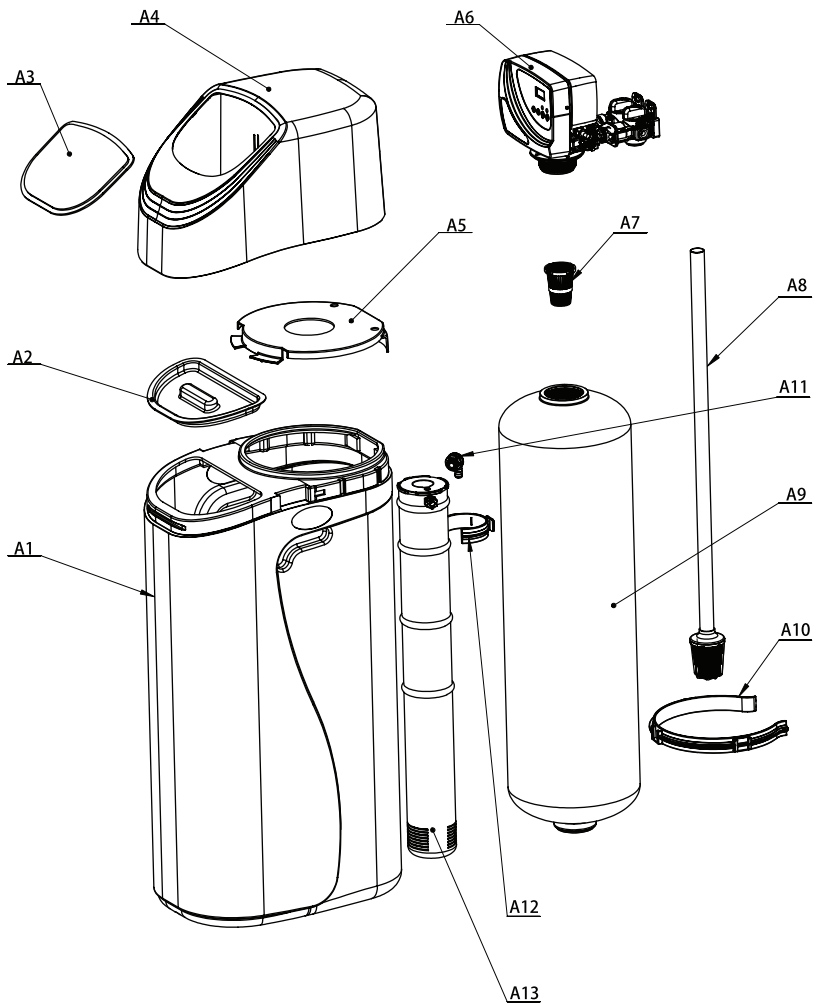
XXXXXXXXXX-Y15-02-0001



Year	Code	Month	Code	Date	Code	Date	Code
2021	V	1	1	1	1	17	H
2022	W	2	2	2	2	18	I
2023	X	3	3	3	3	19	J
2024	Y	4	4	4	4	20	K
2025	Z	5	5	5	5	21	L
2026	AA	6	6	6	6	22	M
2027	AB	7	7	7	7	23	N
2028	AC	8	8	8	8	24	O
2029	AD	9	9	9	9	25	P
...	...	10	A	10	A	26	Q
2052	BA	11	B	11	B	27	R
2053	BB	12	C	12	C	28	S
2054	BC			13	D	29	T
2055	BD			14	E	30	U
...	...			15	F	31	V
				16	G		

6. PARTS BREAKDOWN

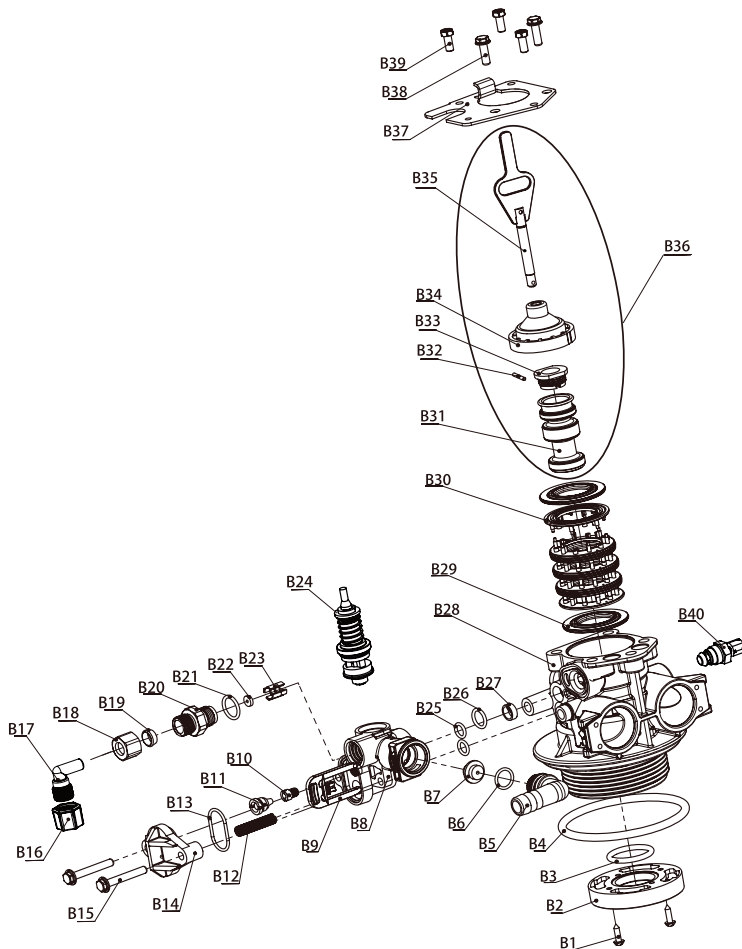
6.1. SOFTENER PARTS LIST



No.	Part #	Description	Qty
A1	2020003543	Softener Cabinet 0817(White)	1
	2020003544	Softener Cabinet 1035(White)	1
A2	3010003142	Salt Lid	1
A3	2020009969	Transparent Window	1
A4	2020009970	Top Cover	1
A5	2020002191	Tank Fixed Plate	1
A6	2010004533	Control Valve	1
A7	2020001520	Top Distributor	1
A8	2010001108	Distribution Assy-17"	1
	2010001107	Distribution Assy-35"	1
A9	2010000267	Pressure Tank 0817(Black)	1
	2010000053	Pressure Tank 1035(Black)	1
A10	2020001640	Pressure Tank Clamp	1
A11	2020002822	Overflow Assy	1
A12	2020002238	Brine Well Clamp	1
A13	3010001296	Brine Well 0417	1
	3010001297	Brine Well 0435	1

