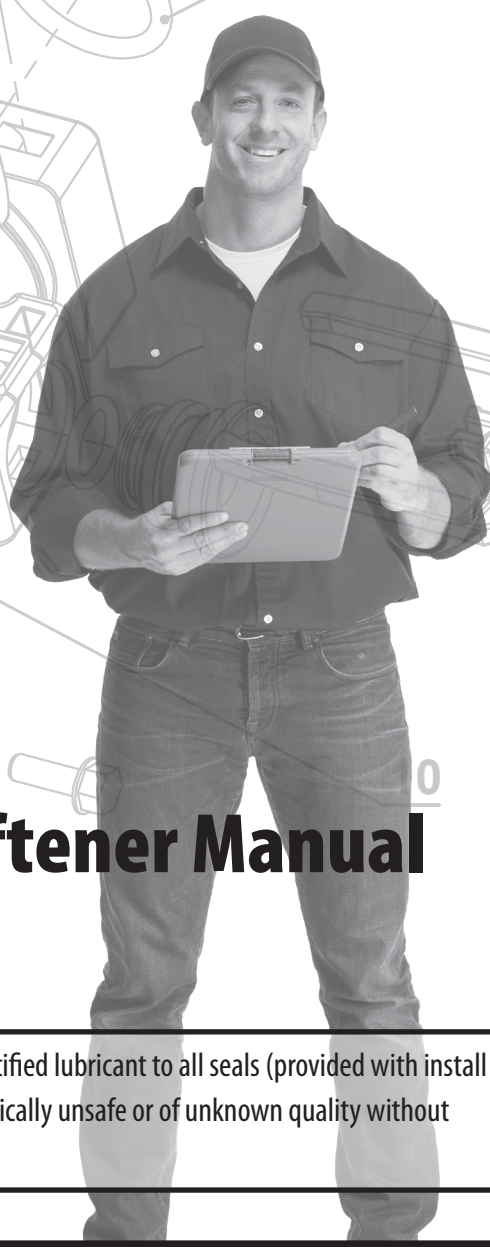
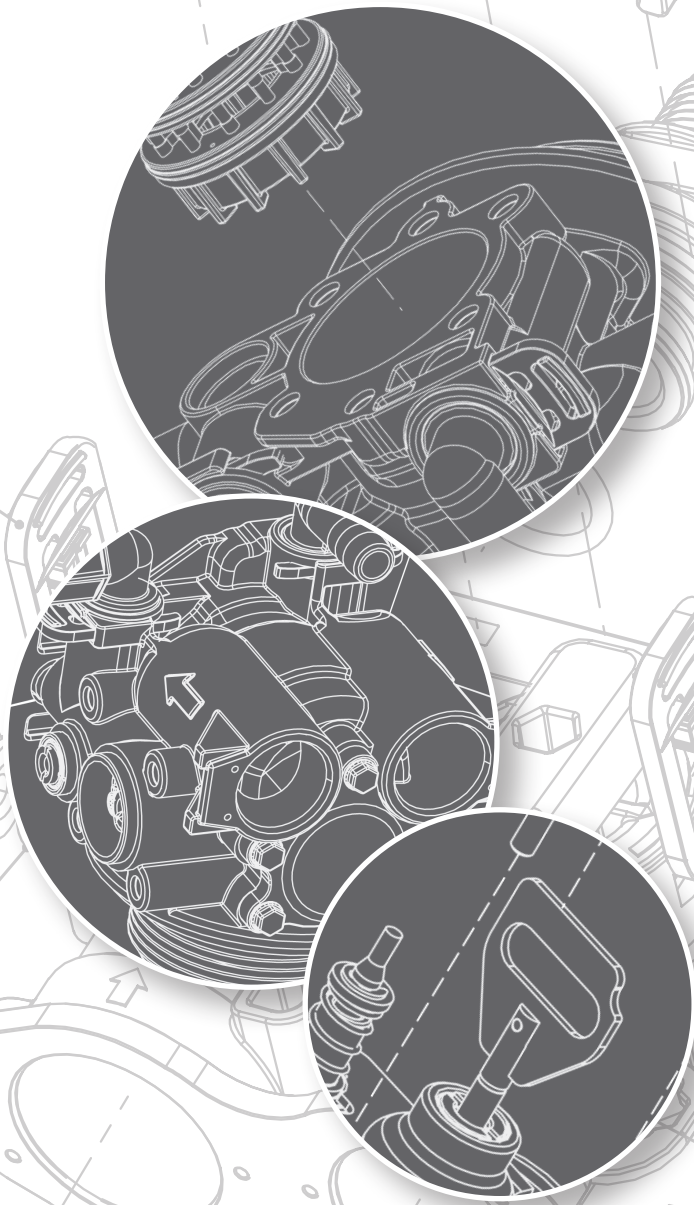



# Service Manual



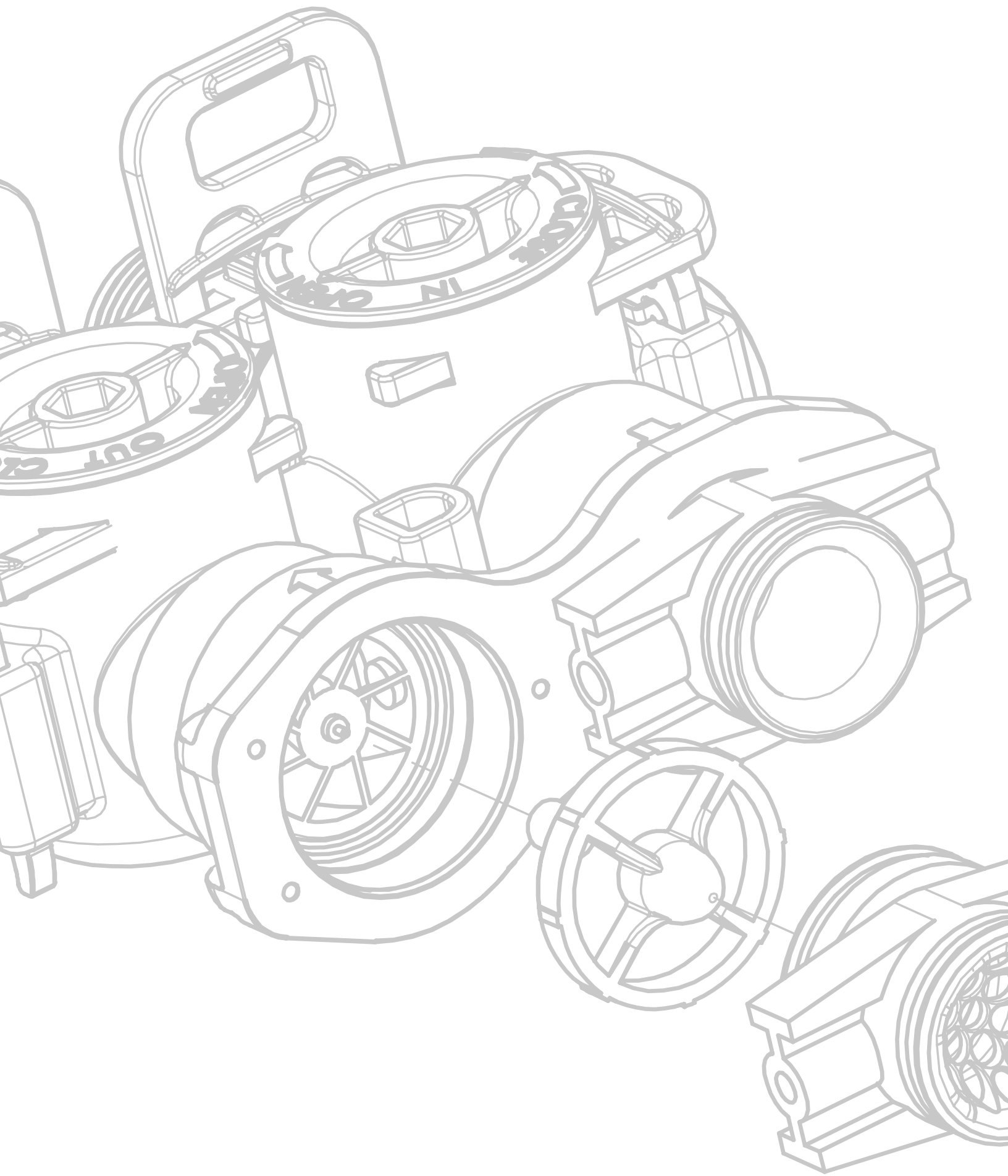
## 485HE Upflow & Downflow Softener Manual

 IAPMO R & T Certified  
against NSF/ANSI 44 and  
CSA B483.1

13

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

<b>U.S.A.</b> 9760 Mayflower Park Drive, Suite 110 Carmel, IN 46032	4645 McDowell Rd. W Suite 106 Phoenix, AZ 85035	56 Lightcap Rd. Pottstown, PA 19464	<b>Canada</b> 855 Park St. Unit 1 Regina, SK S4N 6M1	490 Pinebush Rd. Unit 1 Cambridge, ON N1T 0A5
--	---	--	---	---



# Table of Contents

<b>TROUBLE SHOOTING GUIDE</b>	<b>4</b>
<b>EFFICIENCY STATEMENT</b>	<b>5</b>
<b>AUTOMATIC RESIN CLEANER SOLUTION FEEDER INSTALLATION INSTRUCTIONS (OPTIONAL)</b>	<b>6</b>
<b>PROBLEM WATER INJECTOR KIT</b>	<b>7</b>
<b>REPLACEMENT/SERVICE</b>	
<b>TIMER REMOVAL</b>	<b>8</b>
<b>INSPECTION AND REPLACEMENT OF PISTON ASSEMBLY AND SEAL AND SPACER KIT</b>	<b>8</b>
<b>REPLACING THE BYPASS AND METER CABLE</b>	<b>9</b>
<b>REPLACE METER ASSEMBLY</b>	<b>10</b>
<b>REPLACE MOTOR</b>	<b>10</b>
<b>CLEAN INJECTOR ASSEMBLY</b>	<b>11</b>
<b>REPLACE DRAIN LINE FLOW CONTROL</b>	<b>11</b>
<b>REPLACE BRINE LINE FLOW CONTROL</b>	<b>11</b>
<b>REPLACING PCBS</b>	<b>12</b>
<b>DISPLAY REPLACEMENT AFTER SERVICING</b>	<b>12</b>
<b>PARTS BREAKDOWN</b>	<b>13</b>
<b>PARTS</b>	
<b>PARTS BOX &amp; BRINE TANK ASSEMBLY</b>	<b>14</b>
<b>POWERHEAD</b>	<b>15</b>
<b>VALVE BODY</b>	<b>16</b>
<b>BYPASS</b>	<b>17</b>
<b>CABINET</b>	<b>18</b>
<b>LEVEL 2 PROGRAMMING (OPTIONAL SETTINGS)</b>	<b>19</b>
<b>MASTER PROGRAMMING</b>	<b>20</b>

