

Owners Manual



AUSTIN Water softener FLoteck 1650

1. Read all instructions carefully before operation.
2. Avoid pinched o-rings during installation by applying (provided with install kit) NSF certified lubricant to all seals.
3. This system is not intended for treating water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system.

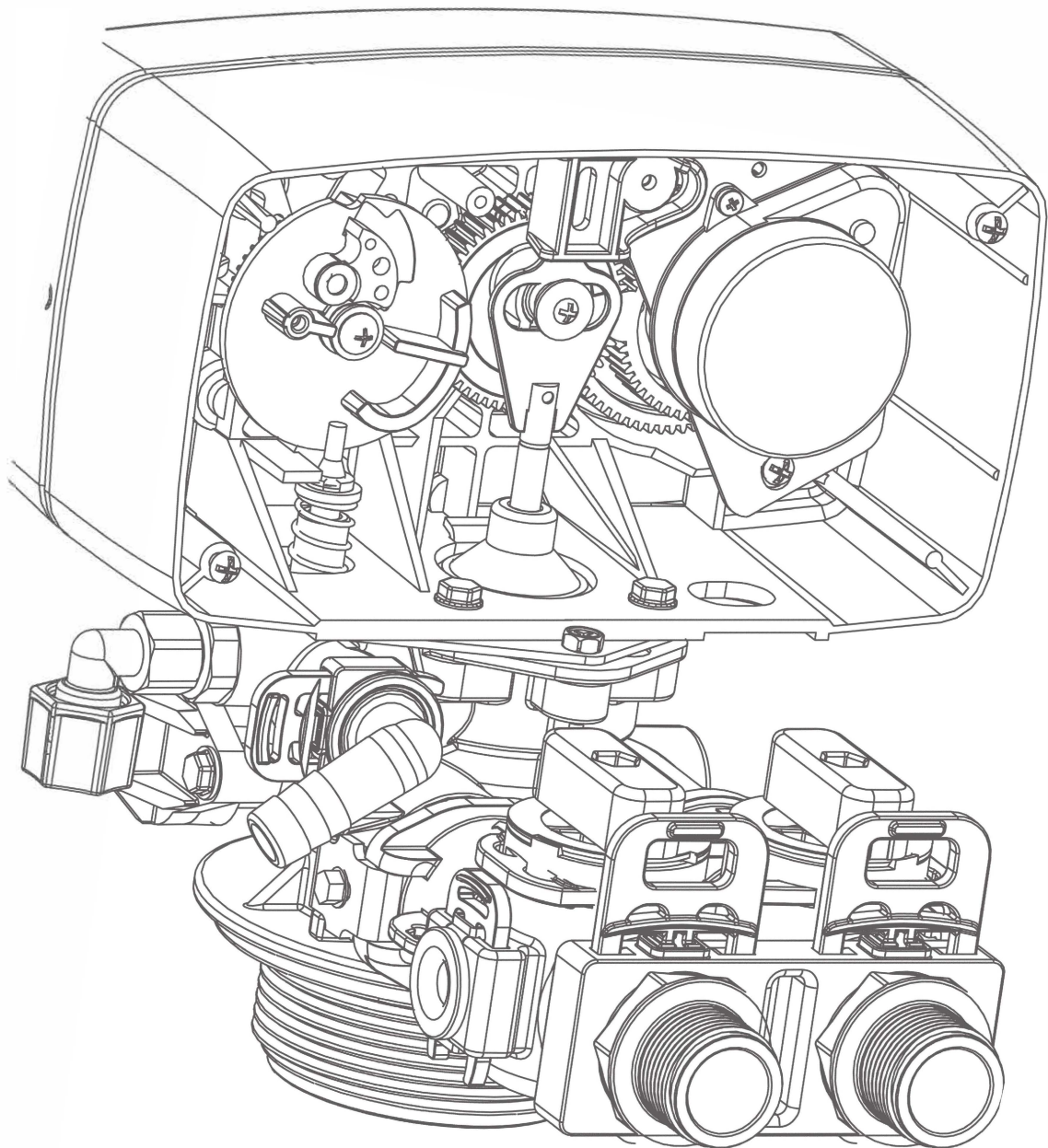


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READ THIS PAGE FIRST

BEFORE STARTING INSTALLATION

- ▶ 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:

EXAMPLE:

NOTE

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

EXAMPLE:

CAUTION

Disassembly while under pressure can result in flooding.

EXAMPLE:

WARNING

Electrical Shock Hazard! Unplug the unit before removing the cover or accessing any internal control parts.

WATER CONDITIONER BASICS

WHAT IS HARD WATER AND HOW IT IS SOFTENED

All of the fresh water in the world originally falls as rain, snow, or sleet. Surface water evaporates and is drawn upward by the sun, forming clouds. Then, nearly pure and soft as it starts to fall as rain. It begins to collect impurities as it passes through smog and dustladen atmosphere back to the ground. And as it seeps through soil and rocks it gather hardness, rust, acid, unpleasant tastes and odors.

Water hardness is caused primarily by limestone dissolved from the earth by the rainwater. Because of this, in earlier times, people who wanted soft water collected rainwater from roofs in rain barrels and cisterns before it picked up hardness from the earth.

Some localities have corrosive water. A softener cannot correct this problem. This softener has warranty disclaims of liability for corrosion of plumbing lines, fixtures or appliances.

Iron is a common water problem. The chemical/physical nature of iron found in natural water supplies is exhibited in four general types:

1. **DISSOLVED IRON**—Also called ferrous or “clear water” iron. Dissolved iron is soluble in water and is detected by taking a sample of the water to be treated in a clear glass. The water in the glass is initially clear, but on standing exposed to the air, it may gradually turn cloudy or colored as it oxidizes. This type of iron can be removed from the water by the same ion exchange principle that removes the hardness elements, calcium and magnesium.

2. **PARTICULATE IRON**—Also called ferric or colloidal iron. This type of iron is an undissolved particle of iron. A filtering treatment will be required to remove this type of iron. A softener will remove larger particles, but the particles may not be washed out in regeneration effectively and will eventually foul the ion exchange resin.

3. **ORGANIC BOUND IRON**—This type of iron is strongly attached to an organic compound in the water. The ion exchange process alone cannot break this bond down and the softener will not remove this type of iron.

4. **BACTERIAL IRON**—This type of iron is protected inside a bacteria cell. Like the organic bound iron, it is not removed by a water softener.

It's important that when a softener is removing both hardness and dissolved iron, it must regenerate more frequently than it normally would for just hardness. Many factors and formulas have been used to determine this frequency. It is recommended that the softener be regenerated when it has reached 50–75% of the calculated hardness alone capacity. This will minimize the potential for bed fouling.

Regular resin bed cleaning is needed to keep the bed from coating with iron if you are operating a water softener on clear water iron. Even when operating a softener on water with less than the maximum of dissolved iron, regular cleanings should be performed. Clean every six months or more often if iron appears in your conditioned water supply. Use resin bed cleaning compounds carefully following the directions on the container.



CAUTION

DO NOT USE WATER FILTERED THROUGH THIS SOFTENER WHERE THE WATER IS MICROBIOLOGICALLY UNSAFE OR THE WATER IS OF UNKNOWN QUALITY. THE WATER MUST BE DISINFECTED BEFORE OR AFTER THE UNIT.

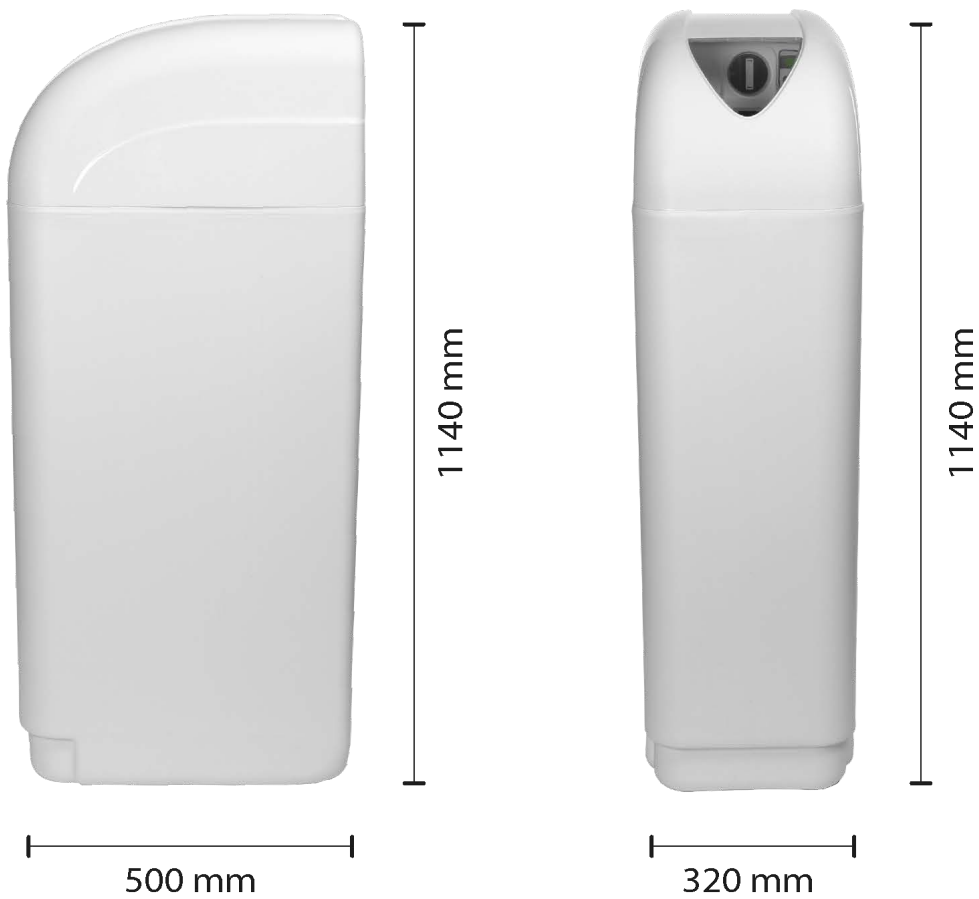
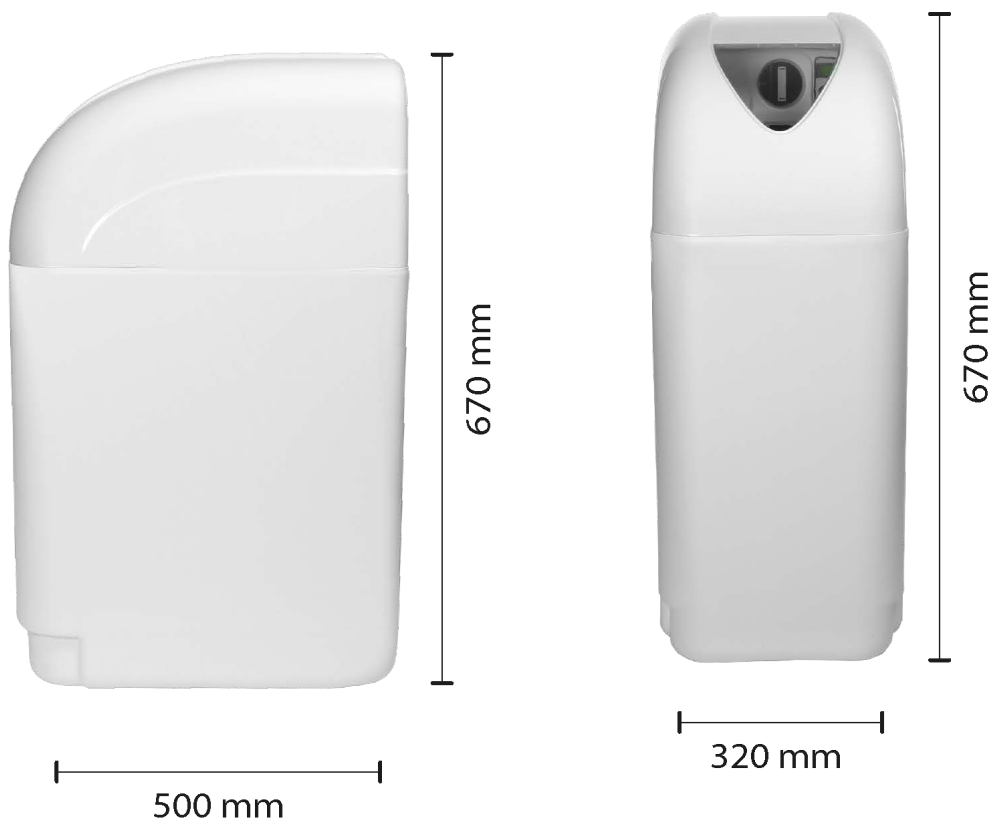
SOFTENER SYSTEM SPECIFICATIONS