6. PARTS BREAKDOWN

6. 2. VALVE BODY PARTS LIST



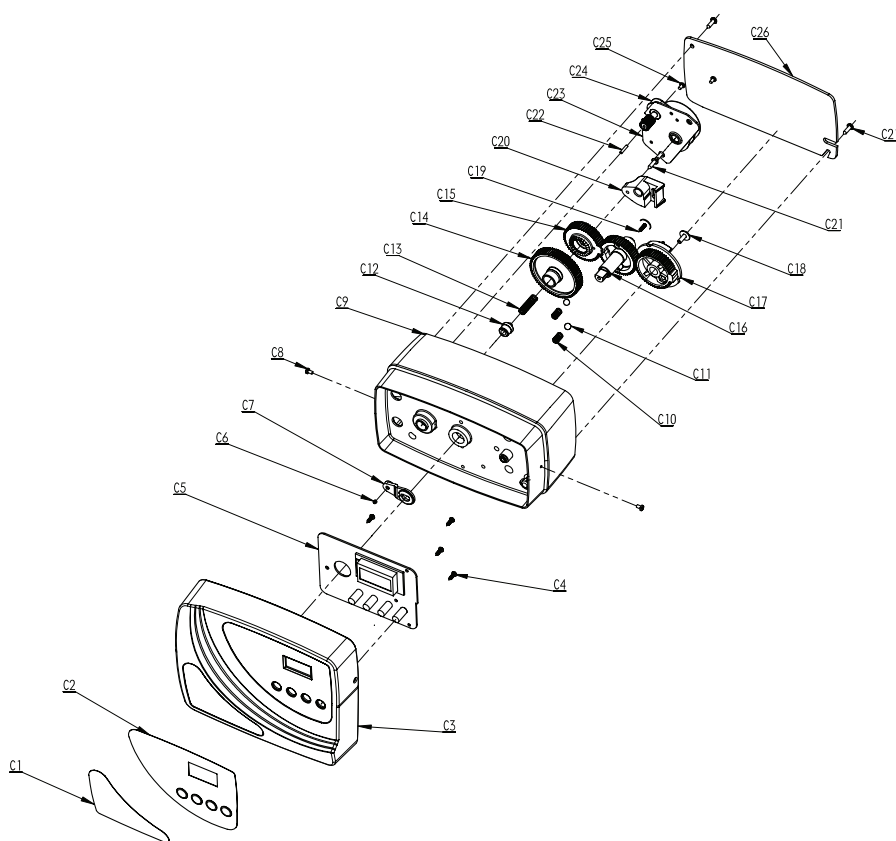
No.	Part #	Description	Qty
B1	3010000495	Screw on Valve Bottom Connector	2
B2	1200003004	Valve Bottom Connector	1
B3	3010000538	Distributor O-ring	1
B4	3010000509	Tank Mouth O-ring	1
B5	1200002984	Drain Elbow	1
B6	3010000597	O-ring of Drain Line Elbow	1
B7	1200002871	DLFC(2.4GPM)(Optional)	1
B8	1200002998	Injector Body	1
B9	1200004116	Secure Clip-S	1
B10	1200003229	#0000 Black Injector Throat(Optional)	1
B11	1200003776	#0000 Black Injector Nozzle(Optional)	1
B12	3010000384	Screen	1
B13	3010000599	O-ring on Injector Cap	1
B14	1200002990	Injector Cap	1
B15	3010000439	Screw on Injector Cap	1
B16	1200004121	Brine Line Elbow Nut	1
B17	2020001632	Brine Line Elbow	1
B18	3010000761	Copper Fitting Nut	1
B19	1200002986	BLFC Ferrule	1
B20	3010001186	Copper Fitting	1
B21	3010000514	O-ring on Copper Fitting	1



No.	Part #	Description	Qty
B22	1200003164	BLFC(0.2GPM)(Optional)	1
B23	1200002948	BLFC Retainer	1
B24	1200002011	Brine Valve Injector Stem Assembly	1
B25	3010000511	Small O-ring on Injector Body	2
B26	3010000510	Big O-ring on Injector Body	1
B27	1200002988	Air Dispenser	1
B28	2020001796	65 Valve Body	1
B29	3010000594	Seal	5
B30	1200003482	Spacer	8
B31	3010000667	Piston	1
B32	3010000444	Piston Pin	1
B33	2020001798	Piston Retainer	1
B34	1200007649	End Plug	1
B35	3010000641	Piston Rod	1
B36	1200001568	Piston Assembly	1
B37	3010000710	End Plug Retainer	1
B38	3010000498	Screws M5×16	2
B39	3010000497	Screws M5×12	3
B40	1200001530	Blending Valve Assy	1