# TROUBLE SHOOTING GUIDE

Problem	Possible Solutions
<b>LEVEL 1 -- SEE HOME OWNERS MANUAL Recommended for the home owner</b>	<b>** IMPORTANT **</b> <b>before attempting any trouble shooting be sure to test the water or have the water tested. The tests should include the raw water, the hot treated water, and the cold treated water.</b>
<b>Delivers untreated water</b>	Bypass is closed bypassing raw water past the unit - Return bypass valve to the open position to service the home - <b>See 'Manual Water Bypass'</b>
	Bypass loop in the homes plumbing - Close outlet valve only on conditioner bypass, open nearest conditioned water line. If no water flow then there is not a bypass in the plumbing. If there is water flow then there is a hidden bypass in the plumbing (contact plumber).
	No salt or low salt level - Fill salt to above the water level in the salt tank. Low salt will affect the conditioners capacity. - <b>See 'Maintenance'</b>
	Not programmed correctly for current application - Verify programming. Correct hardness level and amount of people in the home if necessary. - <b>See 'Start Up and Programming'</b>
<b>Excessive water in the salt tank</b>	Refer to <b>Maintenance, Cleaning the Injectors and Cleaning the Salt Tank</b>
<b>Not regenerating automatically, not metering water flow</b>	Check diagnostics for last regeneration - <b>See How Your Conditioner Works</b> Open nearest conditioned water outlet and check if gallons is counting down, if not metering - <b>Contact authorized service representative</b>
<b>Not using salt</b>	Injectors or injector screen plugged. Clean and or replace injectors and screen - <b>See 'Maintenance'</b> Salt Bridged in salt tank - <b>See 'Maintenance'</b>
<b>Not regenerating automatically - Alarms</b>	Caused by a power outage or brown out during regeneration – unplug power for 30 seconds then re-connect. If alarm continues - <b>Contact your authorized service representative, if necessary.</b>
<b>Unit regenerates but does not use salt</b>	Clean and or replace injectors - <b>See 'Maintenance'</b>
	<b>Drain line flow control is plugged</b> – clean drain line flow control to ensure there are no kinks, or restrictions in the drain line.
<b>Using too much salt or more salt than expected</b>	<b>Check programming</b> – is the unit set properly for salt efficiency, is the programming correct for hardness and people - <b>See 'Start Up and Programming'</b>
<b>Alarms after regeneration</b>	Caused by a power outage or brown out during regeneration – unplug power for 30 seconds then reconnect if alarm continues - <b>Contact your authorized service representative, if necessary.</b>
	<b>Corroded or damaged rear circuit</b> – replace circuit <b>Contact your authorized service representative, if necessary.</b>
<b>Discolored water</b>	<b>Result of city / town supply being contaminated</b> – check with local authority to see if there has been water main activity in your area. If there has been, manually regenerate the unit a couple of times in a row to clear the color. If there hasn't been, <b>Contact your authorized service representative if necessary.</b>
	<b>Iron Bleed through</b> – if there are small amounts of iron in your raw water supply eventually it will build up in the resin and could result in bleed through. – review settings to compensate for iron in the water - <b>See 'Start Up and Programming'</b>
	- Contact your dealer or local plumbing supply store to obtain an approved resin cleaner. Use resin cleaner to clean the resin as directed. For permanent maintenance if required add in an automatic feeder - <b>See Automatic Resin Cleaner Solution Feeder</b>
<b>Excessive pressure loss</b>	<b>Check unit specifications</b> - peak or continuous service flow rates maybe exceeding capacity causing the unit to be restrictive due to size - <b>See 'Unit Specifications'</b> - <b>Contact your dealer if necessary.</b>

# TROUBLE SHOOTING GUIDE

Problem	Possible Solutions
<b>LEVEL 2 – recommended for qualified service technician only</b>	
<b>Not drawing brine solution</b>	Injectors or injector screen plugged. Clean and or replace injectors and screen - <b>See Replacement/Service Section</b> Drain line flow control plugged or drain line restricted - <b>See Replacement/Service Section</b> Safety float assembly seating prematurely – clean or replace safety float and clean brine tank - <b>See Parts Section</b> Loose connections between control valve and safety float allowing unit to draw air - <b>See Replacement/Service Section</b>
<b>No water in salt tank</b>	<b>Loose connections between control valve and safety float</b> allowing unit to draw air - <b>See Replacement/Service Section</b> <b>Refill time not set correctly</b> for unit size; water not coming above the grid plate. <b>Refill control button plugged</b> causing no refill – clean and or replace refill control button.
Problem	Possible Solutions
<b>** Not regenerating automatically Alarms **</b>	<b>Jammed piston</b> - replace piston and seal assembly - <b>See Replacement/Service Section</b> <b>Defective or damaged circuit</b> - replace circuit <b>See Replacement/Service Section</b> <b>Loose or corroded connections</b> between the 2 circuits – reconnect securely or replace - <b>See Replacement/Service Section</b>
<b>Conditioner initiates regeneration but alarms after a few seconds</b>	<b>Drive motor defective</b> replace motor - <b>See Replacement/Service Section</b> <b>Defective transformer</b> replace transformer.
<b>Internal valve leak - Running to the drain constantly</b>	Replace piston and seal assemblies - <b>See Replacement/Service Section</b>
<b>Not drawing brine no problem with injectors or drain</b>	
<b>**Meter not counting down **</b>	Check diagnostics for last regeneration . Check that meter cable is plugged into the meter assembly - <b>See Replacement/Service Section</b> Check that meter cable is reading the meter by moving a fridge magnet (or similar magnet) across it rapidly for a few seconds you should be able to see the gallons change. Be sure there is no debris caught in the the turbine If the meter cable is good, and no debris caught then replace the meter assembly - <b>See Replacement/Service Section</b>
<b>Leaking past distributor tube</b>	<b>Contact Technical services for additional trouble shooting information: 877-288-9888</b>
<b>Alarms after regeneration or after manual regeneration</b>	<b>Damaged or missing sensor magnet on brine gear</b> – replace as required, or send in for repair to nearest office. <b>Corroded or damaged rear circuit</b> – replace as required.
<b>Excessive pressure loss</b>	<b>Check unit specifications</b> - peak or continuous service flow rates may be exceeding capacity causing the unit to be restrictive due to size - <b>See product specific information on warranty sheets supplied with the unit.</b> Contact Customer Service for clarification if this is suspected – <b>877-288-9888.</b> <b>Upper distributor cone plugged with foreign material</b> – remove valve, remove upper distributor cone and clean then replace and put valve back on unit. <b>Chlorine degradation of resin</b> – excessive amounts of chlorine or chloramine can damage softening resin and break it down causing excessive pressure loss – replace media bed and add in chlorine removal system to protect softener.



# AUTOMATIC RESIN CLEANER SOLUTION FEEDER INSTALLATION INSTRUCTIONS (OPTIONAL)

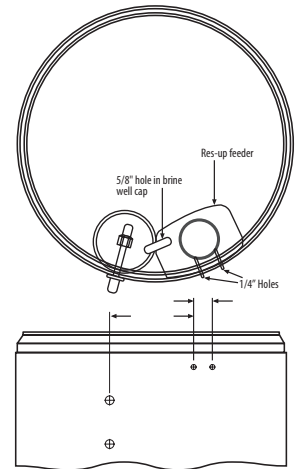
## Resin Cleaner

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).

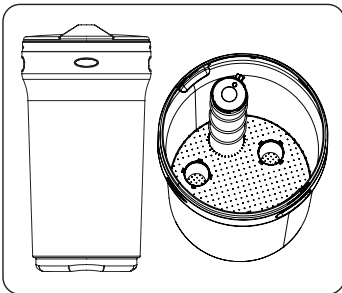
Res-Up Feeders attach to your brine tank and automatically dispense the Res-Up cleaner into the brine solution where it cleans the resin during the regeneration cycle.

The feeder hooks onto the tube inside your brine tank and you just pour some chemical in it and your water conditioner should last significantly longer. A res-up feeder is essential if your raw water contains measurable amounts of iron.

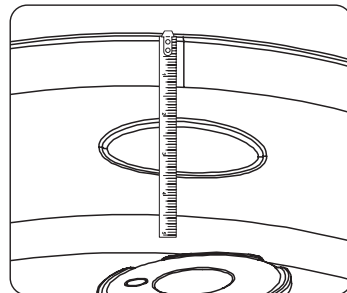
Res-Up Feeder Bottle (Chemical sold Separately)
The 12 cc feeder (Part # 33010) is for conditioners up to 64,000 grains (2 ft3 of resin).
The 30 cc feeder (Part # 33018) is for larger conditioners over 64,000 grains.
Pro-Res Care Chemicals
Item #45147 Pro-ResCare - Gallon
Item #45148 Pro-ResCare - Quart



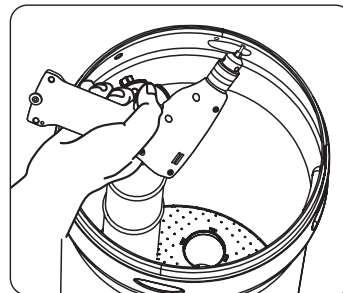
## Install Res-Up Feeder



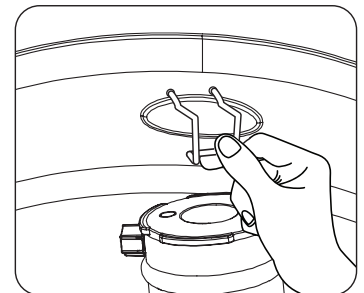
1. Install the grid and brine well inside the tank.



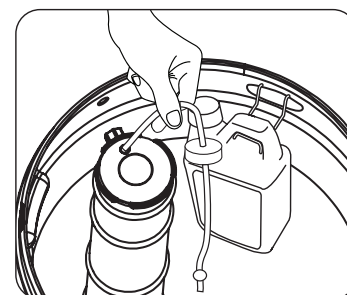
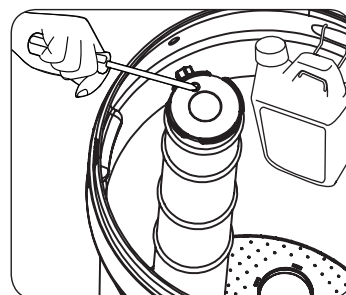
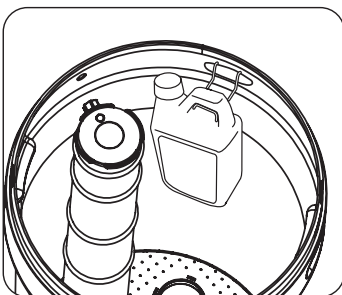
2. Measure 2 inches from the top of the tank beside the oblong molding.



3. Mark the location of the holder and drill.



4. Install the holder and the Res Care Solution

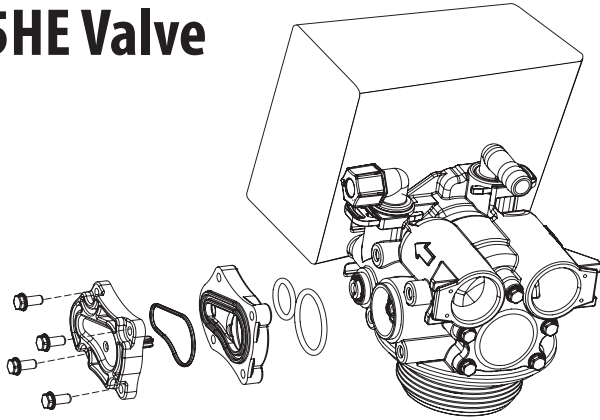


5. Take off the small hole cover on the Brine Well lid.
6. Take off the cover of the Res Care bottle. Insert the wick, making sure it touches the bottom of the bottle. Insert the other end of the tube completely into the hole in the brine well cap. Automatic feeding will start in a few hours.

# PROBLEM WATER INJECTOR KIT

**IMPORTANT!** If the water source this water softener is being applied on is not municipal water and contains up to 1.5 mg/l/ppm of ferrous (Clear Water) iron and/or up to .75 mg/l/ppm of manganese, the enclosed **Problem Water Injector Kit #60010382** needs to be installed into the control valve following these instructions. You will need to make **3 programming changes**. In the main user settings: **1. Salt Setting set to Iron/MN. 2. Water Source set to Well/Other. 3. Iron & MN capacity requires additional adjustments** see instructions below. **FAILURE TO DO THIS WILL RESULT IN UNSATISFACTORY OPERATION OF THIS EQUIPMENT AND VOID ANY IMPLIED PERFORMANCE WARRANTY.**

## 85HE Valve

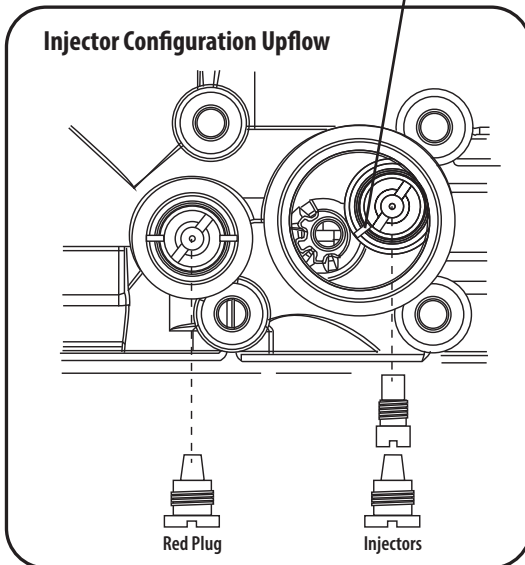


Replace injectors with correct number and color corresponding to your equipment size.