BNT1650 VALVE

Performance Data Sheet and Specifications					
Resin quantity (L)	10	14	18	22	30
Control System	FLOTECK-1650				
Regeneration Type	Down Flow				
Integrated Meter in Bypass	YES	YES	YES	YES	YES
Hardness removal in m ³ TH	50	70	90	110	150
Media Loaded	YES	YES	YES	YES	YES
Resin Type	Extremely High Capacity Ion Exchange Resin - Exclusive				
Tank Size (Inch)	10 x 17	10 x 17	08x35	08x35	10 x 35
Salt Storage Capacity (Kg)	21	21	65	65	65
Rated Service Flow Rate (m ³ /h)	1.0	1.5	1.8	2.2	3.0
Recommended Cycle Settings					
Backwash Duration Setting (Min)	2	4	5	5	5
Brine Duration Setting (Min)	24	35	48	48	48
Rinse Duration Setting (Min)	1	2	5	5	5
Refill Duration Setting (Min)	4,6	6,4	8,2	10,1	13,8
Salt Used - Per Regeneration (6 lb/cf Salt Dosage)(Kg)	0.77	0.96	1.80	2.10	2.90
Water Used - Regeneration (L)	37	51	66	82	110
Flow Rate(Only valve)					
Continuous Flow Rate @ 15 psi Pressure Drop	4500L/H				
Peak Flow Rate @ 1,72 bar Pressure Drop	5900L/H				
Back Wash Flow Rate@ 1,72 bar Pressure Drop	1600L/H				
Pipe Size	3/4"				

- 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.
- Iron content must not exceed 1 ppm. Beyond 1 ppm an iron softener must be used.
- 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.
- Do not use water that is microbiologically unsafe without adequate disinfection before or after the system.

SOFTENER SYSTEM DIMENSIONS



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.

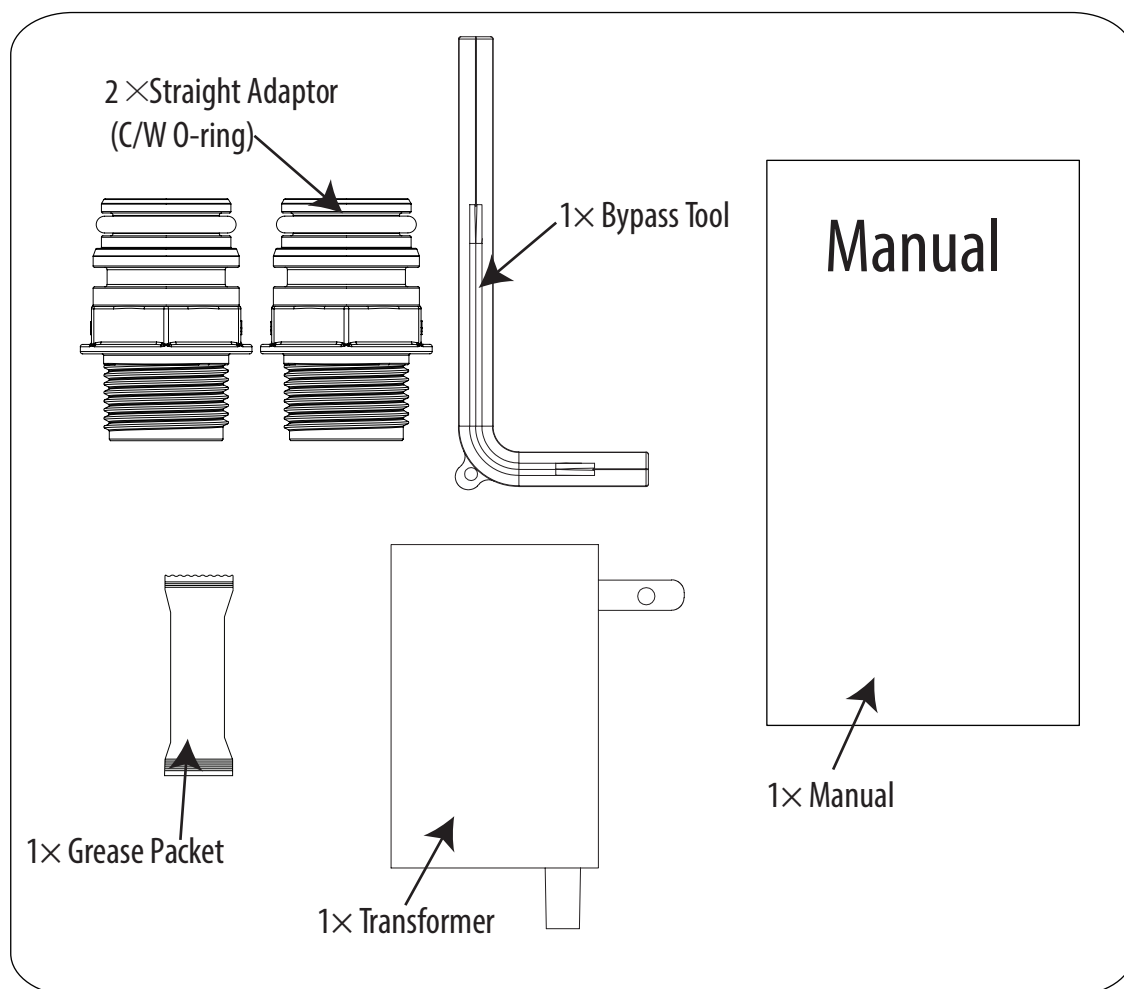
Handle the softener unit with care. Do not drop the unit or set on sharp, uneven projections on the floor. Do not turn the softener unit upside down.

NOTE

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.

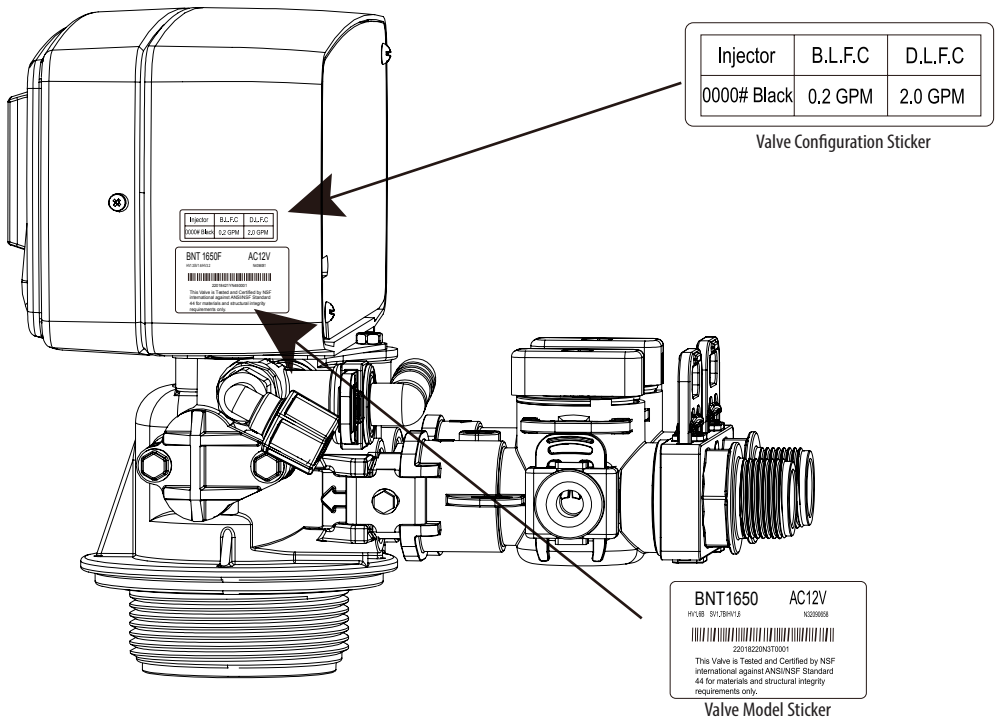
The manufacturer is not responsible for damages in transit. Small parts, needed to install the Softener, are in a parts box. To avoid loss of the small parts, keep them in the parts bag until you are ready to install.

ACCESSORIES CONTENTS :



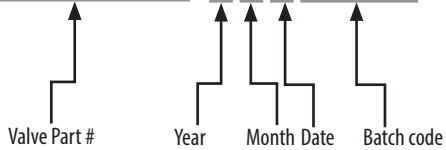
CHECK THE VALVE SERIAL NUMBER

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:

2201801705G0005



(22018017): Valve part #

(O)YEAR: "R" stand for year 2021,"Q" stand for year 2020, "P" stand for year 2019, "O" stand for year 2018, "N" stand for year 2017, "M" stand for year 2016...