6. PARTS BREAKDOWN

6.3. POWER HEAD PARTS LIST

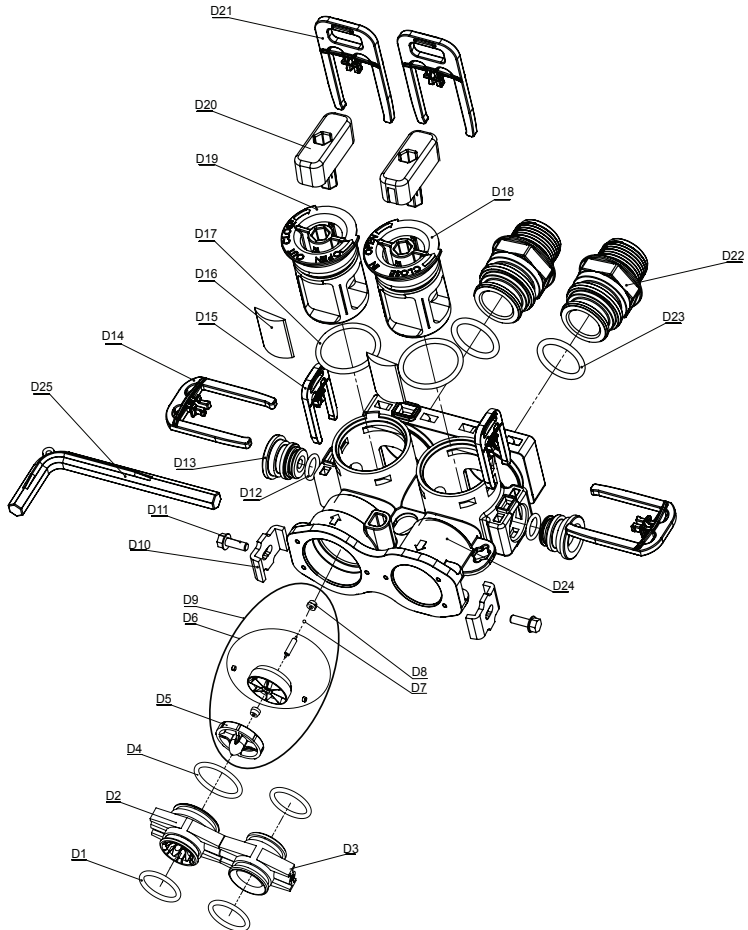


No.	Part #	Description	Qty
C1		Brand Label	1
C2	3010023783	Operation Label	1
C3	2020010241	Front Cover	1
C4	3010000493	Screw 2.9×10	4
C5	3010000416	Display PCB	1
C6	3010000692	Magnet-φ3×2.7	1
C7	3010001028	Magnet Holder	1
C8	3010000449	Screw 2.9×9.5	2
C9	2020000955	Housing	1
C10	3010000722	Spring Detent	2
C11	3010000443	SS Ball	2
C12	1200004145	Spring Retainer	1
C13	3010000721	Spring	1
C14	1200003615	Drive Gear	1
C15	2020001035	Idler Gear	1
C16	1200003666	Main Gear	1
C17	1200003698	Brine Gear	1
C18	3010000764	Screw 4.2×12(c/w washer)	1
C19	3010006544	Screw 2.9×13(c/w washer)	1
C20	1200003810	Piston Stem Holder	1
C21	3010000447	Screw 3.5×13	4

No.	Part #	Description	Qty
C22	3010000445	Motor Pin	1
C23	3010000554	Motor Mounting Plate	1
C24	3010000199	Motor	1
C25	3010000436	Screw M3×5	2
C26	2020000968	Back Cover	1

6. PARTS BREAKDOWN

6. 4. BYPASS PARTS LIST

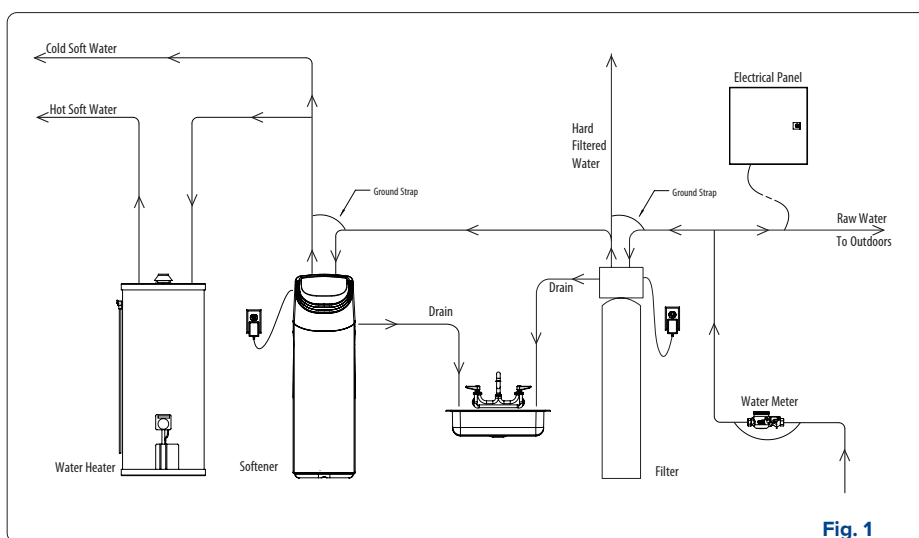


No.	Part #	Description	Qty
D1	3010000513	O-ring-φ23×3	3
D2	2020000759	Adaptor Distributor	1
D3	2020000976	Adaptor Coupling	1
D4	3010000537	O-ring-φ27×3	1
D5	2020000767	Impeller Holder	1
D6	1200001512	Meter Assy	1
D7	3010000386	Meter Ball	1
D8	2020001714	Bush	2
D9	1200002081	Meter Spare Parts	1
D10	3010000561	SS Clip	2
D11	3010000468	Screw M4×12	2
D12	3010000597	O-ring(12×2)	2
D13	2020000997	Bypass Plug	2
D14	2020001636	Shaft Clip	2
D15	1200004116	Plug Clip	2
D16	3010000621	Shaft Seal	2
D17	3010000570	O-ring(30×2.65)	2
D18	2020001026	Bypass Shaft(Inlet)	1
D19	2020001027	Bypass Shaft(Outlet)	1
D20	2020001030	Bypass Knob	1
D21	2020001635	Connector Clip	2

No.	Part #	Description	Qty
D22	2020001604	Connector 3/4" Straight	2
D23	3010000539	O-ring(22.4×3.55)	2
D24	2020001025	063 Bypass Body	1
D25	1200003802	Bypass Tool	1

7. PRE-INSTALLATION INSTRUCTIONS

Contact your local distributor to have a complete water analysis and check your water hardness on your water supplier, this will keep your conditioner in proper working.



NOTE: You must follow all government codes and regulations governing the installation of these devices.



8. INSTALLATION INSTRUCTIONS

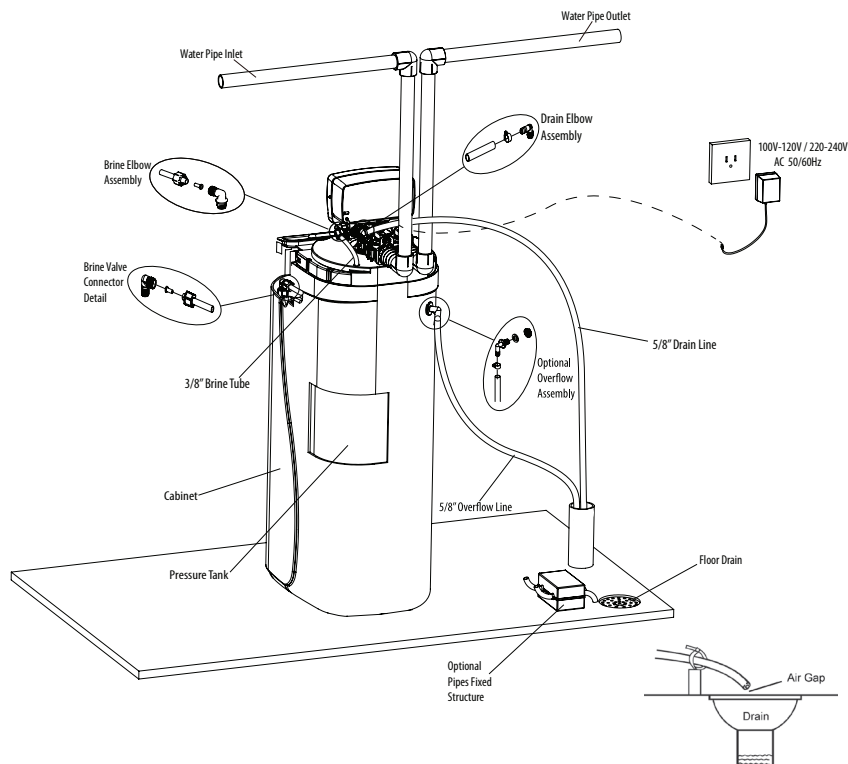
Determine the correct location of the water conditioning equipment

Select the location of your softener with care. Review the various conditions below to determine a proper location:

1. Locate as close as possible to the water supply source.
2. Locate as close as possible to a floor or laundry tub drain.
3. Locate in correct relationship to other water conditioning equipment (See Fig. 1).
4. Softener should be located in the supply line before the water heater. Temperatures above 120°F(49) damage softeners.
5. Do not install a softener in a location where freezing temperatures occur. Freezing may cause permanent damage to this type of equipment and will void the factory warranty.
6. Allow sufficient space around the unit for easy servicing.
7. Determine if additional plumbing is required if your water source is a community water supply, a public water supply or you wish to bypass water used for a geothermal heat pump, lawn sprinkling, out-buildings or other high demand applications, refer to Fig. 1.
8. Keep the softener out of direct sunlight. Heat build up from direct sunlight may soften and distort plastic parts.