**\*NOTE:** Remember to properly lubricate ALL O Rings with Silicone Lubricant - supplied.

Size Ft <sup>3</sup>	Color
75	#1 WHITE
100	#1 WHITE
150	#1 WHITE
200	#2 BLUE
250	#2 BLUE
300	#3 YELLOW

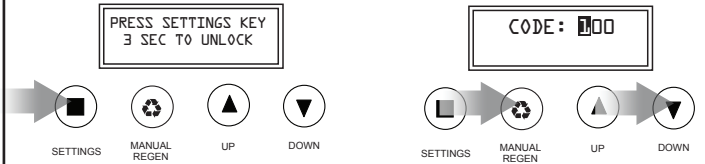
**IMPORTANT**  
The injector cage must be lined up and inserted properly to avoid crushing when the injector cap is re-installed. Markings on the cage and valve body must line up.



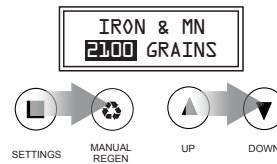
**CAUTION!**  
DO NOT over tighten injectors. Snug tight only.

## Programming Change Required

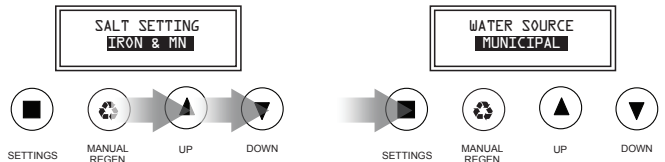
Change the iron/MN capacity settings in the second level programming from 2,500 grains per pound of salt to 2,100 grains per pound of salt.



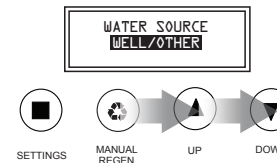
1. The display will read "PRESS SETTINGS KEY 3 SEC TO UNLOCK".
2. After 3 seconds, the display will beep confirming unlock.
3. Press & hold **DOWN** (▼).
4. Enter code 100 using **UP** (▲). Press **MANUAL REGEN** three times to accept code.



5. Press **MANUAL REGEN** to advance past IRON & MN LBS to IRON & MN GRAINS.
6. Press **DOWN** (▼) to change 2500 to 2100. Press **MANUAL REGEN** until past PROGRAMMING COMPLETE.



7. Now press **UP** (▲) or **DOWN** (▼) to change **SALT SETTING** value for problem water set to **IRON & MN**
8. For problem water set to **WELL/OTHER**



9. Now press **UP** (▲) or **DOWN** (▼) to change **WATER SOURCE** value for problem water set to **WELL/OTHER**

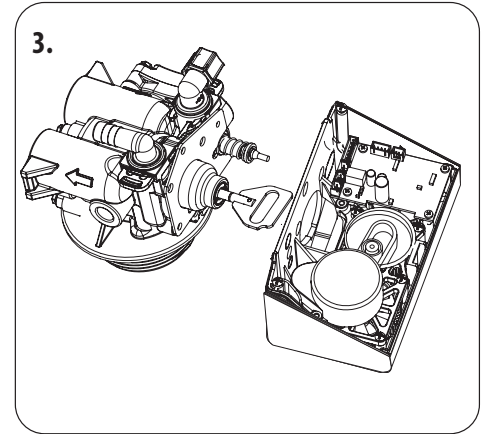
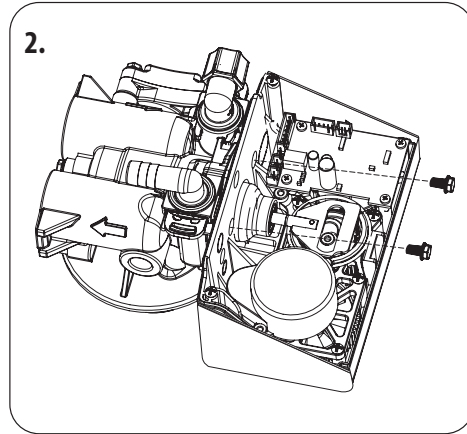
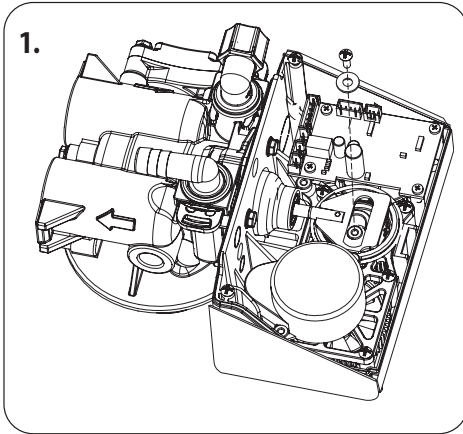
**IMPORTANT**  
This change is necessary to compensate for the injector conversion



# REPLACEMENT/SERVICE

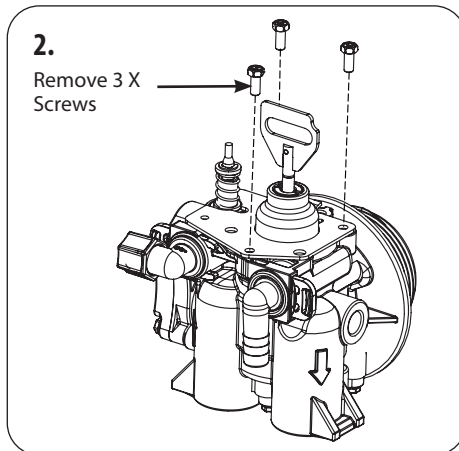
THE FOLLOWING 'REPLACEMENT / SERVICE SECTION', PAGES 8 TO 12 CONTAIN CONTENT THAT SHOULD ONLY BE USED BY A QUALIFIED SERVICE TECHNICIAN:

## TIMER REMOVAL

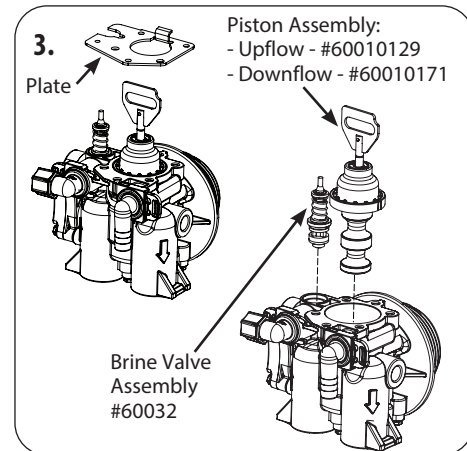


1. Remove screw & washer from piston rod link
2. Remove 2 bolts securing powerhead to body
3. Remove powerhead from body

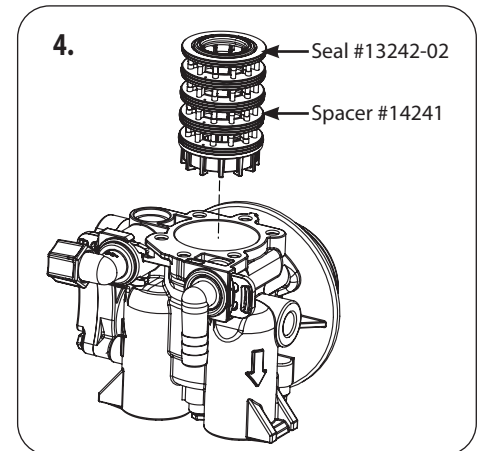
## INSPECTION AND REPLACEMENT OF PISTON ASSEMBLY AND SEAL AND SPACER KIT



1. Follow steps 1 to 3 of Timer Removal above.
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 seal spacer assembly, grease it with silicone lubricant (# 92360).



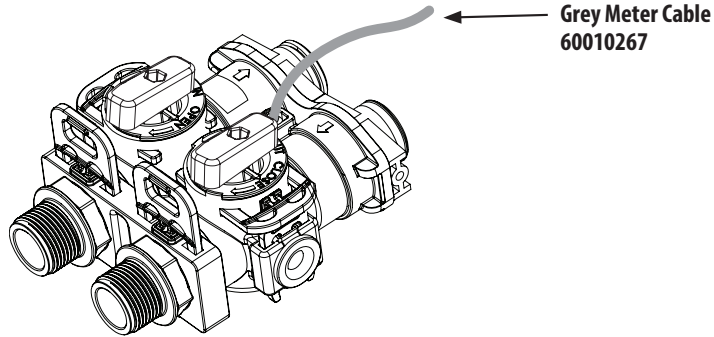
5. Re-install in this order: seal and spacer assembly, piston assembly, brine valve assembly, and then the timer assembly.



# REPLACING THE BYPASS AND METER CABLE

If valve is manufactured before March 20th, 2018, and customer wishes to replace or service impeller on bypass. Customer can order item #60010238. If customer wishes to replace to new design, then follow the steps below.

**60095101** Bypass comes with Meter and Grey Meter Cable



**Step 1**  
Unplug the power from the wall socket.

**Step 2\***  
Remove 2 screws and clips from bypass.

**\*NOTE**  
Water to the household needs to be turned off and pressure relieved before Step 2

Disconnect the meter cable from the bypass.

**Step 3**  
Remove Cover.

**Step 4**  
Disconnect the cables from the front PCB display.

**Step 5**  
Disconnect the cables from the rear PCB display.

Remove the meter cable attached on Main PCB.

Cut the tie that fastens the wires

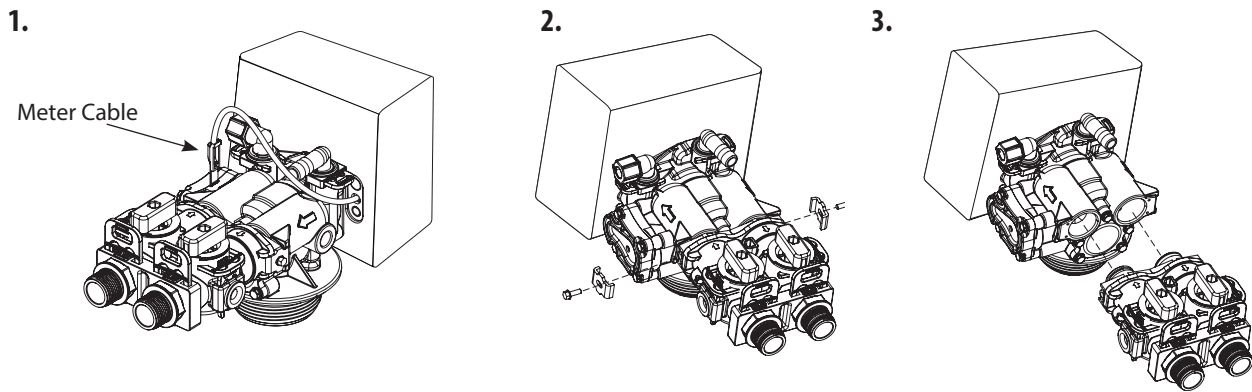
**Step 6**  
Remove strain relief with pliers.