(5)MONTH: 1(JAN), 2(FEB), 3(MAR), 4(APRIL), 5(MAY), 6(JUNE), 7(JULY), 8(AUG), 9(SEP), A(OCT), B(NOV), C(DEC)

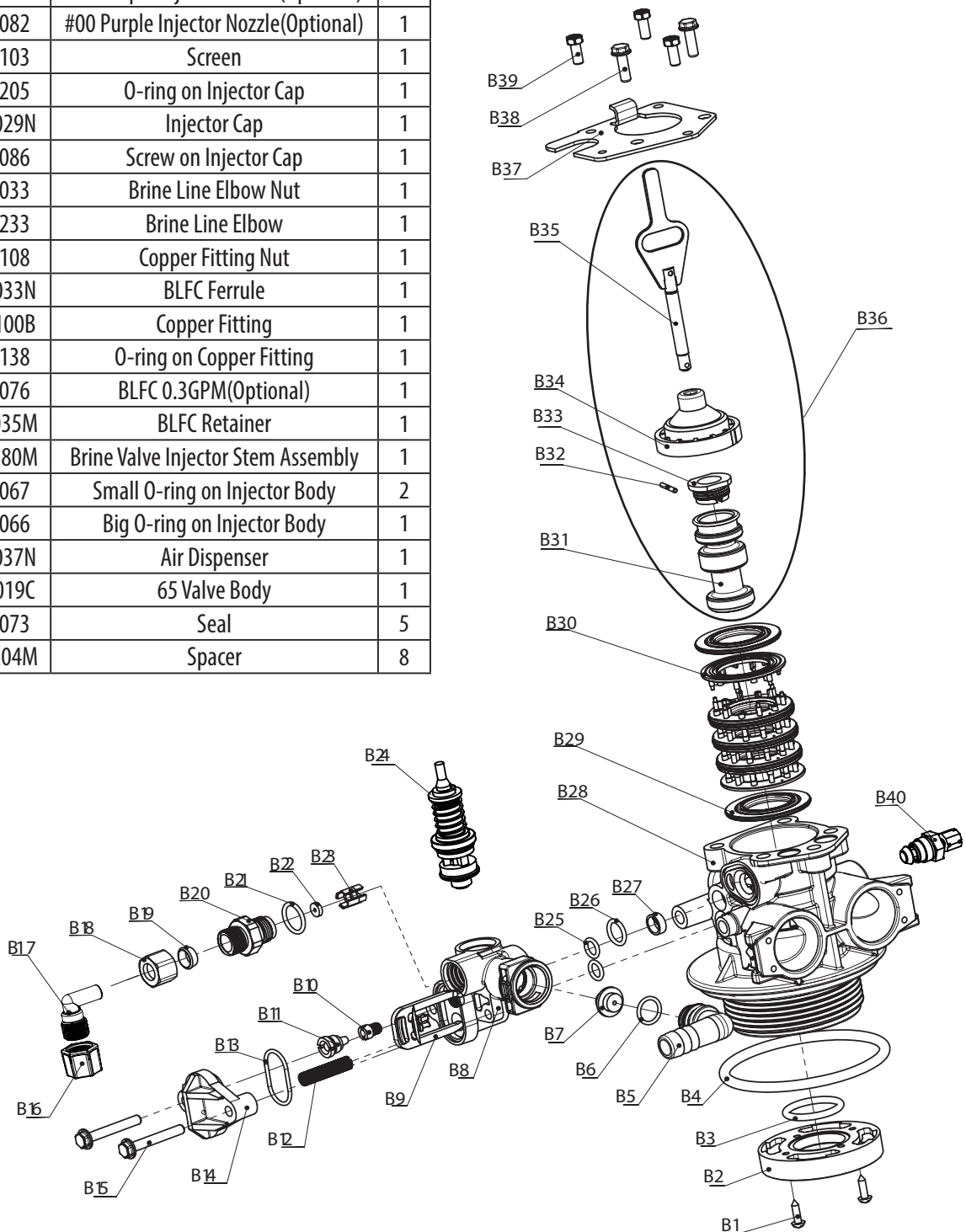
(G)DATE: 1 2 3 4 5 6 7 8 9 (A)10 (B)11 (C)12 (D)13 (E)14 (F)15 (G)16 (H)17 (I)18 (J)19 (K)20 (L)21 (M)22 (N)23 (O)24 (P)25 (Q)26 (R)27 (S)28 (T)29 (U)30 (V)31

(0005): Batch code

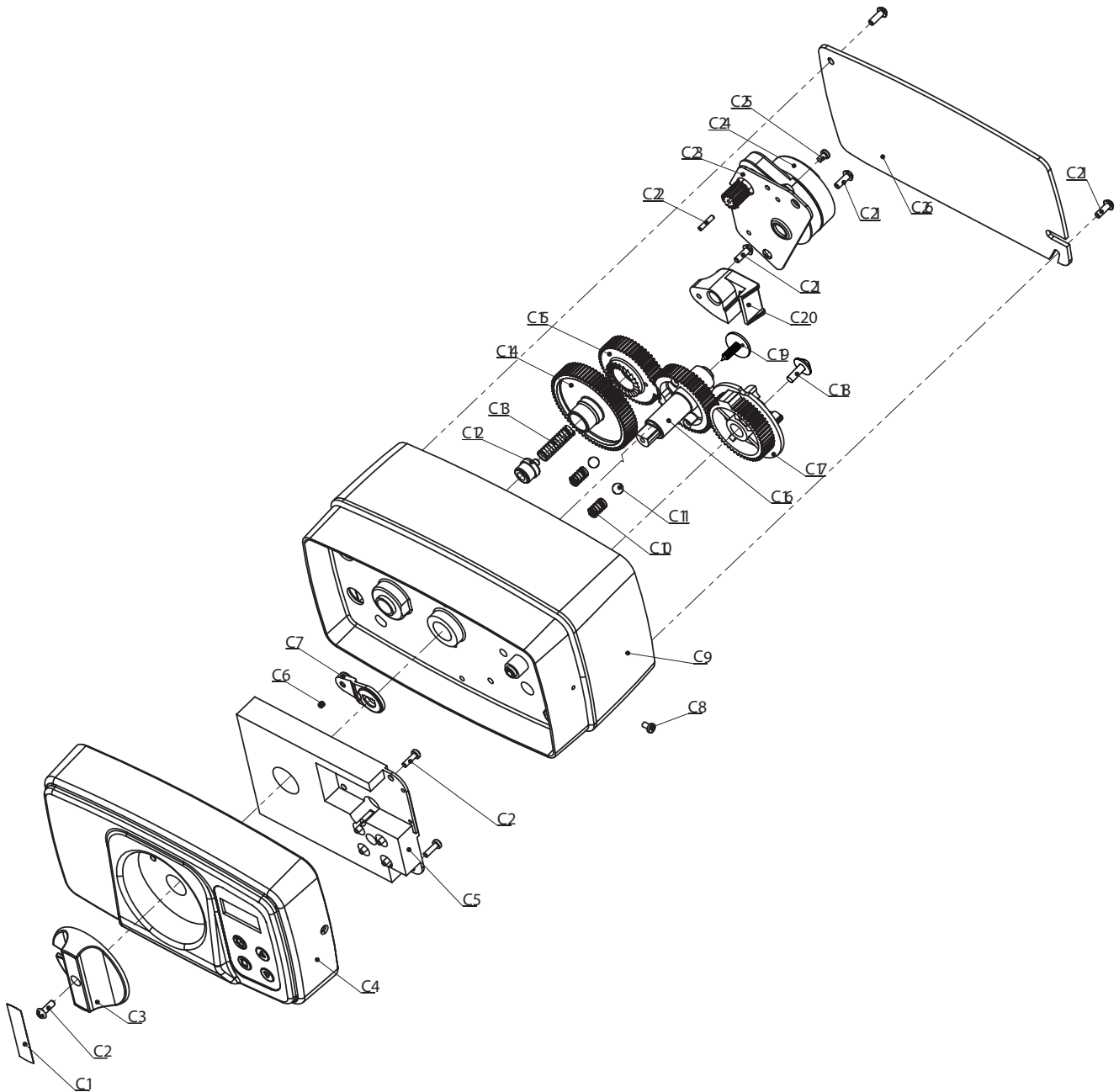
VALVE BODY PARTS LIST

No.	Part #	Description	Qty
B1	05056084	Screw on Valve Bottom Connector	2
B2	07060007	Valve Bottom Connector	1
B3	26010103	Distributor O-ring	1
B4	05056063	Tank Mouth O-ring	1
B5	05010082M	Drain Elbow	1
B6	05056134	O-ring of Drain Line Elbow	1
B7	05056185	DLFC 1.5GPM(Optional)	1
B8	05056177	Injector Body	1
B9	05056172N	Secure Clip-S	1
B10	30040081	#00 Purple Injector Throat(Optional)	1
B11	30040082	#00 Purple Injector Nozzle(Optional)	1
B12	05056103	Screen	1
B13	05056205	O-ring on Injector Cap	1
B14	05056029N	Injector Cap	1
B15	05056086	Screw on Injector Cap	1
B16	21389033	Brine Line Elbow Nut	1
B17	21499233	Brine Line Elbow	1
B18	05056108	Copper Fitting Nut	1
B19	05056033N	BLFC Ferrule	1
B20	05056100B	Copper Fitting	1
B21	05056138	O-ring on Copper Fitting	1
B22	05056076	BLFC 0.3GPM(Optional)	1
B23	05056035M	BLFC Retainer	1
B24	05056180M	Brine Valve Injector Stem Assembly	1
B25	05056067	Small O-ring on Injector Body	2
B26	05056066	Big O-ring on Injector Body	1
B27	05056037N	Air Dispenser	1
B28	05056019C	65 Valve Body	1
B29	05056073	Seal	5
B30	05056204M	Spacer	8

B31	05056520	Piston	1
B32	05056097	Piston Pin	1
B33	05056022B	Piston Retainer	1
B34	05005605N	End Plug	1
B35	05010081	Piston Rod	1
B36	02170028	Piston Assembly	1
B37	05056047	End Plug Retainer	1
B38	05056088B	Screws M5×16	2
B39	05056087B	Screws M5×12	3
B40	02170013M	Blending Valve Assy	1