TOOLS REQUIRED FOR INSTALLATION:

- Two adjustable wrenches. Additional tools may be required if modifications to home plumbing are required.
- Use copper, brass, or PEX pipe and fittings.
- Some codes may also allow PVC plastic pipe. Refer to local codes.
- Always install the included bypass valve, or 3 shut-off valves. Bypass valves let you turn off water to the softener for repairs, but still have water in the house pipes.
- 5/8" OD drain line is needed for the drain.



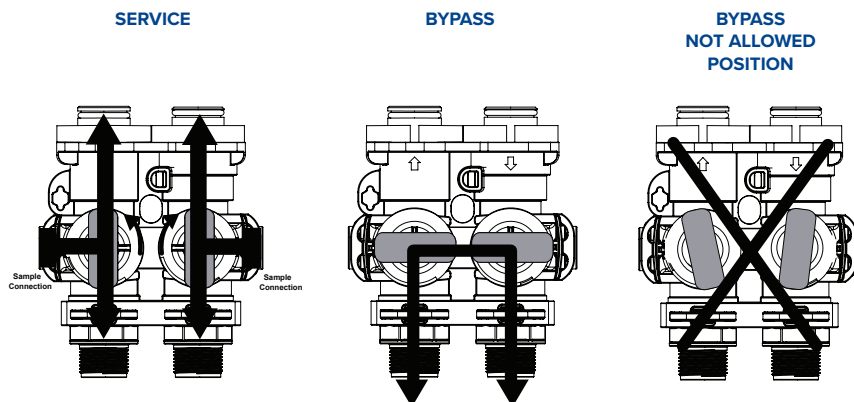
- ⚠ The waste connection or drain outlet shall be designed and constructed to provide an air-gap to the sanitary waste system of 2 pipe diameters or 1 inch(25mm). (Whichever is larger)
- ⚠ Never insert the drain line directly into a drain, sewer line, or trap. Always allow an air gap between the drain line and the waste water. This will prevent the possibility of sewage being back-siphoned into the conditioner.
- ⚠ **NOTE:** Perform all plumbing according to local plumbing codes.

9. WATER BYPASS

In case of an emergency such as softener maintenance, you can isolate your water softener from the water supply using the bypass valve located at the back of the control. In normal operation the bypass is open with the ON/OFF knobs in line with the INLET and OUTLET pipes. To isolate the softener, simply rotate the knobs to the BYPASS position.

You can use your water related fixtures and appliances as the water supply is bypassing the softener. However, the water you use will be hard. To resume treated service, open the bypass valve by rotating the knobs to SERVICE position.

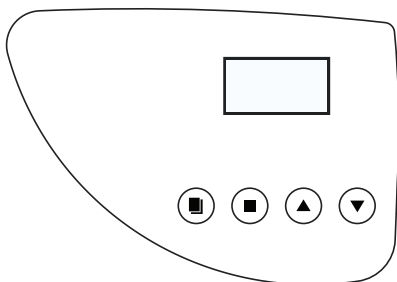
Please make sure bypass knobs are completely open otherwise the unsoftened water could bypass through the valve.



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

10. PROGRAMMING GUIDE

10.1. KEY PAD CONFIGURATION



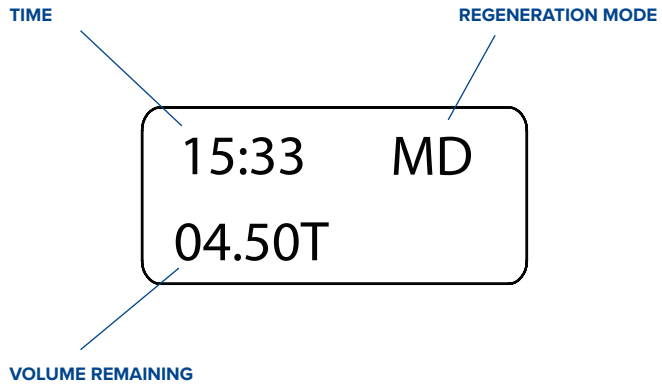
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This function enters the basic set up information required at the time of installation.
- 

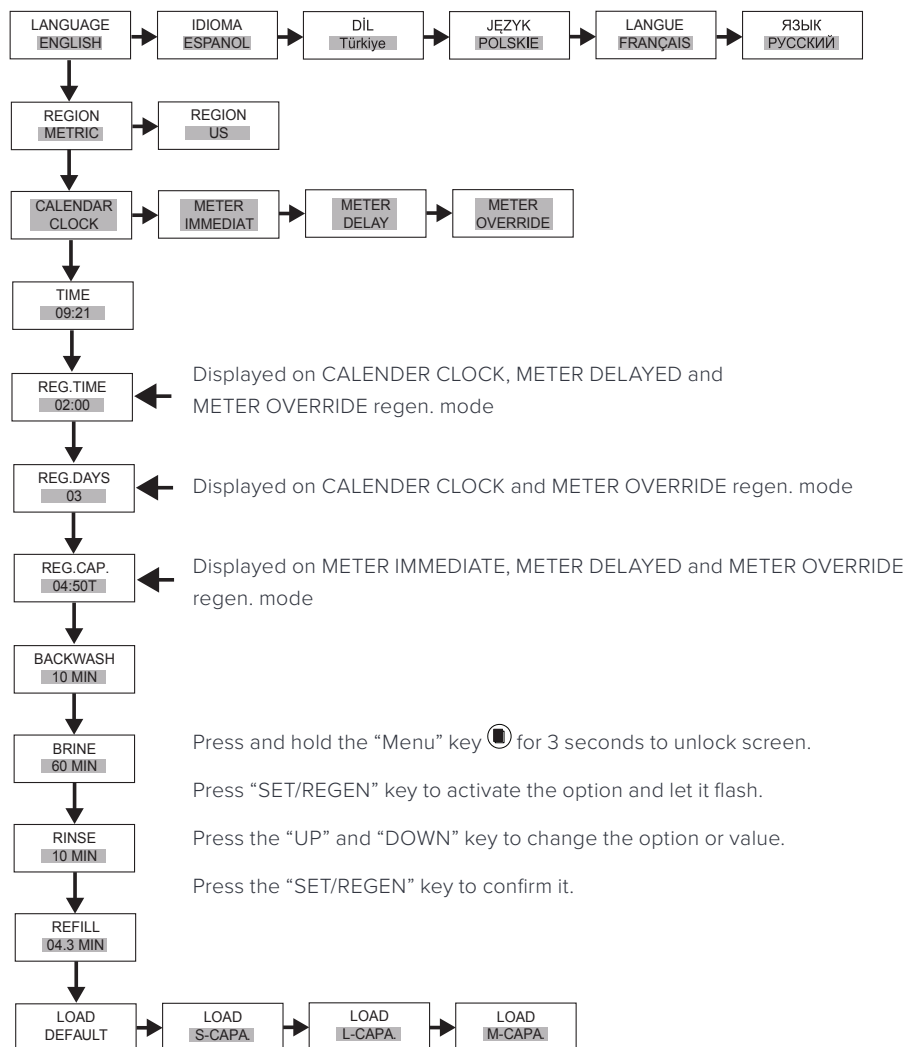
This function is to accept the values if changed and advance to the next page in the menu.
- 