**Step 7**  
Replace the old cable with the new Cable.

Valve Model	Region	Meter Ratio	
		OLD	NEW
85HE Series	U.S Gallon	8.000	5.680

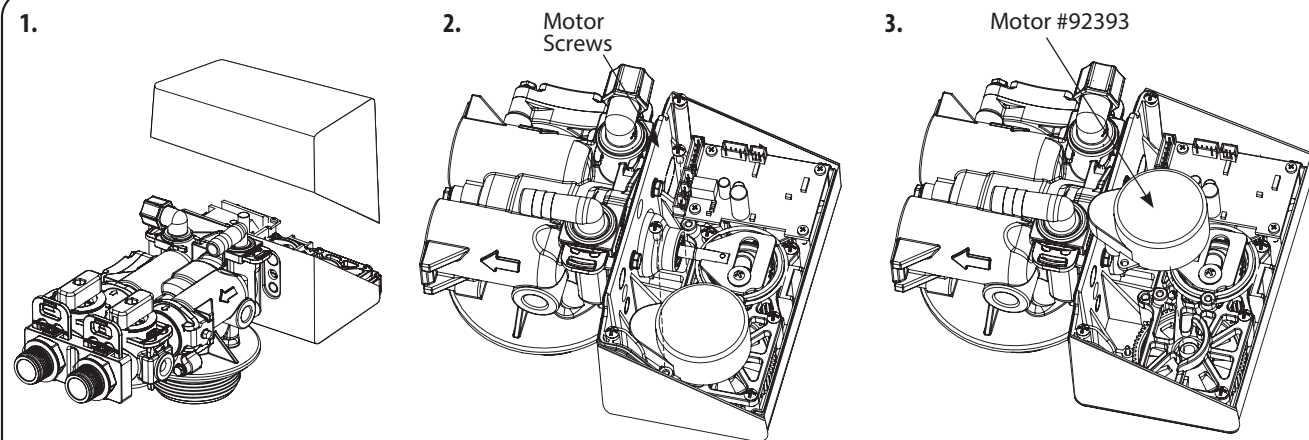


# METER ASSEMBLY REPLACEMENT



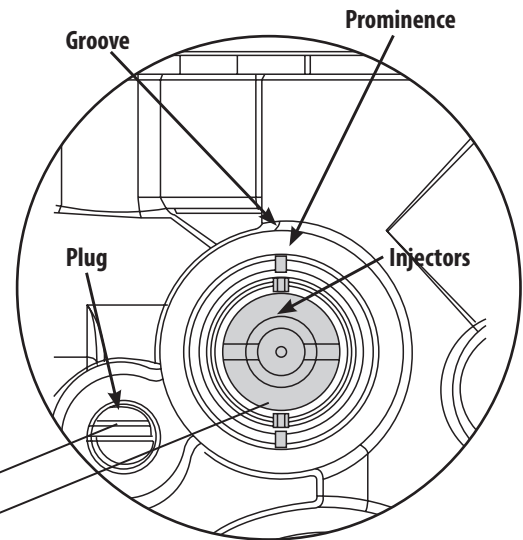
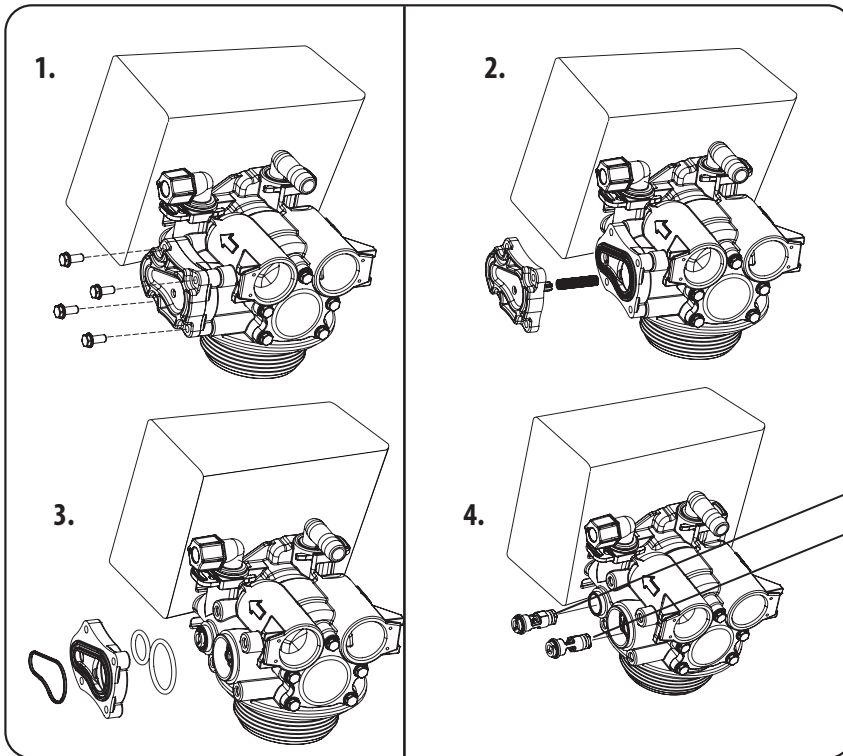
1. Disconnect the meter cable from the meter.
2. Disconnect the valve from bypass by removing clips
3. Remove the coupling adapter from the bypass

# MOTOR REPLACEMENT



1. Remove the powerhead cover and disconnect the LCD cable from the circuit board
2. Remove the motor screws
3. Pull the motor out from powerhead

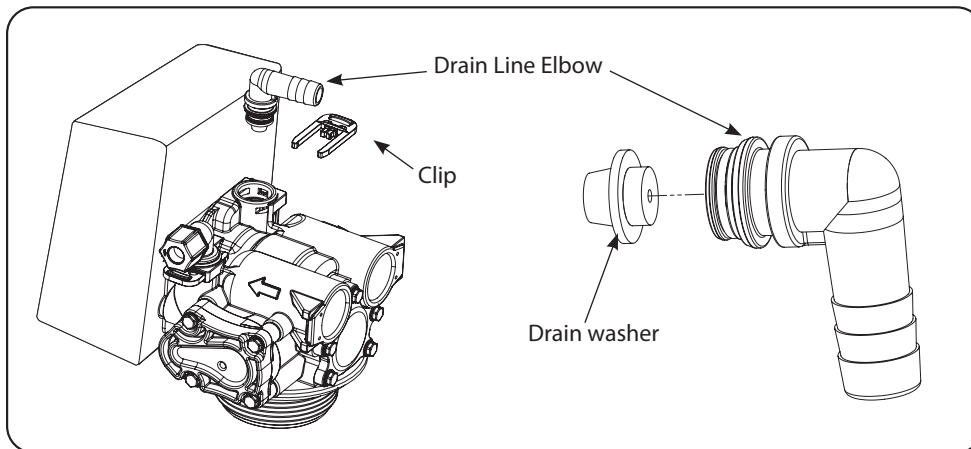
# CLEAN INJECTOR ASSEMBLY



**PLEASE NOTE:** Make sure the two prominences on the injector are aligned to the grooves on the valve body.

1. Remove four screws of the injector cap.
2. Pull the Injector Cap Out
3. Remove the injector assembly, oring and screen,
4. Clean the injectors then replace screen (if necessary) and re-install end cap assembly and screws

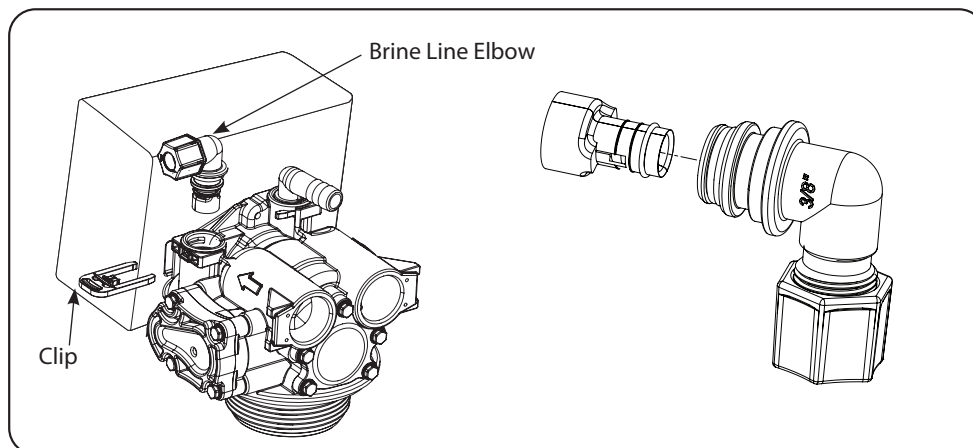
# DRAIN LINE FLOW CONTROL REPLACEMENT



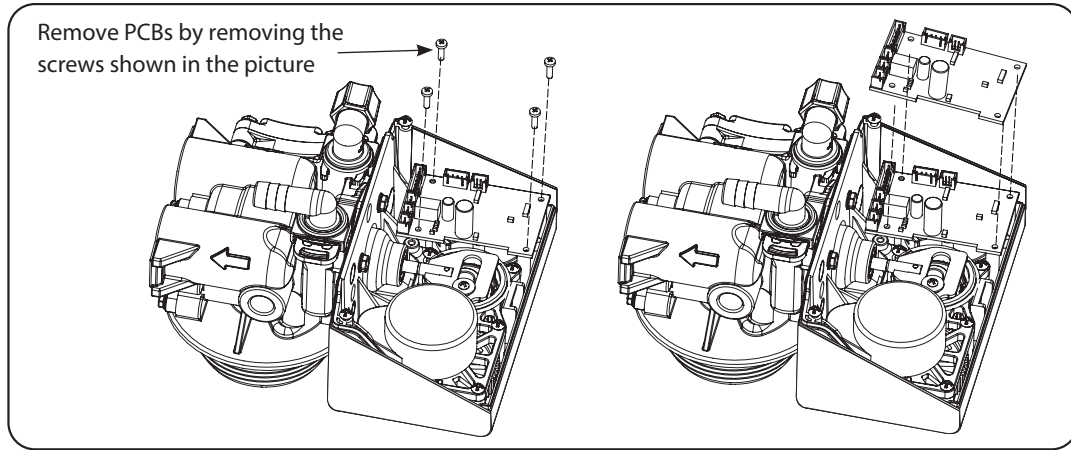
1. Pull the drain line clip and remove the drain line elbow and washer
2. Clean/replace drain line washer

**NOTE**  
Be sure to shut off any bypass line.

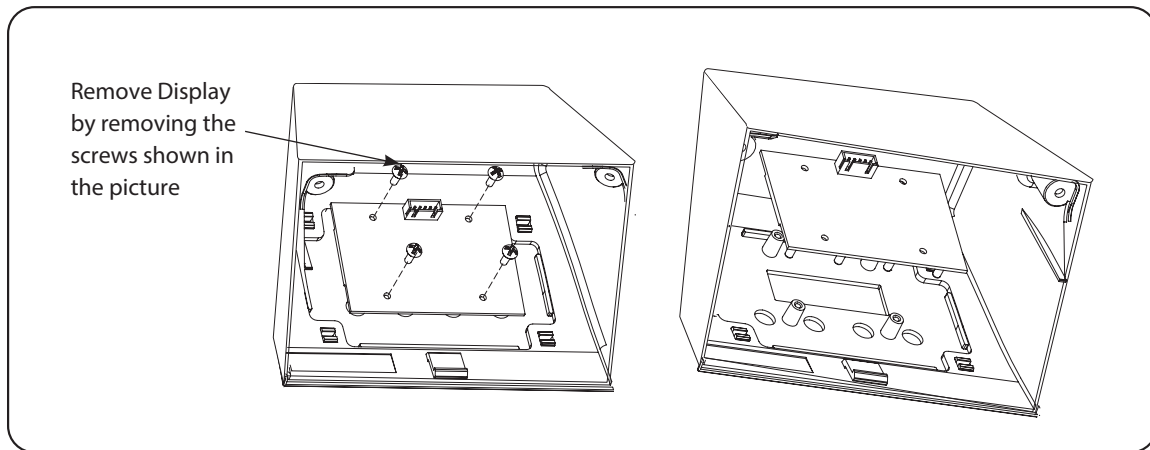
# BRINE LINE FLOW CONTROL REPLACEMENT



# PCB REPLACEMENT



# DISPLAY REPLACEMENT



# AFTER SERVICING

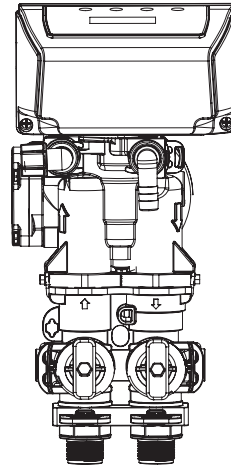
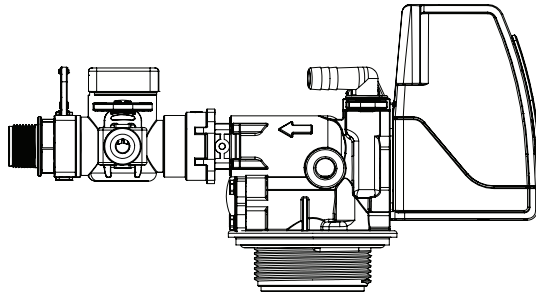
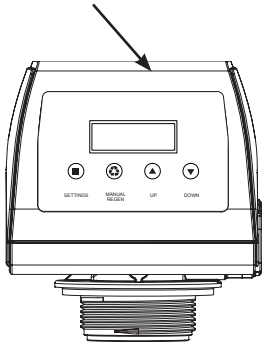
1. Reconnect drain line
2. Return bypass or inlet valve to normal in service position. Water pressure will automatically build in the conditioner.
3. Check for leaks at all sealed areas. Check drain seal with the control in the backwash position.
4. Plug electrical cord into outlet
5. Set 'Time of Day' and cycle the control valve manually to ensure proper function. Make sure control valve is returned to the 'In Service' position.