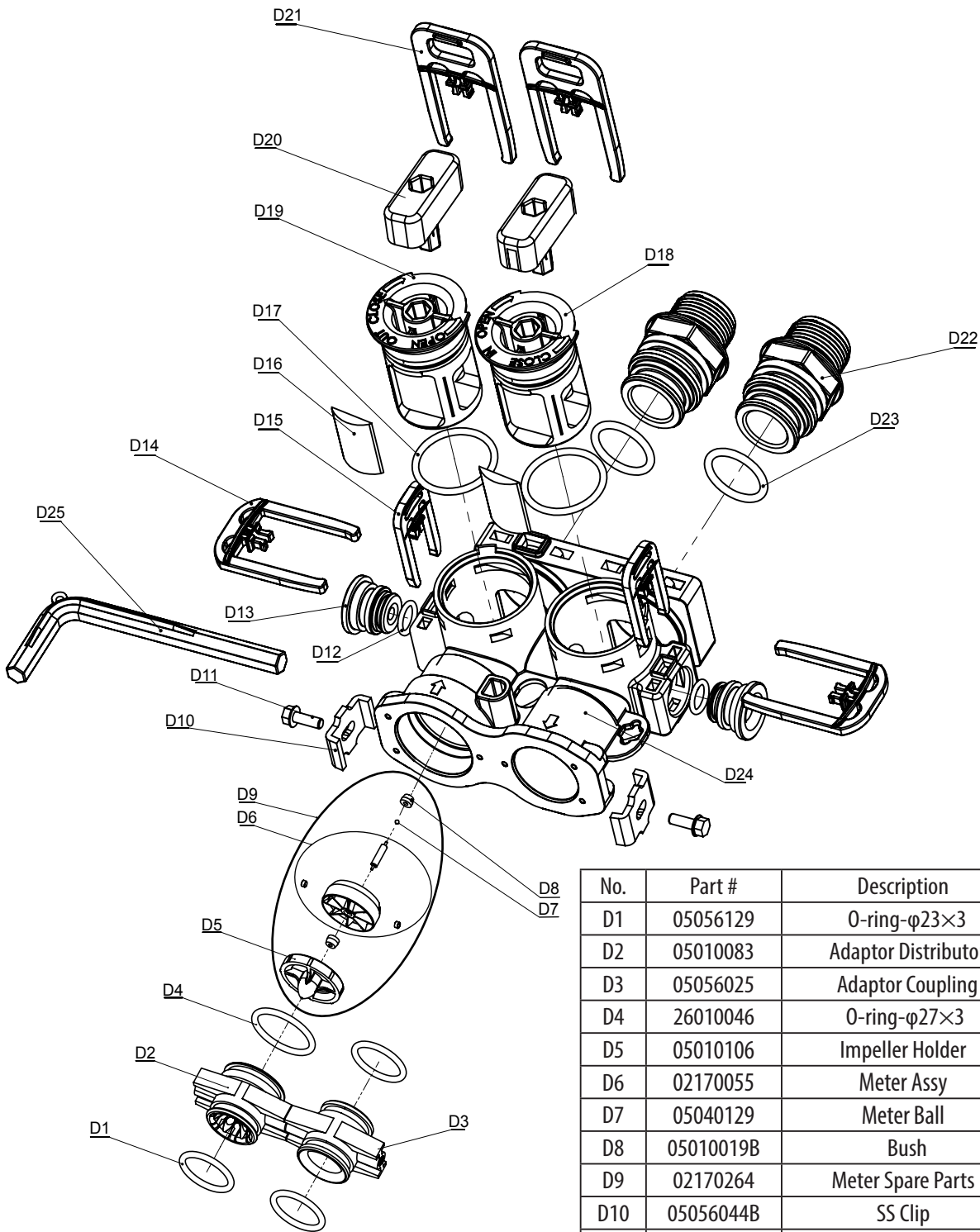
POWER HEAD PARTS LIST



No.	Part #	Description	Qty
C1	05056111	Knob Label	1
C2	05010037B	Screw 2.9×10	3
C3	05056008	Knob	1
C4	05056500	Front Cover	1
C5	05056549	Display PCB	1
C6	05010023	Magnet-φ3×2.7	1
C7	05056503	Magnet Holder	1
C8	05056509	Screw 2.9×9.5	2
C9	05056001	Housing	1
C10	05056095	Spring Detent	2
C11	05056092	SS Ball	2
C12	05056502	Spring Retainer	1
C13	05056094	Spring	1

C14	05056002	Drive Gear	1
C15	05056501	Idler Gear	1
C16	05056005	Main Gear	1
C17	05056211	Brine Gear	1
C18	13000462	Screw 4.2×12(c/w washer)	1
C19	13000463	Screw 2.9×13(c/w washer)	1
C20	05010045	Piston Stem Holder	1
C21	05056136	Screw 3.5×13	4
C22	05056098	Motor Pin	1
C23	05056045	Motor Mounting Plate	1
C24	05056510	Motor	1
C25	05056082	Screw M3×5	2
C26	05056014	Back Cover	1

BYPASS PARTS LIST

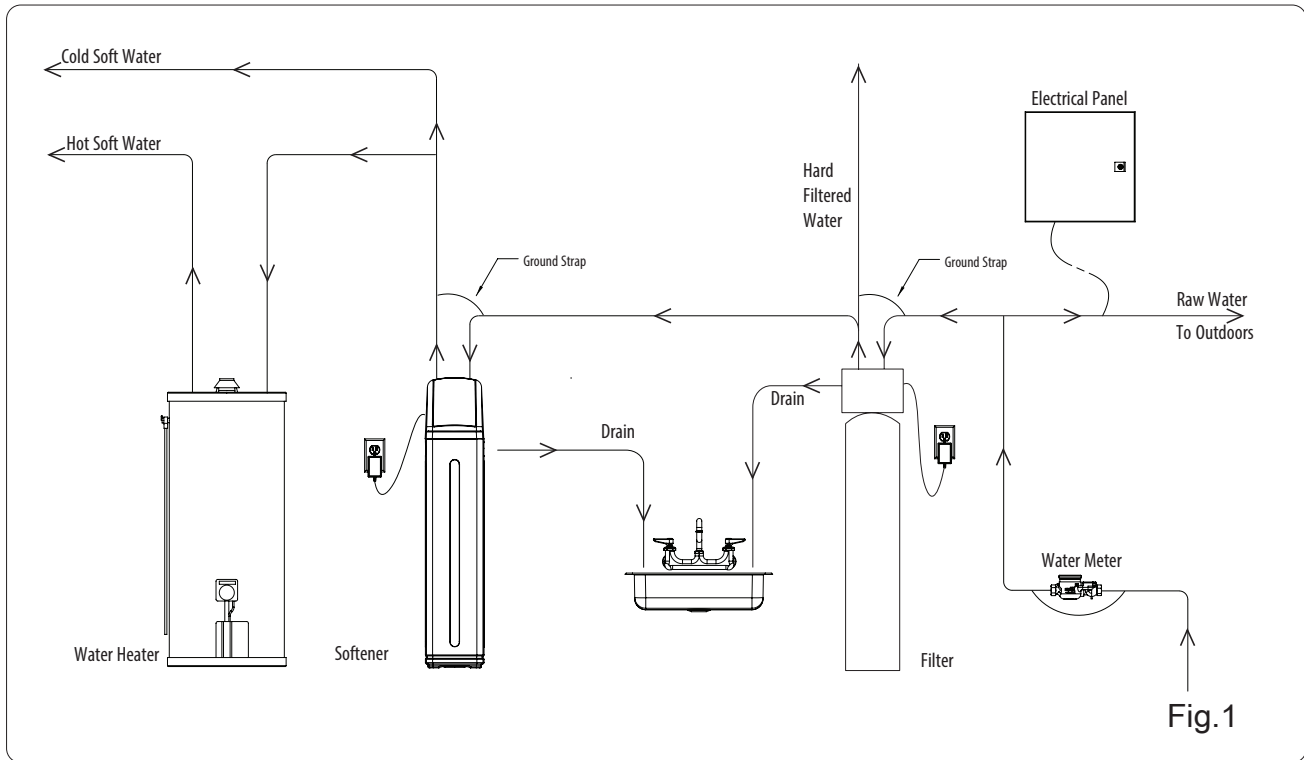


No.	Part #	Description	Qty
D1	05056129	O-ring-φ23×3	3
D2	05010083	Adaptor Distributor	1
D3	05056025	Adaptor Coupling	1
D4	26010046	O-ring-φ27×3	1
D5	05010106	Impeller Holder	1
D6	02170055	Meter Assy	1
D7	05040129	Meter Ball	1
D8	05010019B	Bush	2
D9	02170264	Meter Spare Parts	1
D10	05056044B	SS Clip	2
D11	13000327	Screw M4×12	2
D12	05056134	O-ring(12×2)	2
D13	05056146	Bypass Plug	2
D14	21709004	Shaft Clip	2
D15	05056172N	Plug Clip	2
D16	05056149B	Shaft Seal	2
D17	05030013	O-ring(30×2.65)	2
D18	05056213	Bypass Shaft(Inlet)	1
D19	05056214	Bypass Shaft(Outlet)	1
D20	05056220	Bypass Knob	1
D21	21709003	Connector Clip	2

D22	21319006	Connector 3/4" Straight	2
D23	26010143	O-ring(22.4×3.55)	2
D24	05056212	063 Bypass Body	1
D25	70020007M	Bypass Tool	1

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.

INSTALLATION INSTRUCTIONS

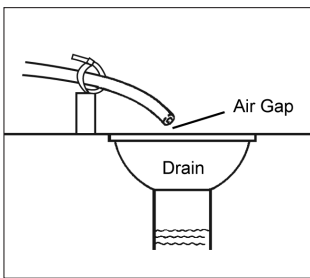
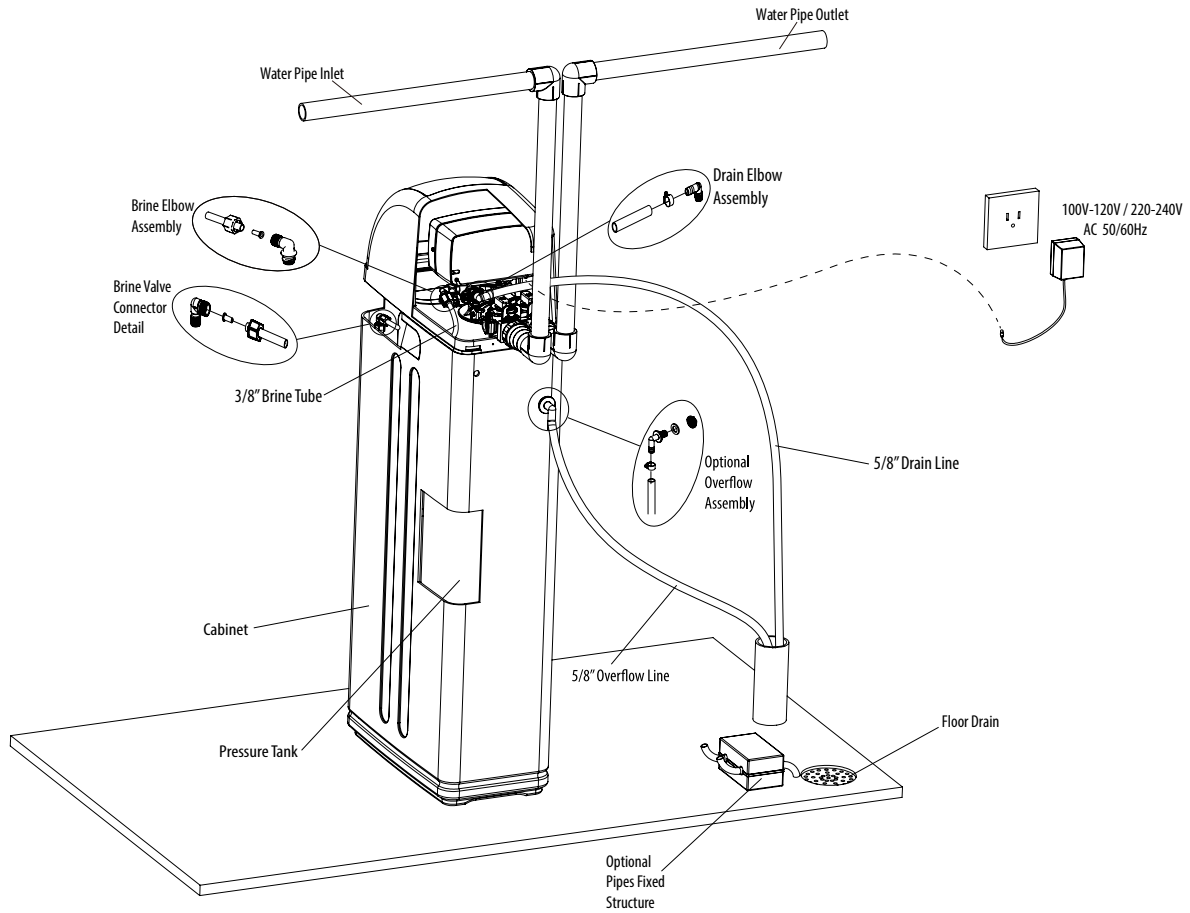
DETERMINE THE CORRECT LOCATION OF THE WATER CONDITIONING EQUIPMENT

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°C) 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.