These buttons are used to increase or decrease the value of the settings while in the programming mode.

11. STANDBY DISPLAY



12. MENU SETTING PAGE



13. OPERATION DURING A POWER FAILURE

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

PARAMETER	DESCRIPTION
LANGUAGE	System language used on the valve display.
REGION METRIC	Unit of measure the system used, METRIC(litre)and US(gallon)options are available now.
CALENDAR CLOCK	The unit will initiate a regeneration at the next pre-set regeneration time based on the interval of regeneration days.
METER IMMEDIATE	The unit will initiate a regeneration immediately after the volume remaining reaches zero.
METER DELAY	This is the most common setting. When the volume remaining reaches zero, the system will initiate a regeneration at the next pre-set regeneration time.
METER OVERRIDE	When the volume remaining reaches zero, the system will initiate a regeneration at the next pre-set regeneration time. If the days between regeneration are reached before the volume remaining reaches zero, the system will override the meter setting and initiate a regeneration.
TIME	Current time setting.
REG.TIME	This setting determines the time of day to perform a scheduled regeneration.
REG.DAYS	This value is the interval (days) between regenerations. It is used to determine how many days between regenerations.
REG.CAP.	This value is the total capacity between regenerations. It is used to determine how many water can be treated between regenerations.
BACKWASH	Control the backwash duration during regeneration cycle.
BRINE	Control the brine duration during regeneration cycle.
RINSE	Control the rinse duration during regeneration cycle.
REFILL	Control the refill duration during regeneration cycle.
LOAD DEFAULT	The function of this option is to load pre-set values of BACKWASH, BRINE, RINSE, and REFILL for large, medium, and small capacity systems.

14. START UP INSTRUCTIONS

14. 1.

Add two liters of water into the cabinet at the time of installation. This is for the unit to achieve proper capacity in the first time of regeneration.

14. 2.

Plug the power transformer into an approved power source. Connect the power cord to the valve.

14. 3.

When power is supplied to the control, the screen will may display "WAITING PLEASE" while it finds the service position.

14. 4.

Manually step the valve to the BACKWASH position. If screen is locked, the screen will display "SCREEN LOCKED". Follow the instructions below to step the valve to BACKWASH position. As the valve arrives at BACKWASH position, unplug the power and let valve stay at BACKWASH position.

14. 4. 1.

Press and hold "Menu" key for 5s to unlock.

SCREEN
LOCKED



14. 4. 2.

Press and hold "Set/Regen." key to enter Manual Regen. display. Press "Set/Regen." key again to activate Manual Regen. option.

MAN. REG.
DELAY



14. 4. 3.

Press "Up" or "Down" key to select Immediate Regen. option.

MAN. REG.
IMMEDIATE



14. 4. 3.

Press "Menu" key to start an Immediate Regen.

BACKWASH
10REMAIN

14. 5.

Once in the BACKWASH cycle, open the inlet on the bypass valve slowly and allow water to enter the unit. Allow all air to escape from the unit before turning the water on fully then allow water to run to drain for 3-4 minutes or until all media fines are washed out of the softener indicated by clear water in the drain hose.

14. 6.

Replug the power, press any button to advance to the BRINE position, once it arrives at BRINE position, press any button to advance to the RINSE position. Check the drain line flow. Allow the water to run for 3-4 minutes or until the water is clear.

14. 7.

Press any button to advance to the REFILL position. Check that the valve is filling water into the brine tank. Allow the valve to refill for the full amount of time as displayed on the screen to insure a proper brine solution for the next regeneration.

14. 8.

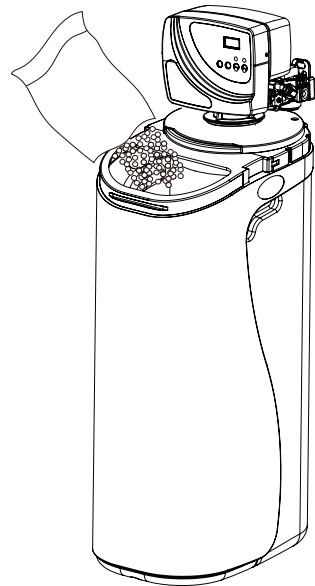
The valve will automatically advance to the SERVICE position. Open the outlet knob on the bypass with the bypass tool supplied. With the bypass open, open the nearest treated water faucet and allow the water to run until clear.

14. 9.

Add salt into the cabinet. Put 25kgs of crystal water softener salt in the 0817 softener cabinet, 49 kgs of crystal water softener salt in the 1035 softener cabinet. The unit will automatically fill the water to the correct level when it regenerates.

14. 10.

Program unit.



⚠ Liquid brine will irritate eyes, skin and open wounds - gently wash exposed. Area with fresh water. Keep children away from your water conditioner.

15. AUTOMATIC RAW WATER BYPASS DURING REGENERATION

The regeneration cycle can last 60 minutes after which Softened water service will be restored. During regeneration, un-Softened water is automatically bypassed for use in the household. Hot water should be used as little as possible during this time to prevent un-Softened water from filling the water heater. This is why automatic regeneration is set for sometime during the night and manual regenerations should be performed when little or no water will be used in the household.

16. MAINTENANCE INSTRUCTIONS

CHECK THE SALT LEVEL

Check the salt level monthly. Remove the lid from the cabinet or brine tank, make sure salt level is always above the brine level.



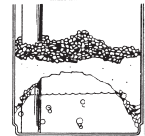
NOTE You should not be able to see water in the cabinet or brine tank.