## NOTE

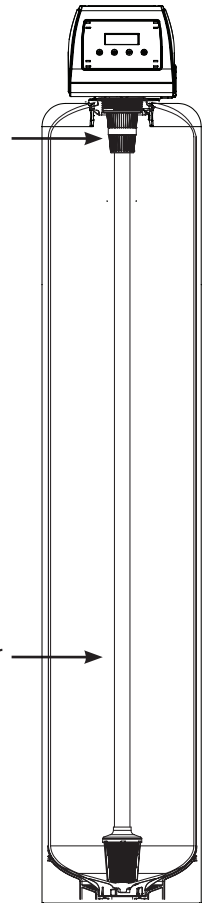
Be sure to shut off any bypass line.

# PARTS BREAKDOWN

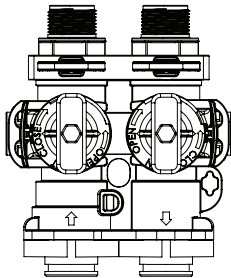
Control Valve - 10010060



Upper Cone  
-18280



Distributor

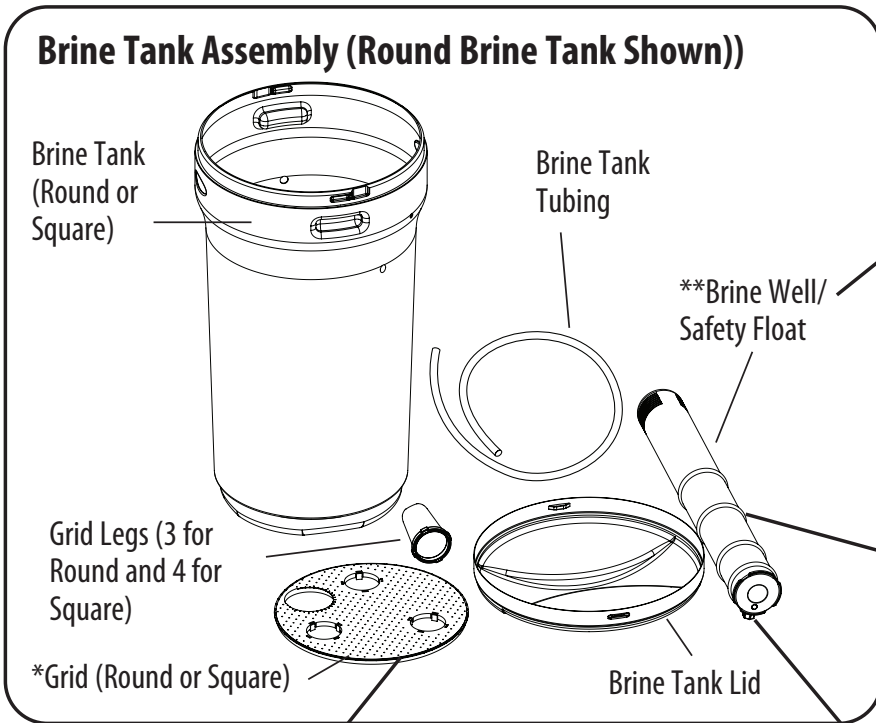
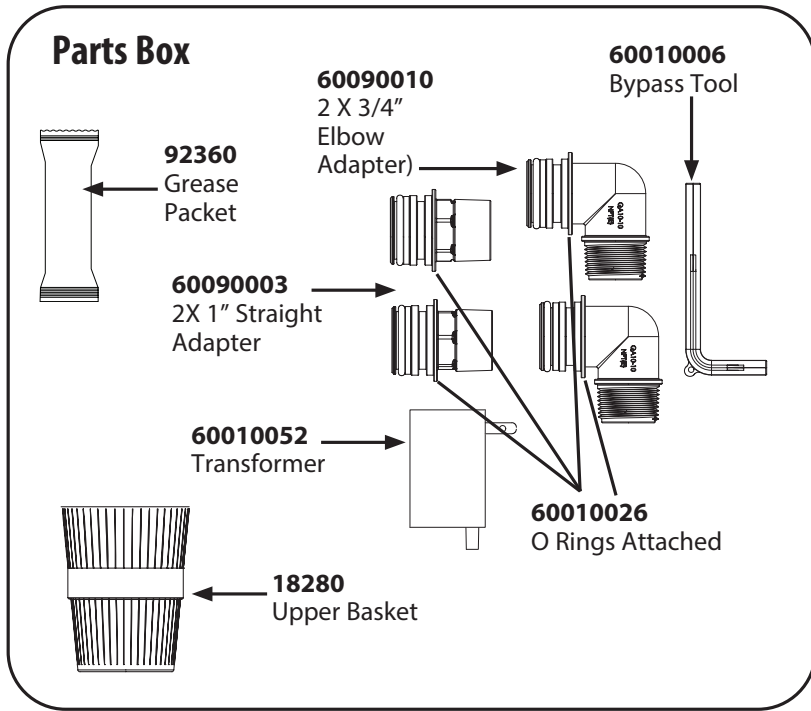


Bypass - 60095101

Model	Mineral Tank Size	Tank #	Distributor#	Valve #	Media Bed #	Brine Tank
<b>Softener Upflow (Single Tank)</b>						
75	8 x 44	25020051	50010019	10010060	95600	30020006
100	9 x 48	25020052	50010006		95601	30020006
150	10 x 54	25020053	50010005		95606	30020006
200	12 x 52	25010058	50010005		95609	30020010
250	13 x 54	25010064	50010010		95610	30020010
300	14 x 65	25030001 and 50040039	50010010		95604	30020032
75C	9 x 35	25010028	50010020		95600	N/A
100C	10 x 35	25010043	50010020	95601	N/A	



# PARTS BREAKDOWN



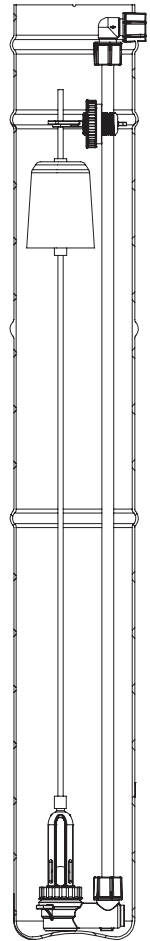
\*GRID  
 55010013 - For BTR 100  
 55010036 - For BTR145  
 55010037 - For BTR 200

\*\*FLOAT ASSY  
 55010023 - BTR100  
 55010054 - BTR145  
 55010033 - BTR200

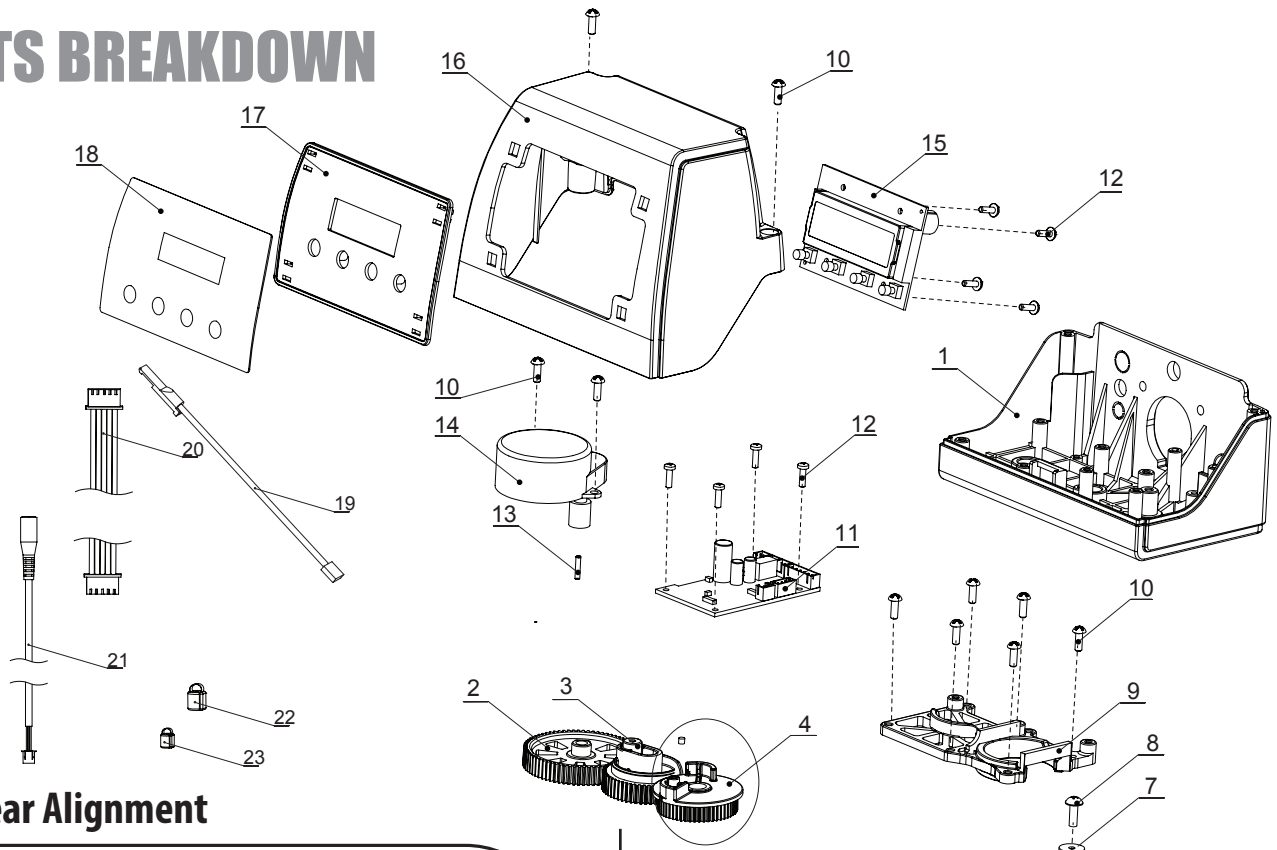
**IMPORTANT:**

PLEASE ENSURE THE ATTACHED TUBE STIFFENER IS INSERTED INTO THE BRINE LINE BEFORE TIGHTENING THE NUT.