⚠ CAUTION
 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)

⚠ CAUTION
 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.

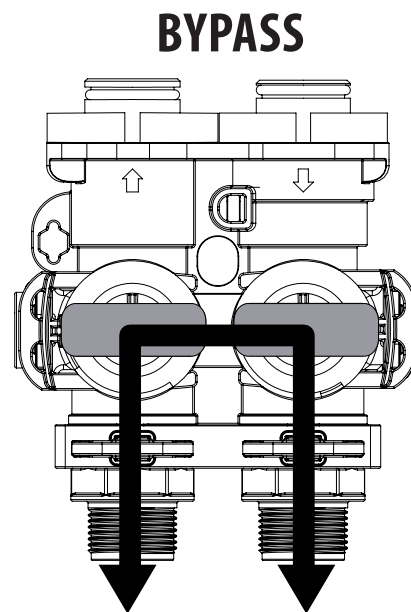
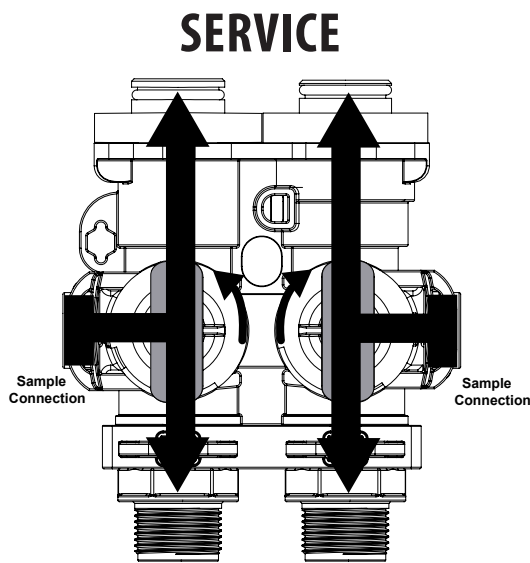
NOTE PERFORM ALL PLUMBING ACCORDING TO LOCAL PLUMBING CODES.

WATER BYPASS

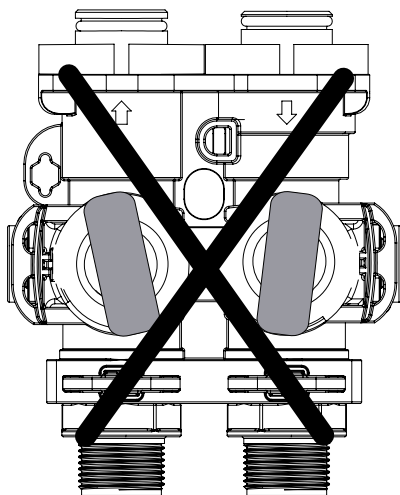
In case of an emergency such as softener maintenance, you can isolate your water softener from the water supply using the bypass valve located at the back of the control. In normal operation the bypass is open with the ON/OFF knobs in line with the INLET and OUTLET pipes. To isolate the softener, simply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



BYPASS NOT ALLOWED POSITION

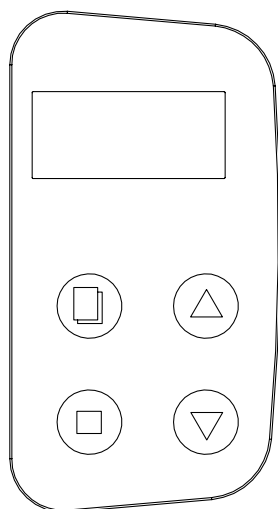






NOTE

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

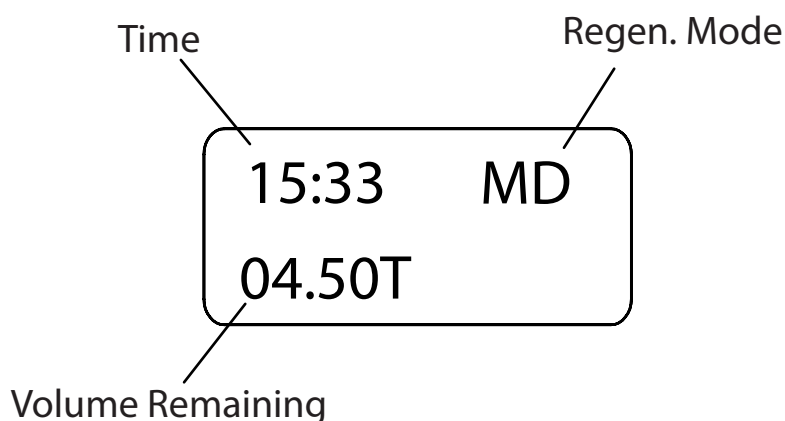
PROGRAMMING GUIDE

FAMILIARIZE WITH KEY PAD CONFIGURATION

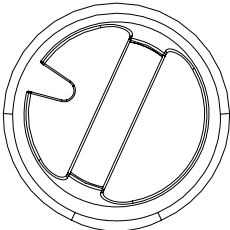


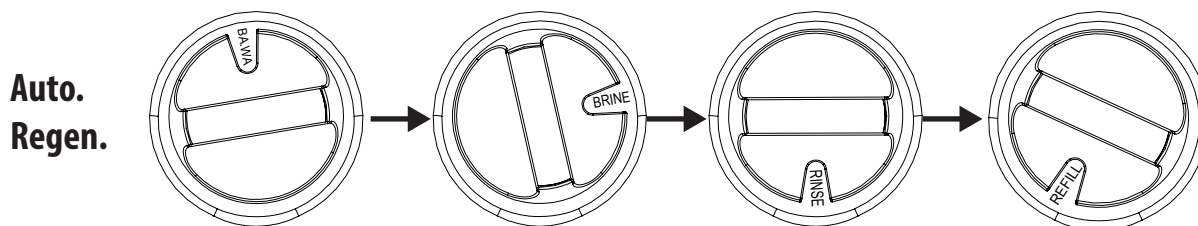
- 
Menu This function enters the basic set up information required at the time of installation.
- 
Set/Regen. This function is to accept the values if changed and advance to the next page in the menu.
- 

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

STANDBY DISPLAY

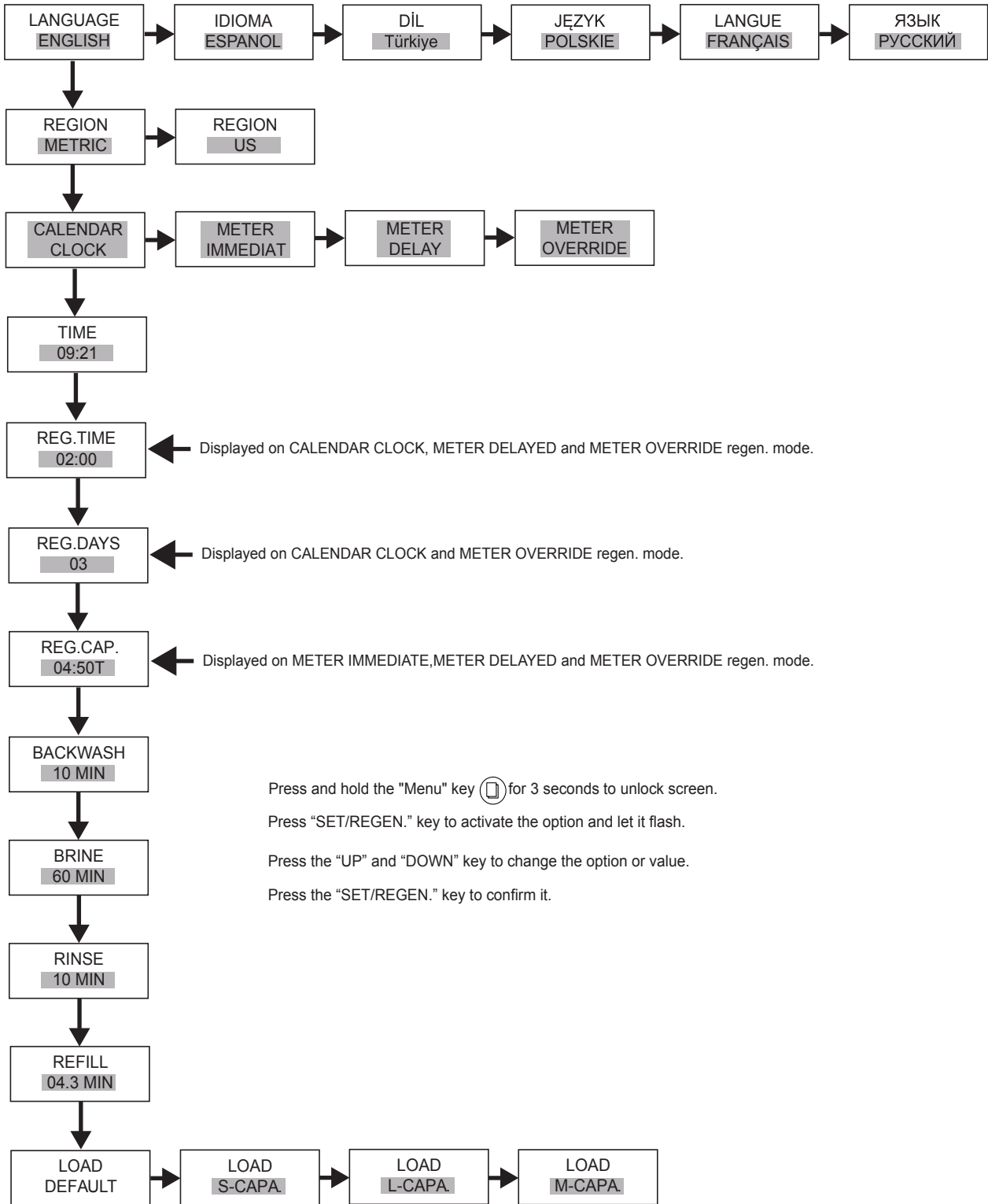


MANUAL REGEN.(KNOB OPERATION)

- Manual Start**
- 
1. Rotate the knob a little bit to have the valve leave the SERVICE position.
 2. After a few seconds, the valve will automatically go through a standard regeneration process based on the pre-settings.