ADDING SALT

Use only clean salt labeled for water conditioner use, such as crystal, pellet, nugget, button or solar. The use of rock salt is discouraged because it contains insoluble silt and sand which build up in the brine tank and can cause problems with the system's operation. Add the salt directly to the tank, filling no higher than the top of the brine well.

BRIDGING

Humidity or the wrong type of salt may create a cavity between the water and the salt. This action, known as “bridging”, prevents the brine solution from being made, leading to your water supply being hard.



If you suspect salt bridging, carefully pound on the outside of the plastic cabinet or pour some warm water over the salt to break up the bridge. This should always be followed up by allowing the unit to use up any remaining salt and then thoroughly cleaning out the cabinet. Allow four hours to produce a brine solution, then manually regenerate the softener.

RESIN CLEANER

An approved resin cleaner must be used on a regular basis if your water supply contains iron. The amount of resin cleaner and frequency of use is determined by the quantity of iron in your water (consult your local representative or follow the directions on the resin cleaner package).

CARE OF YOUR WATER CONDITIONER

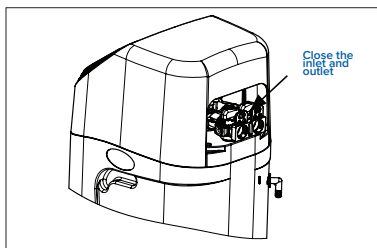
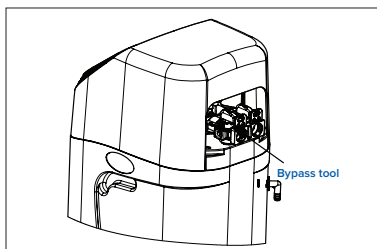
To retain the attractive appearance of your new water conditioner, clean occasionally with a mild soap solution. Do not use abrasive cleaners, ammonia or solvents. Never subject your conditioner to freezing.

17. SERVICE THE BNT10650 CONTROL VALVE

BEFORE SERVICING

17. 1. 1.

Turn off water supply to conditioner using the bypass tool attached on the bypass.



17. 1. 2.

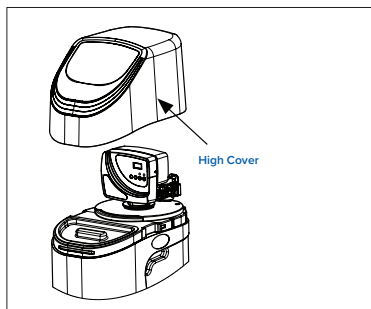
Relieve water pressure in the conditioner by stepping the control into the backwash position momentarily. Return the control to the In Service position.

17. 1. 3.

Unplug electrical cord from outlet.

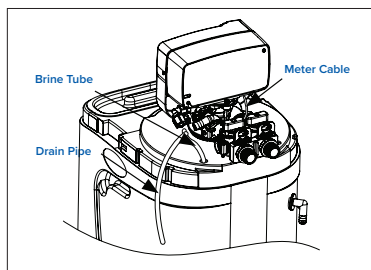
17. 1. 4.

Lift the high cover up.



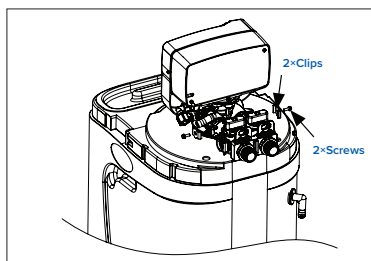
17. 1. 5.

Remove the brine tube and the drain pipe.



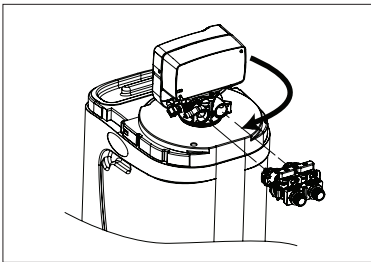
17. 1. 6.

Remove the clips that connect control valve and bypass.



17.1.7.

Disconnect the softener from the bypass.

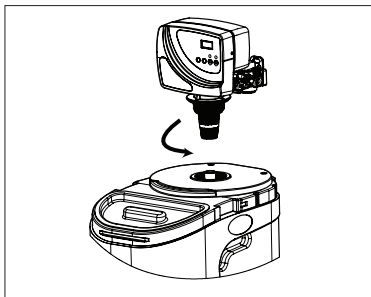


⚠ Electrical shock hazard! Unplug the unit before removing the cover or accessing any internal control parts.

⚠ Disassembly while under pressure can result in flooding. Always follow these steps prior to servicing the valve.

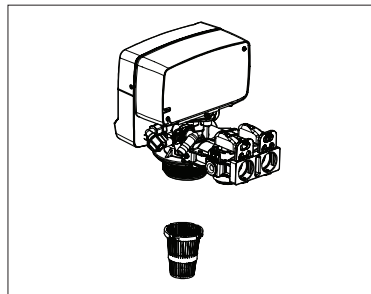
17.1.8.

Remove the valve from the softener.



17.1.9.

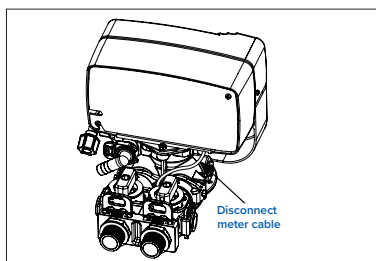
Remove the top cone from the valve.



REPLACE TIMER

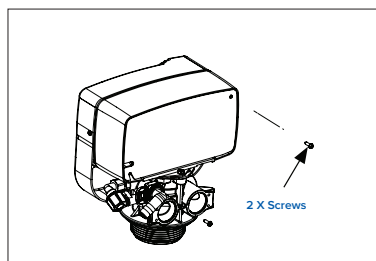
17.2.1

Disconnect the meter cable from the meter. (If meter cable is attached).



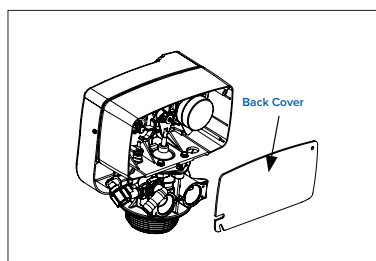
17.2.2

Remove the two screws on back cover.



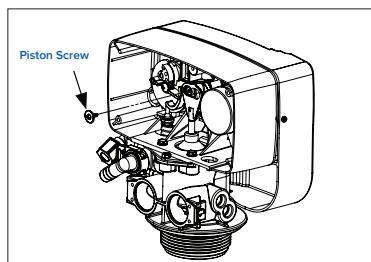
17.2.3

Remove the back cover.



17.2.4

Remove the piston screw from the piston rod.