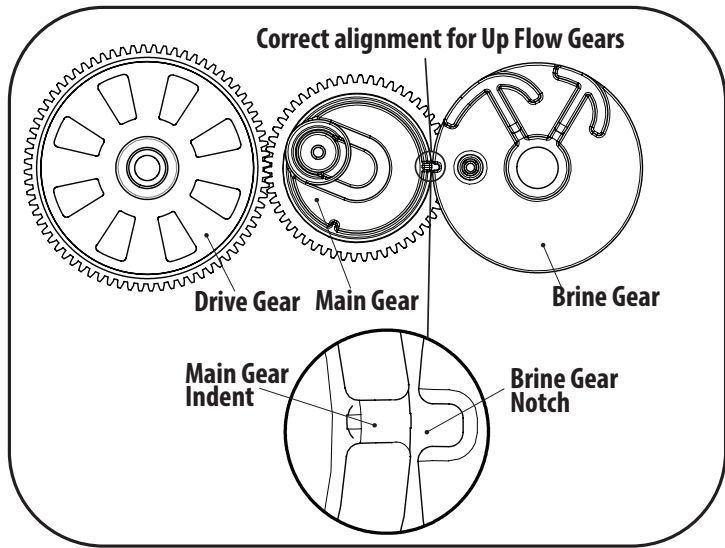
60010181 - Tube Stiffener 3/8" PLASTIC TUBE INSERT



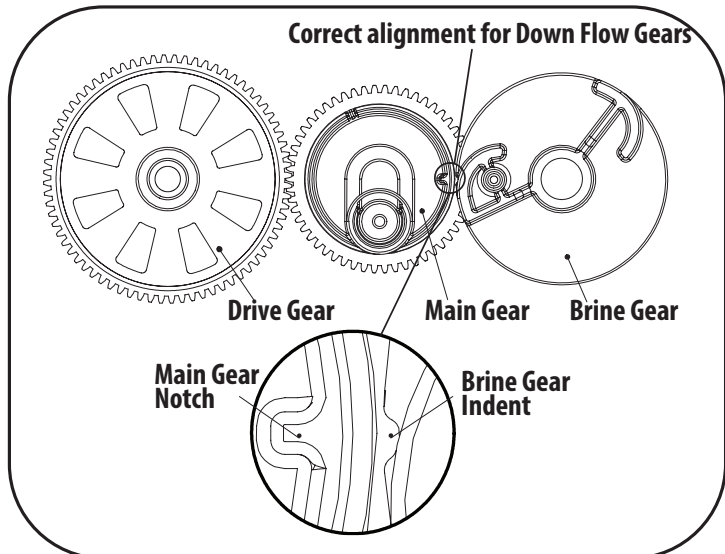
# PARTS BREAKDOWN



## Upflow Gear Alignment

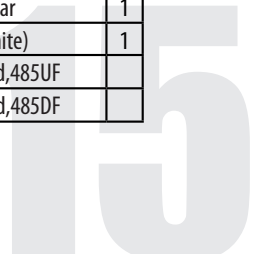


## Downflow Gear Alignment

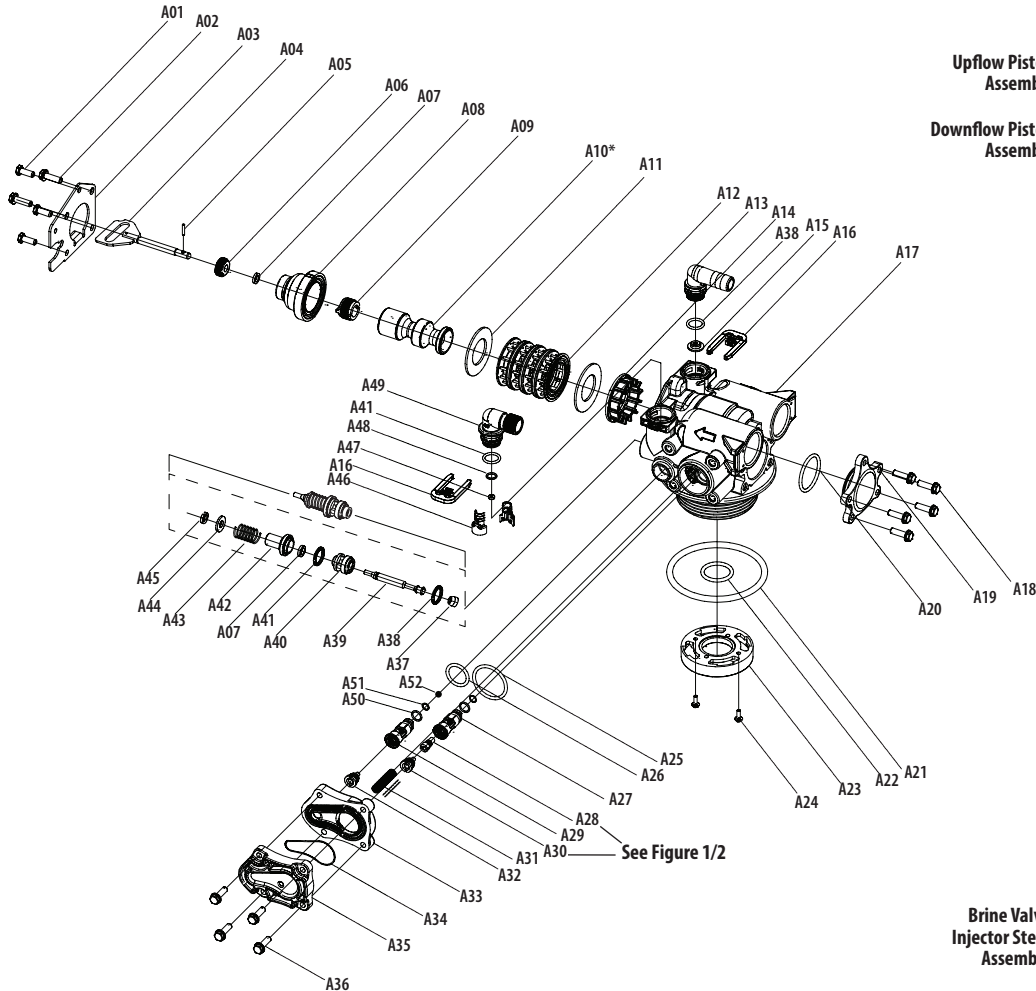


## Power head parts list

No.	Part #	Description	Qty
23	60010331	Power Cable Clip	1
22	60010330	Meter Cable Clip	1
21	60010124	Power Cable	1
20	60010240	Display-PCB cable	1
19	60010115	Meter Cable	1
18	80080164	485HE Face Label	1
17	60095662	Bnt485 Display Plate(White)	1
16	60010309	Bnt485 Housing(White)	1
15	60010180	Bnt85HE Display (Before Aug.15, 2019)	1
	60021979	Bnt85HE Display (After Aug.15, 2019)	
14	92393	Bnt85 Motor	1
13	60095658	Motor Pin	1
12	60010673	Screw-ST2.9×10	8
11	60010179	Main Pcb, (DF) (Before Aug. 15, 2019)	1
	60021982	Main Pcb, (DF) (After Aug. 15, 2019)	
	60010178	Main Pcb, (UF) (Before Aug. 15, 2019)	
	60021981	Main Pcb, (UF) (After Aug. 15, 2019)	
10	60010574	Screw-ST3.5x13	10
9	60010573	Bnt85HE Mounting Plate	1
8	60010575	Screw-4.2×12	1
4	60095102	Gear, Brine, 85HE(UF)	1
	60095103	Gear, Brine, 85HE(DF)	
3	92391	Main Gear, 85HE	1
2	92389	Bnt85 Drive Gear	1
1	60095077	Bnt485 Base(White)	1
	60010371	Complete Powerhead,485UF	
	60010372	Complete Powerhead,485DF	



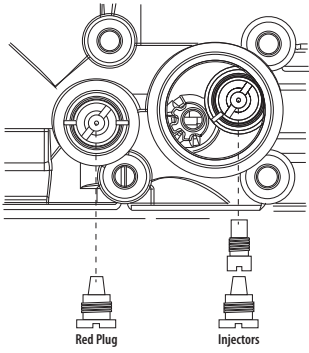
# PARTS BREAKDOWN



## Valve Body Parts List

No.	Part #	Description	Qty
A01	60010075	Screw-M5x12(Hexagon)	3
A02	60010076	Screw-M5x16(Hexagon With Washer)	2
A03	60010645	End Plug Retainer	1
A04	60095056	BNT85HE Rod	1
A05	60010647	Piston Pin	1
A06		BNT85HE Quad Ring Plug Cover	1
A07	60010344	Quad Ring	2
A08		BNT85HE End Plug	1
A09	60095058	BNT85HE Piston Retainer	1
A10	60095075(UF) 60095059(DF)	BNT85HE Piston(Up flow and Downflow)	1
A11	13242-02	Seal	5
A12	14241	Spacer	8
A13	60010229	Drain Fitting-B	1
A14	60095060	BNT85HE Spacer	1
A15	60010657?	DLFC 3.0GPM?	1
A16	60010069	Secure Clip-s	2
A17	60095061	BNT85HE Valve Body	1
A18	60010596	Screw-M5x12(Hexagon With Washer)	5
A19	60095063	BNT85 End Cover	1
A20	60095614	O-Ring-C30x2.65	1
A21	60010077	O-Ring-C78.74x5.33	1
A22	60010080	O-Ring-C25x3.55	1
A23	60010599	Valve Bottom Connector	1
A24	60010099	Screw-ST2.9X13(Large Washer)	2
A25	60010190	O-Ring-C32x3	1
A26	60010189	O-Ring-C18x3	1
A27	60010174	BNT85HE Injector Fixed Sleeve	1
A29	60010175	Injector Plug Body	1
A31	10227	Injector Screen	1
A32	60095076	Injector Plug	1
A33	60010193	BNT85HE Injector Cover Body	1
A34	60010195	O-Ring-C40x2.65	1
A35	60010194	BNT85HE Injector Cover Cap	1
A36	60010196	Screw-M5x25(Hexagon with Washer)	4
A37		Seal Mat	1
A38		O-Ring-C12x2	3
A39		Injector Stem	1
A40		Injector Spacer	1
A41	60032	O-Ring-C12.5x1.8	1
A42		Injector Cap	1
A43		Injector Screen	1
A44		Spacer Washer	1
A45		Retaining Ring	1
A46	60010173	BNT85HE BLFC Fixed Sleeve	2
A47		BLFC(optional)	1
A48	60010188	O-Ring-C8x1	1
A49	60010172	BNT85HE Brine Line Elbow	1
A50	60010186	O-Ring-C12.5x1.5	2
A51	60010187	O-Ring-C8x1.5	2
A52	60010191	Ball, Seal	

Injector Configuration Upflow



Injector Configuration Downflow

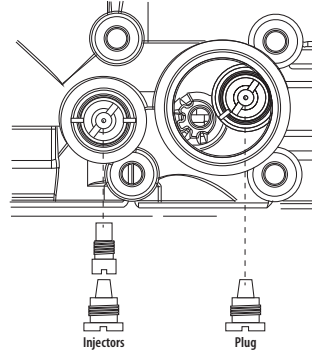


Figure 1

Part #	Part Description
60010110	BLFC BUTTON #2 0.3GPM A32
60010082*	BLFC BUTTON #2 0.7GPM A32
60010128	BLFC BUTTON 0.2GPM
60010601	INJECTOR SET #0000 BLACK THROAT
60010602	NOZZLE #0000 BLACK THROAT
60010603	INJECTOR SET #000 GREY THROAT
60010604	NOZZLE #000 GREY THROAT
60010605	INJECTOR SET #00 VIOLET THROAT
60010606	NOZZLE #00 VIOLET THROAT
60010607	INJECTOR SET #0 RED THROAT
60010608	NOZZLE #0 RED THROAT
60010609*	INJECTOR SET #1 WHITE THROAT
60010610*	NOZZLE #1 WHITE THROAT
60010611	INJECTOR SET #2 BLUE THROAT
60010612	NOZZLE #2 BLUE THROAT