MENU SETTINGS PAGE



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.

START-UP INSTRUCTIONS

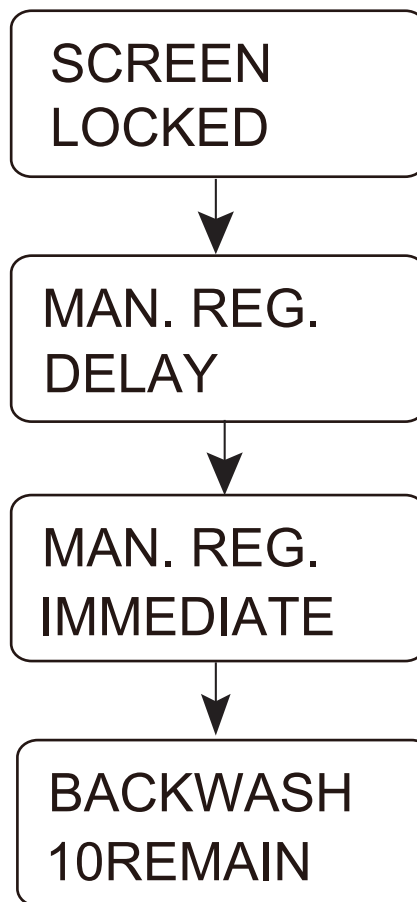
1. Add two liters of water into the cabinet at the time of installation. This is for the unit to achieve proper capacity in the first time of regeneration.
2. Plug the power transformer into an approved power source. Connect the power cord to the valve.
3. When power is supplied to the control, the screen will may display "WAITING PLEASE" while it finds the service position.
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.

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

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

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

4.4 Press "Menu" key to start an Immediate Regen.



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.

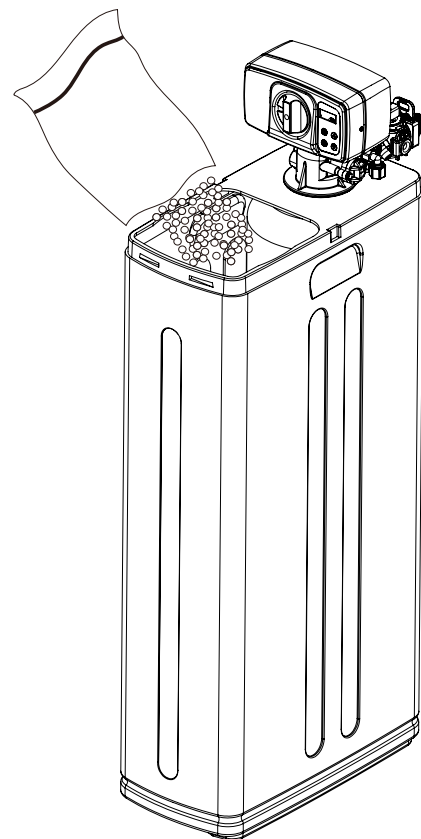
6. Replug the power, press any button to advance to the BRINE position, once it arrives at BRINE position, press any button to advance to the RINSE position. Check the drain line flow. Allow the water to run for 3-4 minutes or until the water is clear.

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.

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.

9. Add salt into the cabinet. Put 16 kgs of crystal water softener salt in the 0817 softener cabinet, 36 kgs of crystal water softener salt in the 0835 softener cabinet, 48 kgs of crystal water softener salt in the 0844 softener cabinet. The unit will automatically fill the water to the correct level when it regenerates.

10. Program unit.



CAUTION

LIQUID BRINE WILL IRRITATE EYES, SKIN AND OPEN WOUNDS - GENTLY WASH EXPOSED AREA WITH FRESH WATER. KEEP CHILDREN AWAY FROM YOUR WATER CONDITIONER.

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.

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

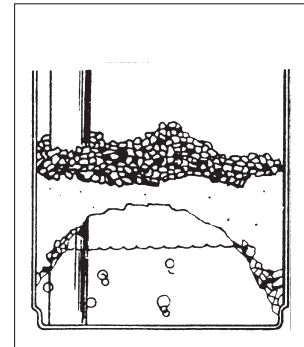
YOU SHOULD NOT BE ABLE TO SEE WATER IN THE CABINET OR BRINE TANK.

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).

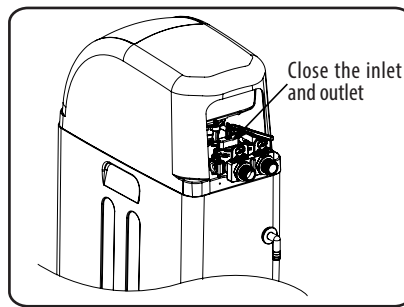
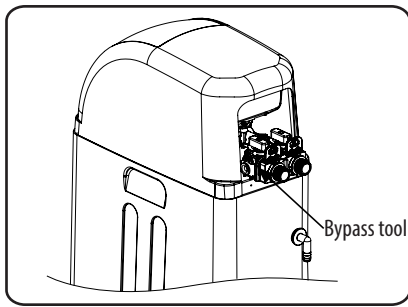
Care of Your Water Conditioner

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.

SERVICE THE BNT1650 CONTROL VALVE

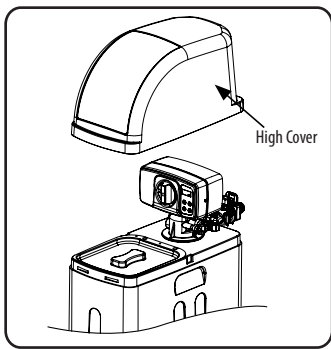
Before Servicing

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

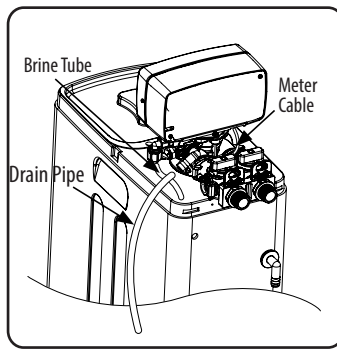


2. Relieve water pressure in the conditioner by stepping the control into the backwash position momentarily. Return the control to the In Service position.

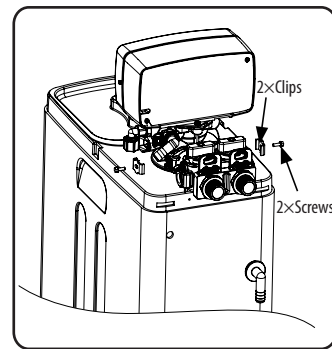
3. Unplug electrical cord from outlet.



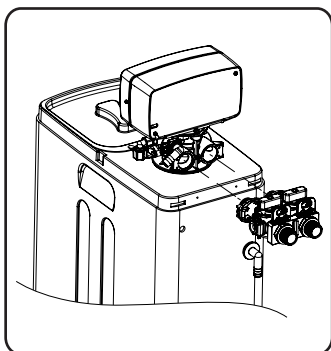
4. Lift the high cover up.



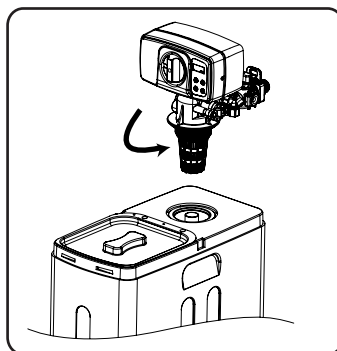
5. Remove the brine tube and the drain pipe.



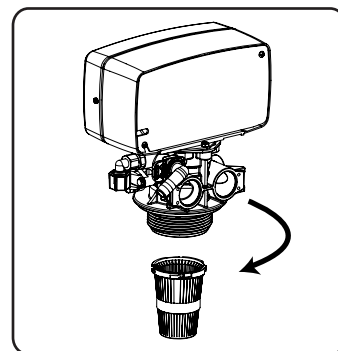
6. Remove the clips that connect control valve and bypass.



7. Disconnect the softener from the bypass.



8. Remove the valve from the softener.



9. Remove the top cone from the valve.



CAUTION

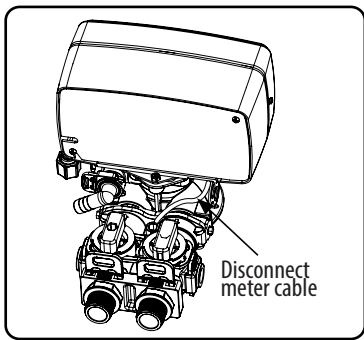
ELECTRICAL SHOCK HAZARD! UNPLUG THE UNIT BEFORE REMOVING THE COVER OR ACCESSING ANY INTERNAL CONTROL PARTS.



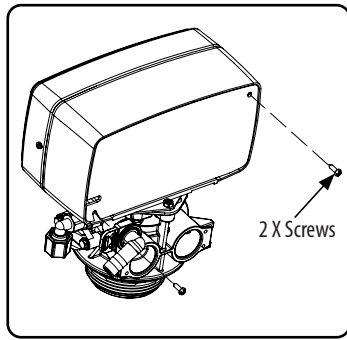
CAUTION

DISASSEMBLY WHILE UNDER PRESSURE CAN RESULT IN FLOODING. ALWAYS FOLLOW THESE STEPS PRIOR TO SERVICING THE VALVE.

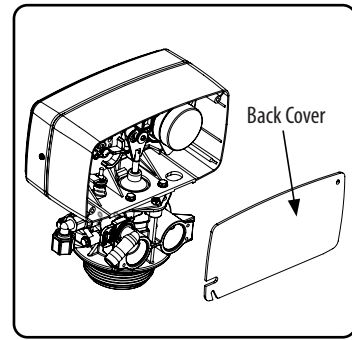
REPLACE TIMER



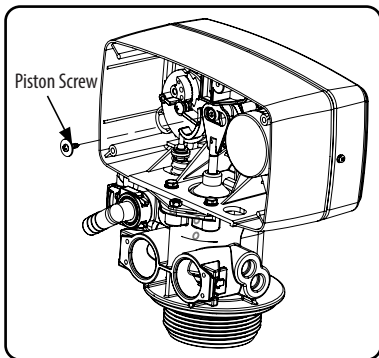
1. Disconnect the meter cable from the meter. (If meter cable is attached).