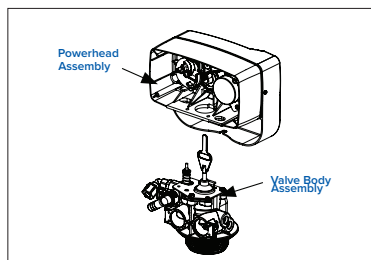
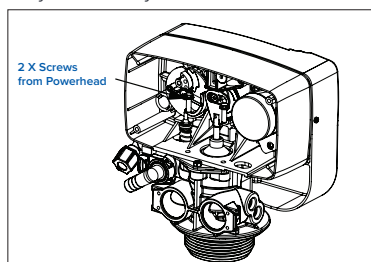


17.2.5

Remove the two screws from the powerhead as shown.

17.2.6

Life the powerhead from the valve body assembly.



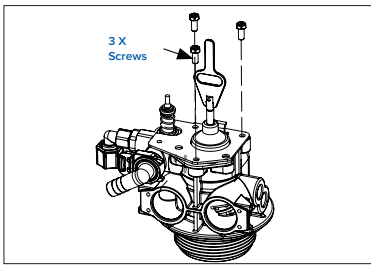
17.2.7

Replace the powerhead by reverse following the steps in this section.

REPLACE PISTON AND/OR BRINE VALVE

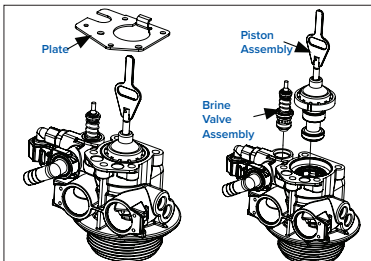
17. 3. 1

Follow steps 1 to 6 of Timer / Powerhead replacement.
Remove three screws from the plate



17. 3. 2

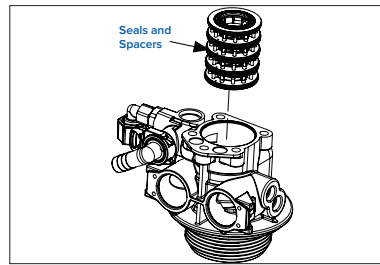
Remove the plate from the valve body and pull the Piston Assembly from the valve. The brine valve assembly can also be removed in this stage.



REPLACE PISTON AND/OR BRINE VALVE

17. 4. 1

Remove the seals and spacers assembly, grease it with silicone lubricant and put back in.



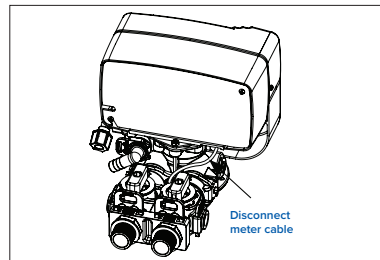
17. 4. 2

After servicing, reverse following steps in this section.

REPLACE METER

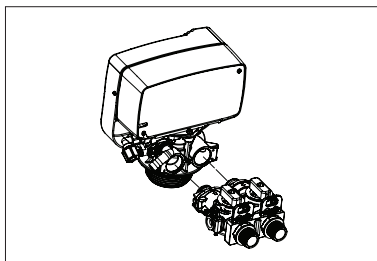
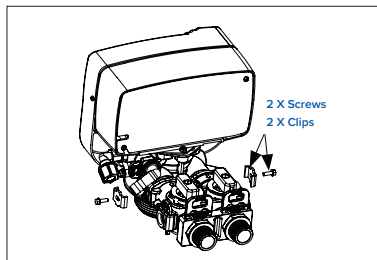
17. 5. 1

Disconnect the meter cable from the meter. (If flow meter cable is attached)



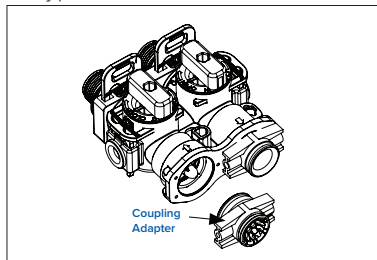
17. 5. 2

Disconnect the bypass from valve by removing clips.



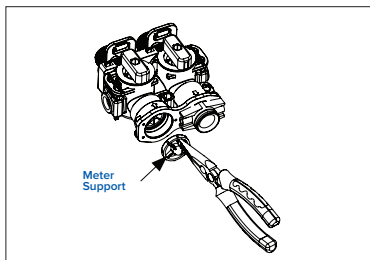
17. 5. 3

Remove the coupling adapter from the bypass.



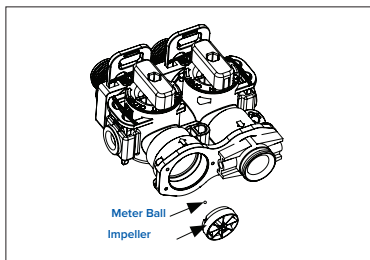
17. 5. 4

Remove the meter support from the bypass.



17. 5. 5

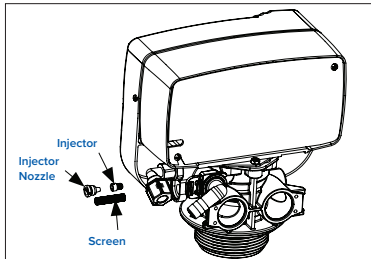
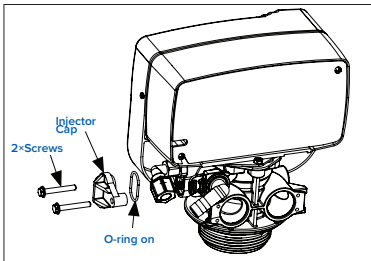
Remove the impeller and replace it. (Watch for the meter ball under the impeller, do not miss the ball)



CLEAN INJECTOR ASSEMBLY

17. 6. 1

Remove the two screws on the injector cap.



17. 6. 2

Remove the injector cap, watch for the o-ring on cap.

17. 6. 3

Take out the screen inside, clean and replace it.

17. 6. 4

Screw the injector nozzle and injector throat out, clean and replace it.

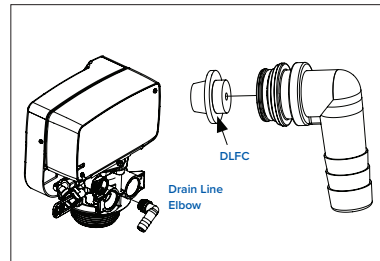
17. 6. 5

After servicing, reverse following steps in this section.

REPLACE DRAIN LINE FLOW CONTROL

17. 7. 1

Pull the drain line clip and remove the drain line elbow and washer.



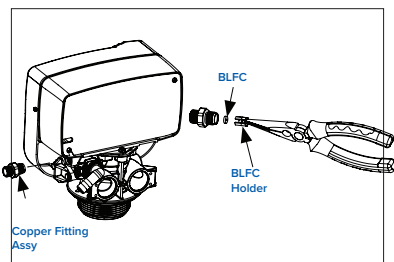
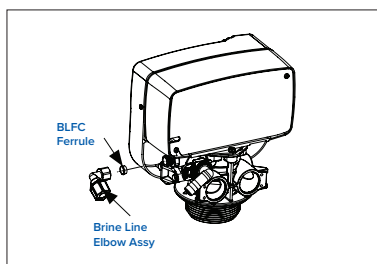
17. 7. 2

Clean/replace drain line flow control.