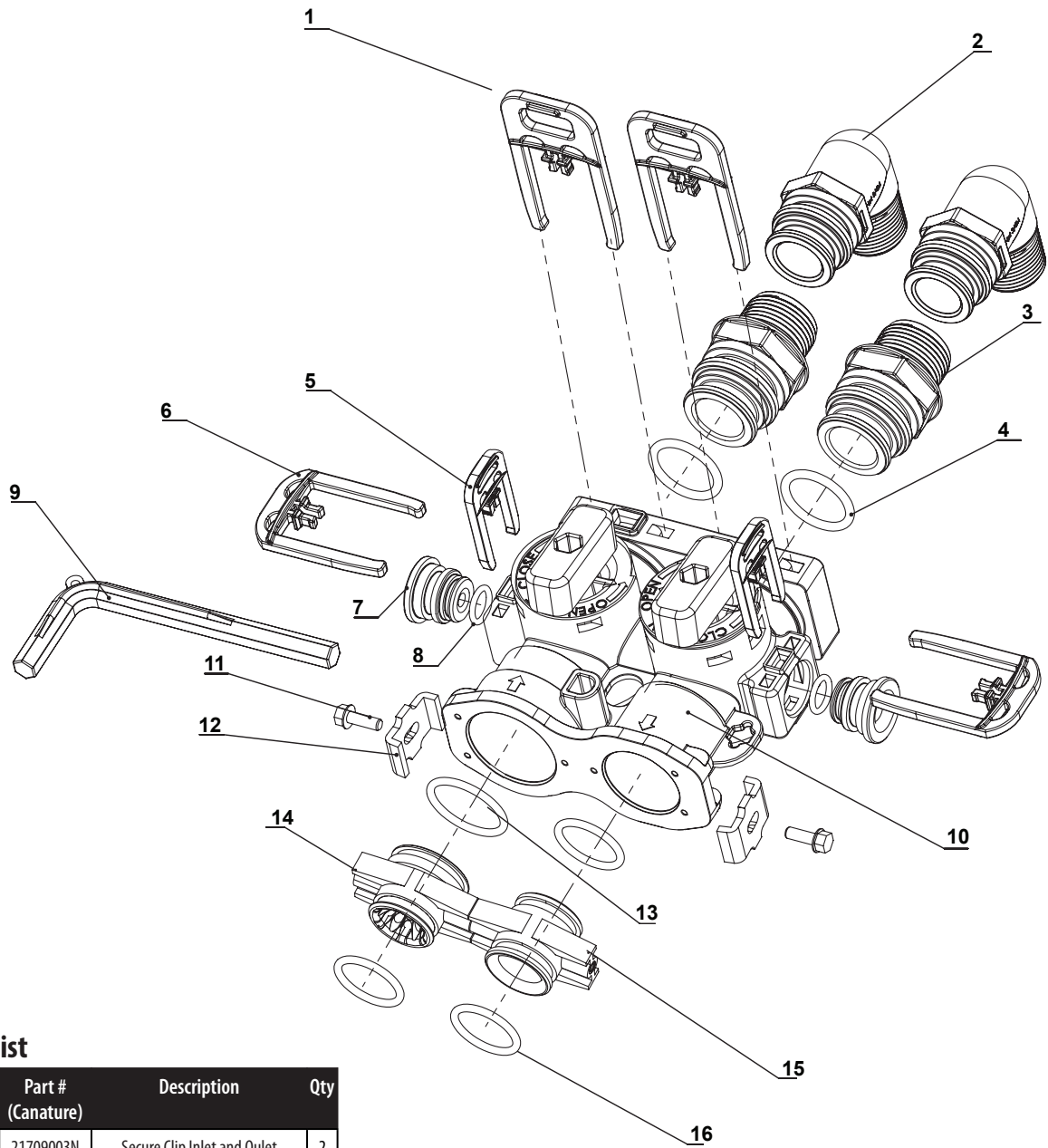
Figure 2

Part #	Part Description
60010613	INJECTOR SET #3 YELLOW THROAT
60010614	NOZZLE #3 YELLOW THROAT
60010685	INJECTOR SET #4 GREEN THROAT
60010686	NOZZLE #4 GREEN THROAT
60010131	DLFC #1 1.5GPM
60010132	DLFC #2 2.0GPM
60010133	DLFC #3 2.4GPM
60010135	DLFC #5 3.5GPM
60010041	DLFC #6 4GPM
60010169	DLFC #7 5GPM
60010136	DLFC #A 5.0GPM
60010137	DLFC #B 7.0GPM
60010138	DLFC #C 11.0GPM

Item #s For All  
Injector Assemblies  
and Brine Line and  
Drain Line Washers:

Injector  
Assemblies  
\* Default

# PARTS BREAKDOWN

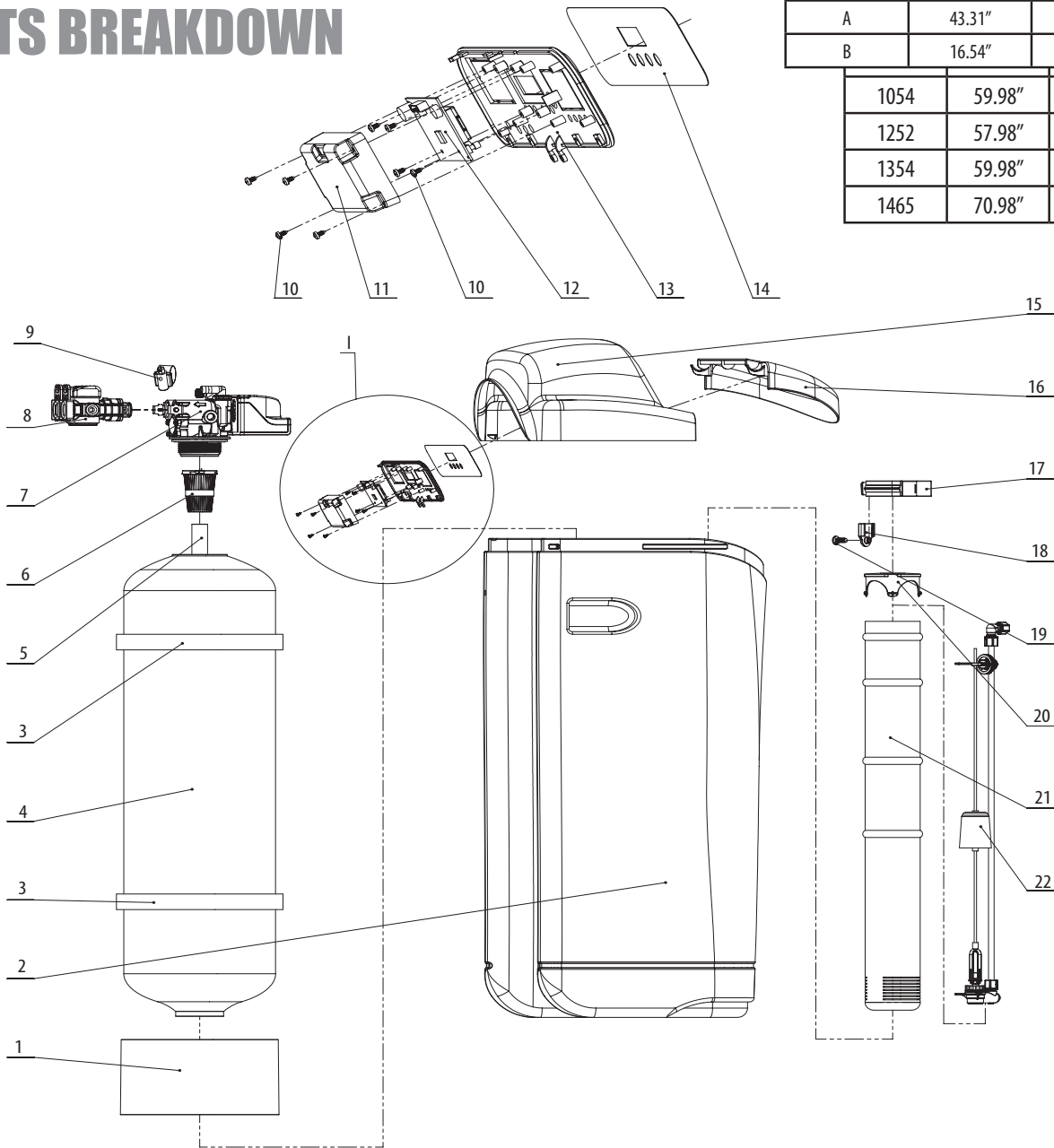


## Bypass Parts List

No.	Part # (Water Group)	Part # (Canature)	Description	Qty
1	60010025	21709003N	Secure Clip Inlet and Outlet	2
2	60010023	21319036N	Elbow 3/4" NPT Inlet and Outlet	2
3	60010019	21319011N	Straight 1" NPT Inlet and Outlet	2
4	60010026	26010143	O-ring on Inlet and Outlet	2
5	92846	05056155N	Plug Clip	2
6	60095090	21709004B	Shaft Clip	2
7	60010209	05056146	Bypass Plug	2
8	60010044	05056134	O-ring on Plug	2
9	60010006	70020007	Bypass Tool	1
10		05056212	063 Bypass Body	1
11	60010701	13000327	Screw on SS Clip	2
12	60010046	05056044B	SS Clip	2
13	60010561	26010046	Big O-ring on Connector(Outlet)	1
14	60010101	05010083N	Valve-Bypass Connector(Outlet)	1
15	60010079	05056025M	Valve-Bypass Connector(Inlet)	1
16	60010562	05056129	Small O-ring on Connector(Outlet)	3

60095101

# PARTS BREAKDOWN



	75C	100C
A	43.31"	43.31"
B	16.54"	16.54"
	1054	59.98"
	1252	57.98"
	1354	59.98"
	1465	70.98"

## Cabinet Parts List

No.	Part #	Description	Qty
22	55010023	0435 Brine Valve Assembly	1
21	55010010	0435 Brine Well	1
20	55020002	4" Brine Well Cap	1
19		Plastic Screw M8×20	1
18		Hoop Clinch	1
17	60010362	4" Brine Well Clamp	1
16	85010132	Salt Lid(CS5)	1
15		High Cover(CS5)	1
14	80080015	Control Plate Label	1
13	80080021	Control Plate(CS5)	1
12	60010180	85HE Display Board	1
11		Transparent Back Cover	1

No.	Part #	Description	Qty
10		Screw 2.9×6.5	10
9	302171	Drain Line Clamp	1
8	60095097-1	Canature Bypass Valve C/W Meter	1
7	10010061	Control Valve Assembly(CS5)	1
6	18280	Top Cone	1
5	50010020	D-Tube(35")	1
4	25020019 935	Pressure Tank 0935(Without base)	1
	25020020 1035	Pressure Tank 1035(Without base)	
3		Pressure Tank Protection 9"	2
		Pressure Tank Protection 10"	
2	25020019	TANK ASSY CS5H-1035	1
	25020020	TANK ASSY CS5H-1035	
1	50010011	9" Tank Base	1
	50010013	10" Tank Base	



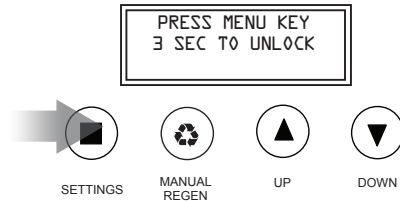
# LEVEL 2 PROGRAMMING (OPTIONAL SETTINGS):

**CAUTION: DO NOT CHANGE LEVEL 2 SETTINGS WITHOUT CONSULTING A CANATURE WATERGROUP TECHNICIAN (1-877-288-9888). Incorrectly changing the settings can result in malfunction of the unit.**

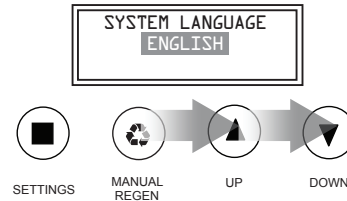
When the Level 2 Master Programming Mode is entered, all available option setting displays may be viewed and set as needed. Depending on current option settings, some parameters cannot be viewed or set.

## NOTE

Under normal use there is no need to change the settings under level 2 programming. You can, however, change the default settings if required.