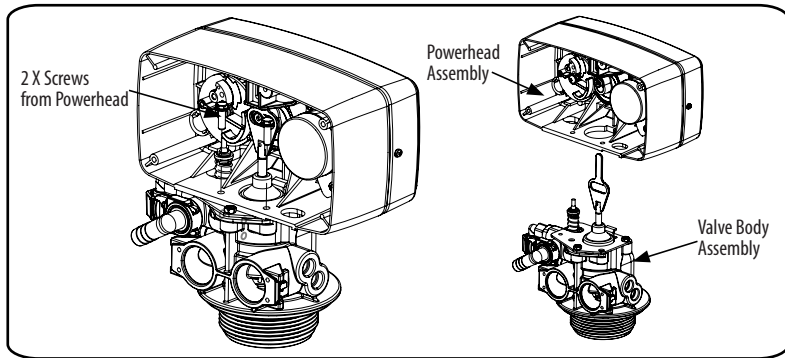
2. Remove the two screws on back cover.



3. Remove the back cover.



4. Remove the piston screw and washer from the piston rod.



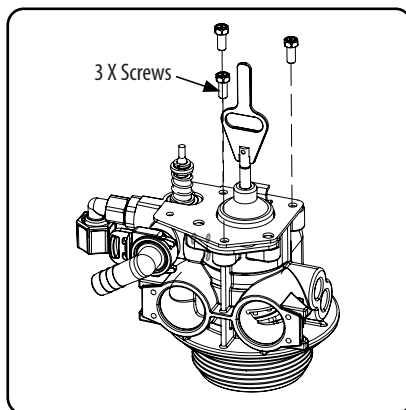
5. Remove the two screws from the powerhead as shown.

6. Lift the powerhead from the valve body assembly.

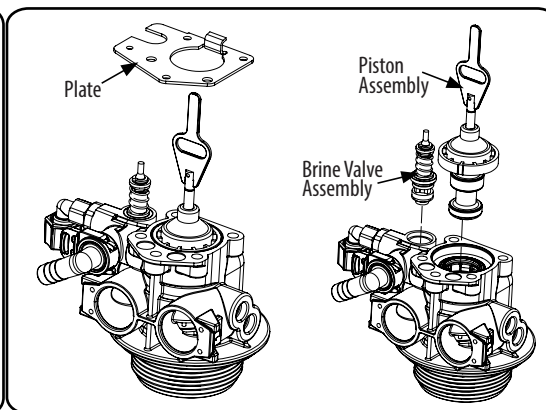
7. Replace the powerhead by reverse following the steps in this section.

REPLACE PISTON AND/OR BRINE VALVE

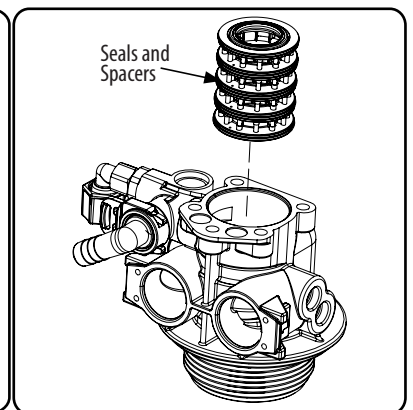
REPLACE SEAL AND/OR SPACER



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

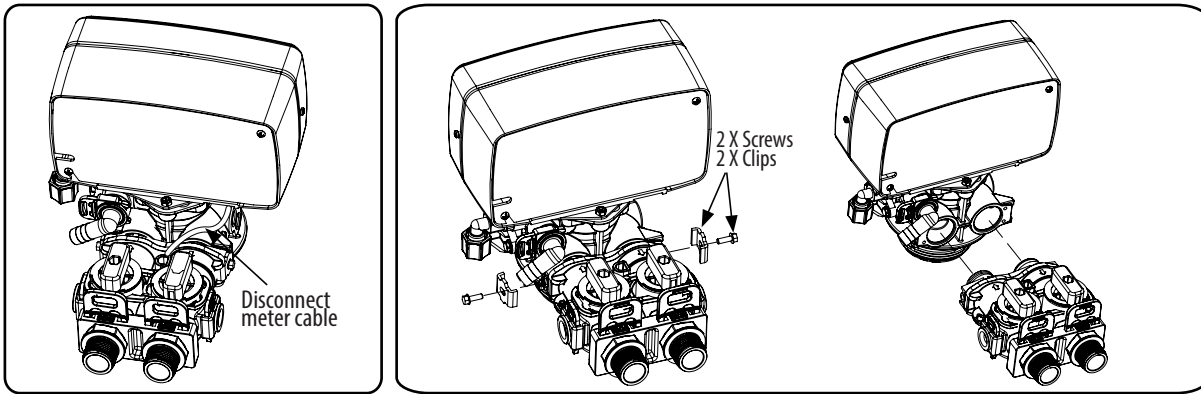


3. Remove the plate from the valve body and pull the Piston Assembly from the valve. The brine valve assembly can also be removed in this stage.

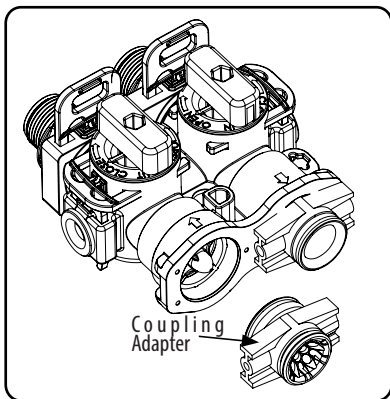


4. Remove the seals and spacers assembly, grease it with silicone lubricant and put back in.
5. After servicing, reverse following steps in this section.

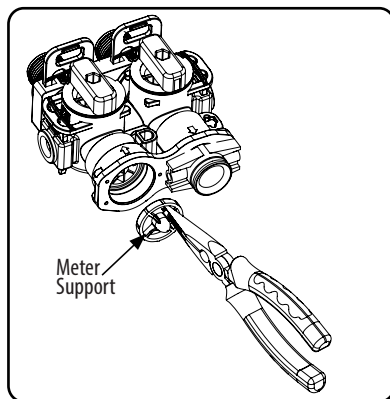
REPLACE METER



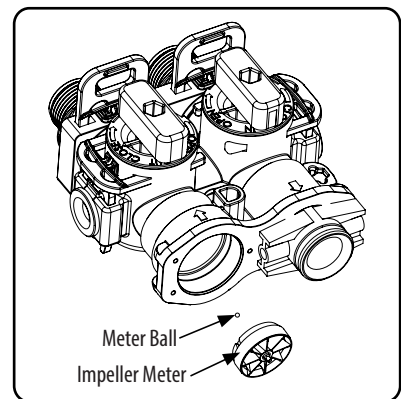
1. Disconnect the meter cable from the meter. (If flow meter cable is attached)
2. Disconnect the bypass from valve by removing clips.



3. Remove the coupling adapter from the bypass.

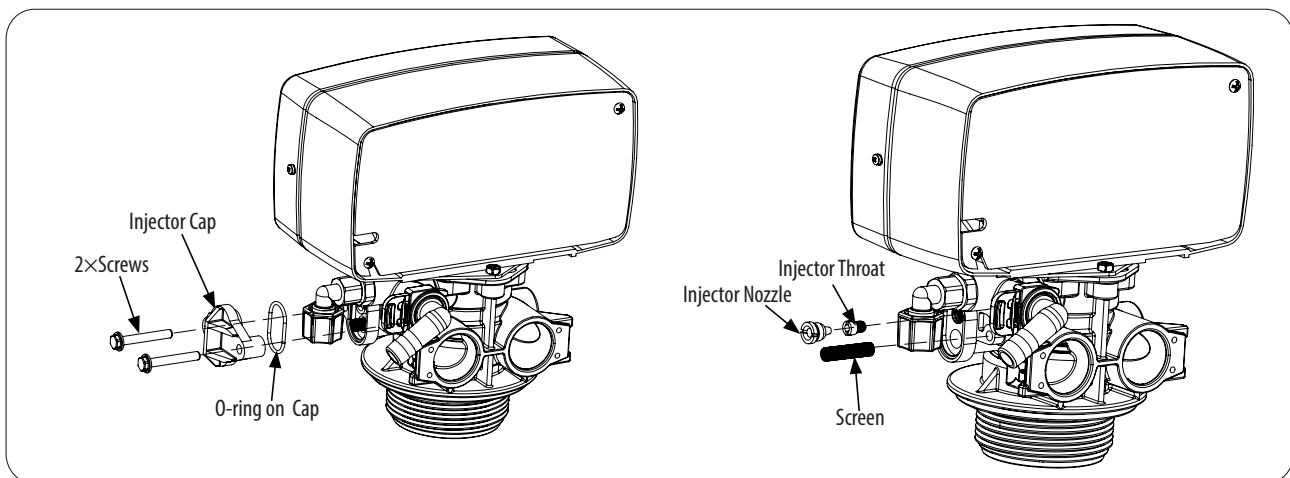


4. Remove the meter support from the bypass.



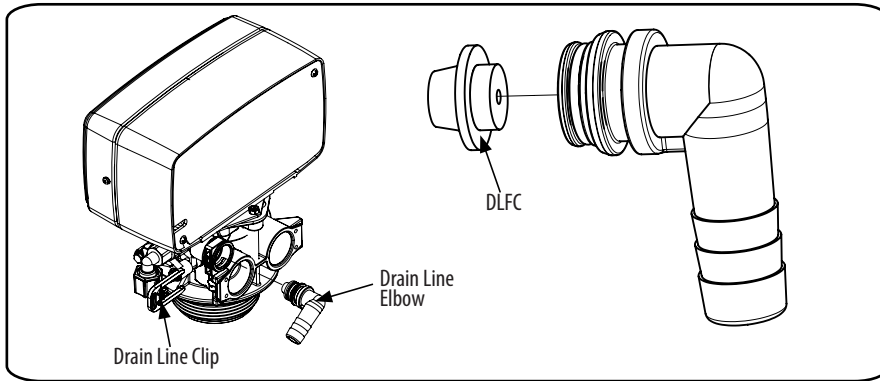
5. Remove the impeller and replace it. (Watch for the meter ball under the impeller, do not miss the ball)

CLEAN INJECTOR ASSEMBLY



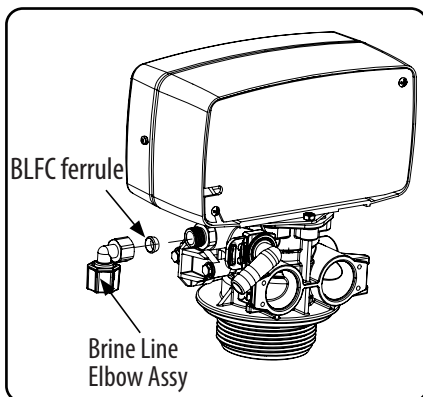
1. Remove the two screws on the injector cap.
2. Remove the injector cap, watch for the o-ring on cap.
3. Take out the screen inside, clean and replace it.
4. Screw the injector nozzle and injector throat out, clean and replace it.
5. After servicing, reverse following steps in this section.