REPLACE BRINE LINE FLOW CONTROL

17. 8. 1

Use a wrench to screw off the brine line elbow assy, watch for the BLFC ferrule.



17. 8. 2

Use a wrench to screw off the copper fitting and use a nipper plier to remove the BLFC holder.

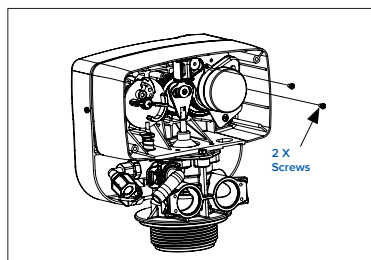
17. 8. 3

Use a nipper plier to remove the BLFC holder, clean/replace brine line flow control.

REPLACE MOTOR

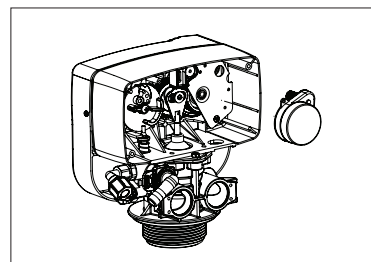
17. 9. 1

Follow steps 1 to 3 of Timer / Powerhead replacement.



17. 9. 2

Remove the two screws from the motor. Remove motor(disconnect the wire attached on PCB if any), watch for the pin under the motor.



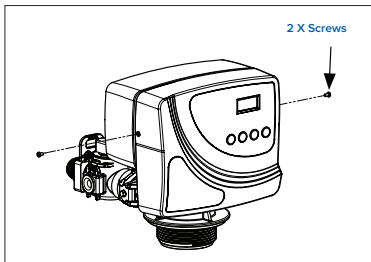
17. 9. 3

Replace the motor.

REPLACE CIRCUIT BOARD

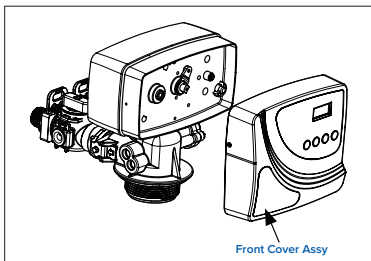
17. 10. 1

Remove the two screws from both sides.



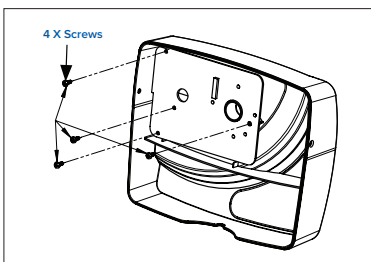
17. 10. 2

Remove the front cover assy.



17. 10. 3

Remove the four screws on PCB, then replace display PCB.



8. TROUBLESHOOTING

Conditioner delivers hard water	A. Bypass valve is open	A. Close bypass valve
	B. No salt in brine tank	B. Add salt to brine tank and maintain salt level above water level
	C. Injector or screen plugged	C. Replace injectors and screen
	D. Insufficient water flowing into brine tank	D. Check brine refill time and clean brine line flow control if plugged
	E. Leak at distributor tube	E. Make sure distributor tube is not cracked. Check O ring and tube pilot
	F. Internal valve leak	F. Replace seals and spacers and/or piston
	G. Flow meter jammed	G. Remove obstruction from flow meter
	H. Flow meter cable disconnected or not plugged into meter cap	H. Check meter cable connection to timer and meter cap
	I. Improper programming	I. Reprogram the control to the proper regeneration type, inlet water hardness, capacity or flow meter size.
Conditioner fails to regenerate	A. Electrical service to unit has been interrupted	A. Assure permanent electrical service (check fuse, plug, chain or switch)
	B. Timer is not operating properly	B. Replace timer
	C. Defective valve drive motor	C. Replace drive motor
	D. Improper programming	D. Check programming and reset as needed

Unit uses too much salt	A. Improper salt setting	A. Check salt usage and salt setting
	B. Excessive water in brine tank	B. See #7
	C. Improper programming	C. Check programming and reset as needed
Loss of water pressure	A. Iron build-up in line to water conditioner	A. Clean line to water conditioner
	B. Iron build-up in water conditioner	B. Clean control and add resin cleaner to resin bed. Increase frequency of regeneration
	C. Inlet of control plugged due to foreign material	C. Remove piston and clean control
Loss of resin through drain line	A. Air in water system	A. Assure that well system has proper air eliminator control. Check for dry well condition.
	B. Drain line flow control is too large	B. Ensure drain line flow control is sized
Iron in conditioned water	A. Fouled resin bed	A. Check backwash, brine draw and brine tank fill. Increase frequency of regeneration. Increase backwash time.
	B. Iron content exceeds recommended parameters	B. Add iron removal filter system
Excessive water in brine tank	A. Plugged drain line flow control	A. Clean flow control
	B. Brine valve failure	B. Replace brine valve
	C. Improper programming	C. Check programming and reset as needed

Salt water in service line	A. Plugged injector system	A. Clean injector and replace screen
	B. Timer not operating properly	B. Replace timer
	C. Foreign material in brine valve	C. Clean or replace brine valve
	D. Foreign material in brine line flow control	D. Clean brine line flow control
	E. Low water pressure	E. Raise water pressure
	F. Improper programming	F. Check programming and reset as needed
Conditioner fails to draw brine	A. Drain line flow control is plugged	A. Clean drain line flow control
	B. Injector is plugged	B. Clean or replace injectors
	C. Injector screen is plugged	C. Replace screen
	D. Line pressure is too low	D. Increase line pressure (line pressure must be at least 20 psi at all times)
	E. Internal control leak	E. Change seals and spacers and/or piston assembly
	F. Improper programming	F. Check programming and reset as needed
	G. Timer not operating properly	G. Replace timer
Control cycles continuously	A. Timer not operating properly	A. Replace timer
	B. Faulty microswitches and/or harness	B. Replace faulty microswitch or harness
	C. Faulty cycle cam operation	C. Replace cycle cam or reinstall

Drain flows continuously	A. Foreign material in control	A. Remove piston assembly and inspect bore. Remove foreign material and check control in various regeneration positions
	B. Internal control leak	B. Replace seals and/or piston assembly
	C. Control valve jammed in backwash, brine or rinse position	C. Replace piston and seals and spacers
	D. Timer motor stopped or jammed teeth	D. Replace timer motor and check all gears for missing teeth
	E. Timer not operating properly	E. Replace timer

ROXY
SOFTENER.