The display will read **Press SETTINGS  for 3 sec to unlock**". After 3 seconds, the display will beep confirming unlock



Press and hold   **together** for three seconds to enter Level Two Master Programming

### To change any setting under level 2 programming:

- Press the **MANUAL REGEN**  key button and the value flashes
- Press the **UP**  or **DOWN**  keys to change the value
- Press the **MANUAL REGEN**  again to accept value
- Press the **DOWN**  key to advance to the next value

# MASTER PROGRAMMING

Press **Up** and **Down** Buttons together for 5 seconds

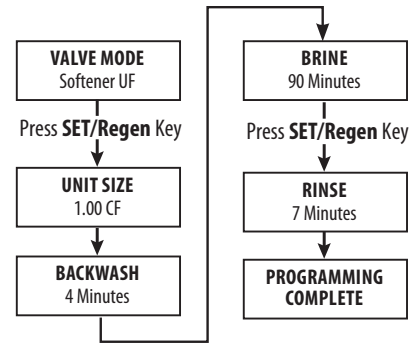
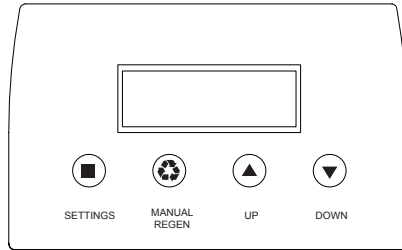
Press **MANUAL REGEN** Button and change value using **Up** and **Down** Buttons

## Key Pad Setting

**SETTINGS** This function is to enter the basic set-up information required at the time of installation.

**MANUAL REGEN** This function is to initiate an immediate or delayed manual regeneration.

**DOWN / UP** Increase or decrease the value of the settings while in the programming mode.



Main Valve Settings	
Meter Ratio	METER RATIO AFTER MAR 20,2018 - 5.68 METER RATIO BEFORE MAR 20,2018 - 8.00
Service Delay	3.0
Backwash Delay	7.0
Brine Delay	4.0
Rinse Delay	5.0
Refill Delay	4.0

## SOFTENER UPFLOW (UF)

This mode is for the operation of an up flow regenerating softener. The amount of salt used each regeneration is proportional to the capacity remaining in the system. A preset amount of brine (Default is 70%) is prepared after a normal regeneration. Just before a regeneration is scheduled, fresh water is added to the brine tank to "top off" the already prepared 70% of brine. The total amount of brine used to regenerate the system is proportional to the capacity remaining.

I.e. If the system has 10% capacity remaining, then only 90% of the salt dosage is needed to restore capacity to 100%. 70% of the brine is already prepared (and fully saturated) so 20% is added so that the total of 90% is prepared.

When a standard regeneration is started, the valve will move first to the refill position to add water to the brine tank. The amount of water added is equal to the calculated refill time for the salt dosage X Brine Tank Refill%. The valve then will return to service for the amount of Brine Make Time. When this is complete the valve will move to the Brine position.

The regeneration sequence is 1. BRINE MAKE (REFILL), 2. BRINE, 3. BACKWASH, 4 RINSE, 5. RE-FILL.

## LANGUAGE

Current available language is English.

## UNITS

Current unit of measure is gallons. Metric units may become available at a later date.

## EFFICIENCY & CAPACITY SETTINGS

There are 3 settings to choose in Settings. High Efficiency, Standard Capacity, and Iron & Manganese. The values for these settings are set in the Factory Options and are used to calculate the system capacity and refill time.

## REFILL

This value should match the BLFC flow washer. It is used to calculate the refill time.

## BRINE MAKE TIME

This value is the time allowed for the salt to dissolve in the water to create the brine solution. The value is the amount of time ahead of the scheduled regeneration time that the water will be added to "top off" the brine already prepared in the brine tank.

## BRINE PRE-FILL%

This is the percentage of the water that will be added to the brine tank after a regeneration. The default is 70%. The remaining amount of water will be added just prior to the regeneration and will be proportional to the amount of capacity left in the system.

## DAILY RESERVE

This value is used to calculate the reserve capacity. Reserve Capacity = No. People x DAILY RESERVE.

## DAY OVERRIDE

This setting can be used to add number of days to over ride the meter. As an example if the setting is 5, the system will regenerate after 5 days even if there is still gallons capacity remaining. OFF will cancel this feature.

## RINSE OVERRIDE

This setting can be used to skip the RINSE cycle. As an example if the setting is 10, the system will skip 10 rinse. OFF will cancel this feature.

## BW OVERRIDE

This setting can be used to skip the back wash cycle. As an example if the setting is 10, the system will skip 10 back wash cycles. The setting will only work if the WATER TYPE is set to CITY for clean water applications.

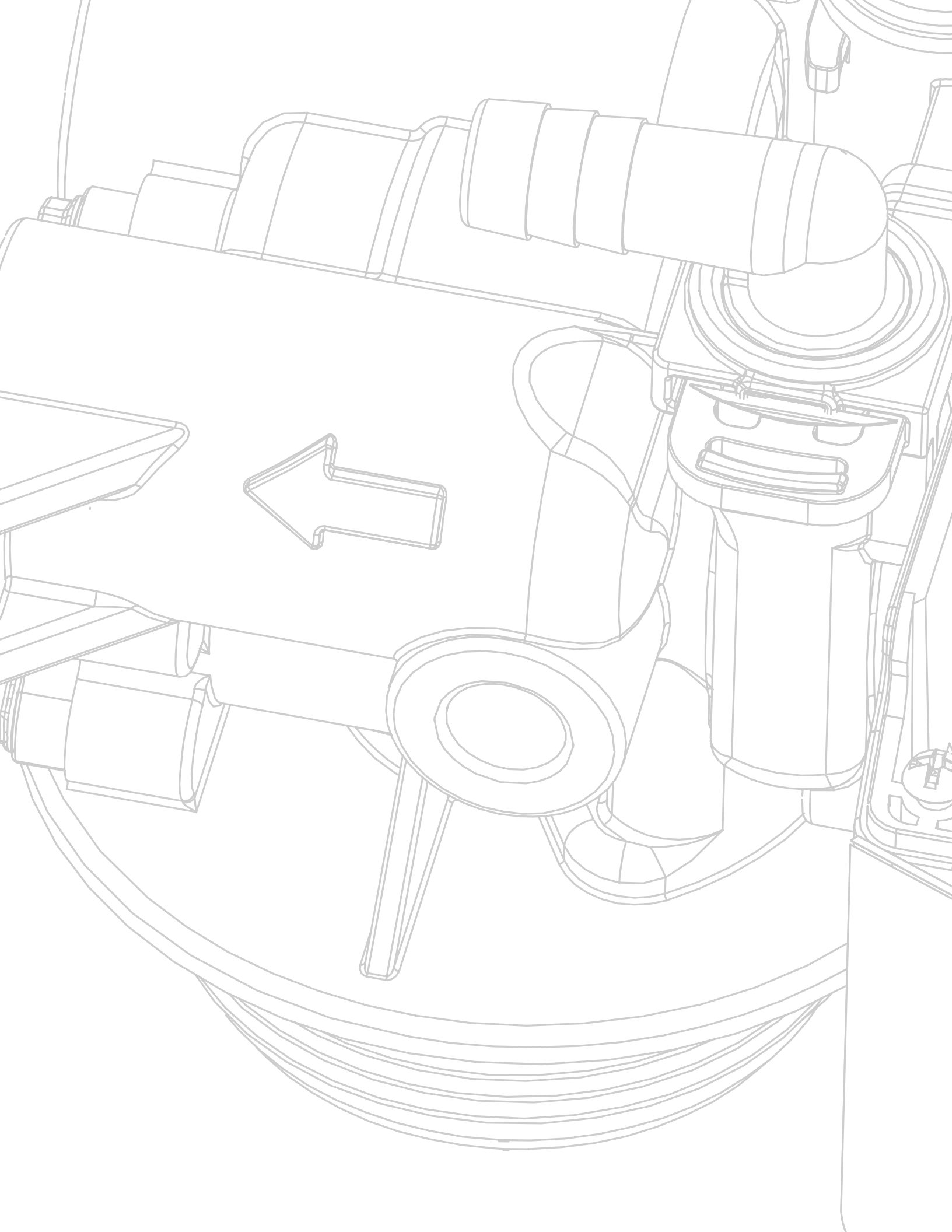
## FORCED REGEN

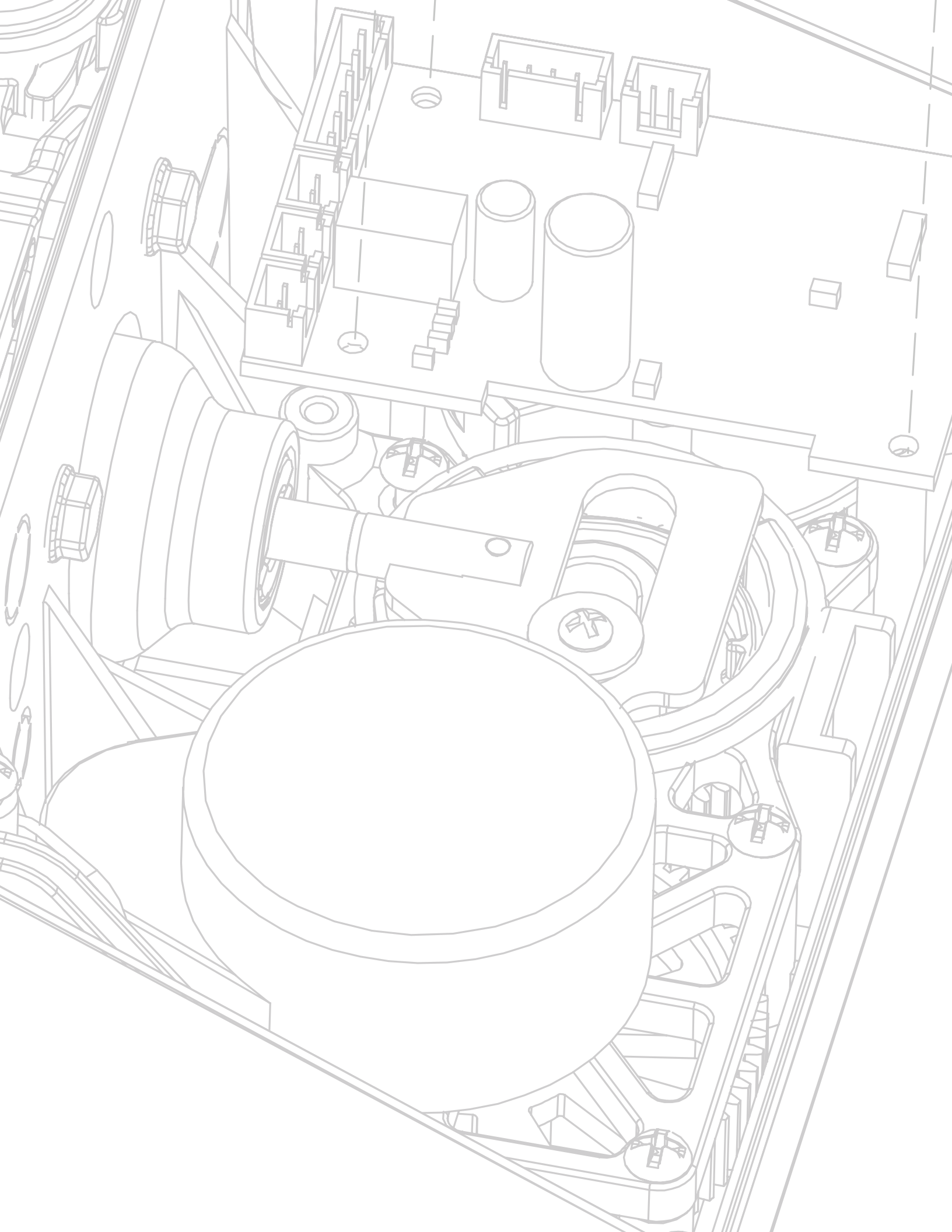
When set to ON, the system will start a forced regeneration when the remaining capacity reaches 3%. The regeneration consists of 8 minutes of Brine and 12 minutes of Rinse. The 20 minutes regeneration will restore up to 33% of the system capacity. At the next regeneration time (2:00 AM), the system will automatically perform a standard regeneration to restore capacity to 100%.

## VACATION MODE

When set to ON, the system will perform a 10 minute back wash and 10 minute rinse if there is no water flow detected after 7 days. The regeneration will occur at the scheduled REGEN TIME.









24

**Toll Free: 1-877-288-9888**  
**[www.canaturewg.com](http://www.canaturewg.com)**