REPLACE DRAIN LINE FLOW CONTROL

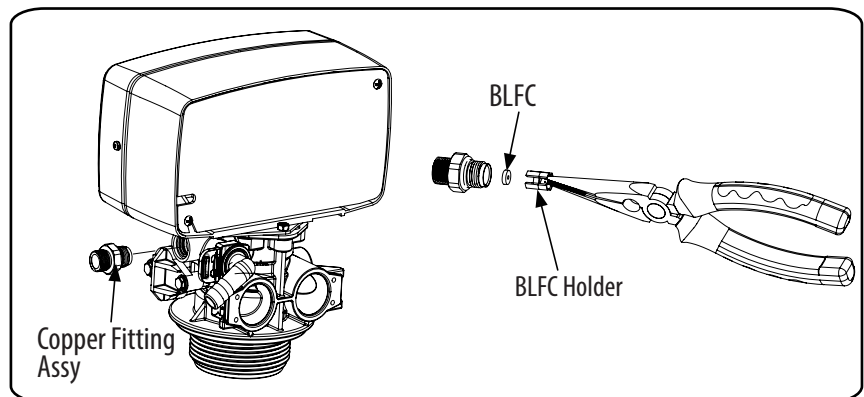


1. Pull the drain line clip and remove the drain line elbow and washer.
2. Clean/replace drain line flow control.

REPLACE BRINE LINE FLOW CONTROL

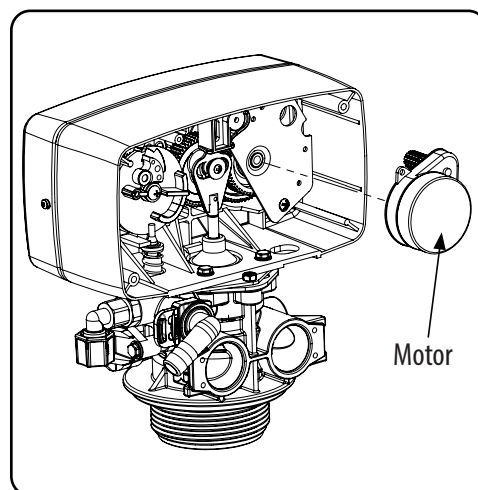
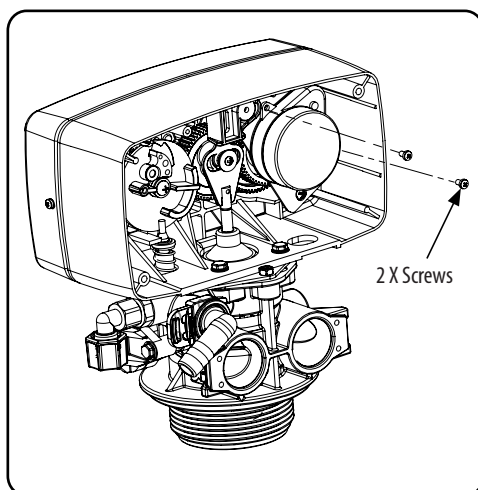


1. Use a wrench to screw off the brine line elbow assy, watch for the BLFC ferrule.



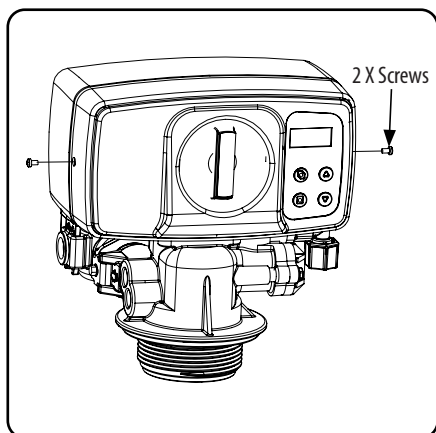
2. Use a wrench to screw off the copper fitting and use a nipper plier to remove the BLFC holder.
3. Use a nipper plier to remove the BLFC holder, clean/replace brine line flow control.

REPLACE MOTOR

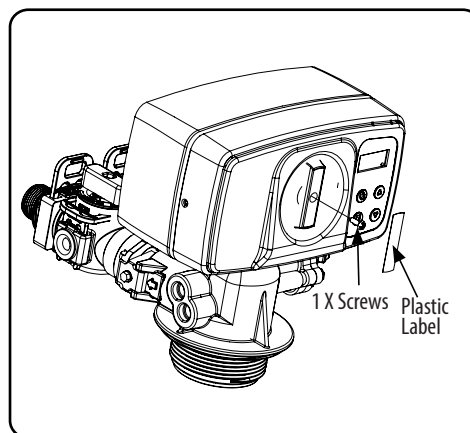


1. Follow steps 1 to 3 of Timer /Powerhead replacement.
2. Remove the two screws from the motor. Remove motor(disconnect the wire attached on PCB if any), watch for the pin under the motor.
3. Replace the motor.

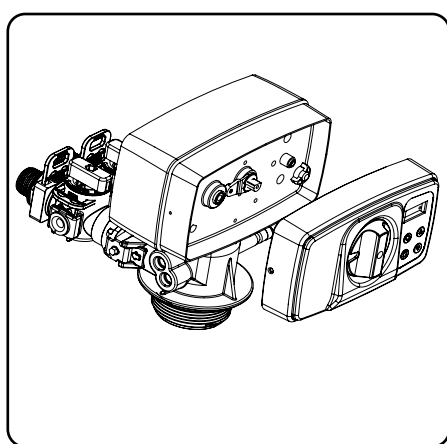
REPLACE CIRCUIT BOARD



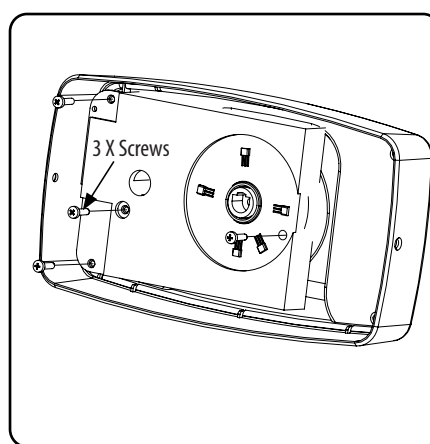
1. Remove the two screws from both sides.



2. Remove the plastic label and fixing screw on knob.



3. Remove the front cover Assy.



4. Remove the three screws on PCB, then replace display PCB.

TROUBLE SHOOTING GUIDE

Problem	Possible Solutions
<p>1. CONDITIONER DELIVERS HARD WATER</p> <p>A. Bypass valve is open B. No salt in brine tank C. Injector or screen plugged D. Insufficient water flowing into brine tank E. Leak at distributor tube F. Internal valve leak G. Flow meter jammed H. Flow meter cable disconnected or not plugged into meter cap I. Improper programming</p>	<p>A. Close bypass valve B. Add salt to brine tank and maintain salt level above water level C. Replace injectors and screen D. Check brine refill time and clean brine line flow control if plugged E. Make sure distributor tube is not cracked. Check O ring and tube pilot F. Replace seals and spacers and/or piston G. Remove obstruction from flow meter H. Check meter cable connection to timer and meter cap I. Reprogram the control to the proper regeneration type, inlet water hardness, capacity or flow meter size.</p>
<p>2. CONDITIONER FAILS TO REGENERATE</p> <p>A. Electrical service to unit has been interrupted B. Timer is not operating properly C. Defective valve drive motor D. Improper programming</p>	<p>A. Assure permanent electrical service (check fuse, plug, chain or switch) B. Replace timer C. Replace drive motor D. Check programming and reset as needed</p>
<p>3. UNIT USES TOO MUCH SALT</p> <p>A. Improper salt setting B. Excessive water in brine tank C. Improper programming</p>	<p>A. Check salt usage and salt setting B. See #7 C. Check programming and reset as needed</p>
<p>4. LOSS OF WATER PRESSURE</p> <p>A. Iron build-up in line to water conditioner B. Iron build-up in water conditioner C. Inlet of control plugged due to foreign material broken loose from pipes by recent work done on plumbing system.</p>	<p>A. Clean line to water conditioner B. Clean control and add resin cleaner to resin bed. Increase frequency of regeneration C. Remove piston and clean control</p>
<p>5. LOSS OF RESIN THROUGH DRAIN LINE</p> <p>A. Air in water system B. Drain line flow control is too large</p>	<p>A. Assure that well system has proper air eliminator control. Check for dry well condition. B. Ensure drain line flow control is sized</p>
<p>6. IRON IN CONDITIONED WATER</p> <p>A. Fouled resin bed B. Iron content exceeds recommended parameters</p>	<p>A. Check backwash, brine draw and brine tank fill. Increase frequency of regeneration. Increase backwash time. B. Add iron removal filter system</p>
<p>7. EXCESSIVE WATER IN BRINE TANK</p> <p>A. Plugged drain line flow control B. Brine valve failure C. Improper programming</p>	<p>A. Clean flow control B. Replace brine valve C. Check programming and reset as needed</p>
<p>8. SALT WATER IN SERVICE LINE</p> <p>A. Plugged injector system B. Timer not operating properly C. Foreign material in brine valve D. Foreign material in brine line flow control E. Low water pressure F. Improper programming</p>	<p>A. Clean injector and replace screen B. Replace timer C. Clean or replace brine valve D. Clean brine line flow control E. Raise water pressure F. Check programming and reset as needed</p>
<p>9. CONDITIONER FAILS TO DRAW BRINE</p> <p>A. Drain line flow control is plugged B. Injector is plugged C. Injector screen is plugged D. Line pressure is too low E. Internal control leak F. Improper programming G. Timer not operating properly</p>	<p>A. Clean drain line flow control B. Clean or replace injectors C. Replace screen D. Increase line pressure (line pressure must be at least 20 psi at all times) E. Change seals and spacers and/or piston assembly F. Check programming and reset as needed G. Replace timer</p>
<p>10. CONTROL CYCLES CONTINUOUSLY</p> <p>A. Timer not operating properly B. Faulty microswitches and/or harness C. Faulty cycle cam operation</p>	<p>A. Replace timer B. Replace faulty microswitch or harness C. Replace cycle cam or reinstall</p>
<p>11. DRAIN FLOWS CONTINUOUSLY</p> <p>A. Foreign material in control B. Internal control leak C. Control valve jammed in backwash, brine or rinse position D. Timer motor stopped or jammed teeth E. Timer not operating properly</p>	<p>A. Remove piston assembly and inspect bore. Remove foreign material and check control in various regeneration positions B. Replace seals and/or piston assembly C. Replace piston and seals and spacers D. Replace timer motor and check all gears for missing teeth E. Replace timer</p>