

## 485UF/DF



IAPMO R&T Certified  
Against NSF/ANSI 44, 372  
and CSA B483.1

## Upflow & Downflow Softener Manual

This manual is intended to be supplemental to the 80150310 85 UF DF Home Owners Manual and contains additional trouble shooting and programming information intended for the use of qualified service technicians only.

**NOTICE: THIS MANUAL CONTAINS A LIMITED WARRANTY. BY INSTALLING AND OR USING THIS PRODUCT, YOU WAIVE CERTAIN LEGAL RIGHTS INCLUDING THE RIGHT TO SUE OR CLAIM COMPENSATION IN THE EVENT OF PROPERTY DAMAGE, INJURY, AND OR DEATH.**

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# FEED WATER PARAMETERS

**Maximum Iron\*\*** = 2.0 ppm ferrous (clear water iron)

**Maximum Hydrogen Sulfide** = 0.0 ppm

**Maximum Manganese** = 0.75 ppm ferrous (clear water)

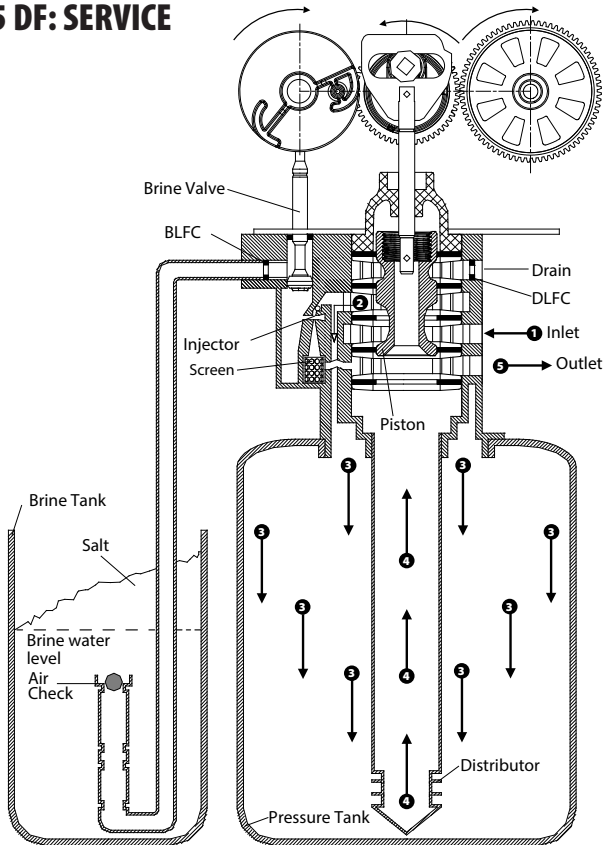
**pH** = 6.5 to 8.5 with **no** iron or manganese present

**pH** = 6.5 to 7.5 with iron or manganese present

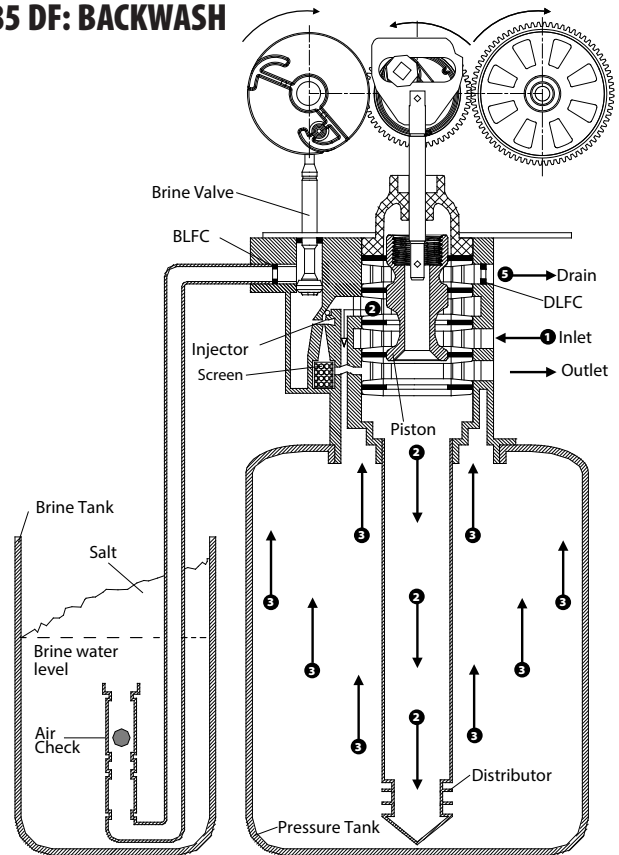
**\*\*See System Maintenance Section - Resin Cleaner**

## 85 DOWNFLOW DIAGRAMS

### 85 DF: SERVICE



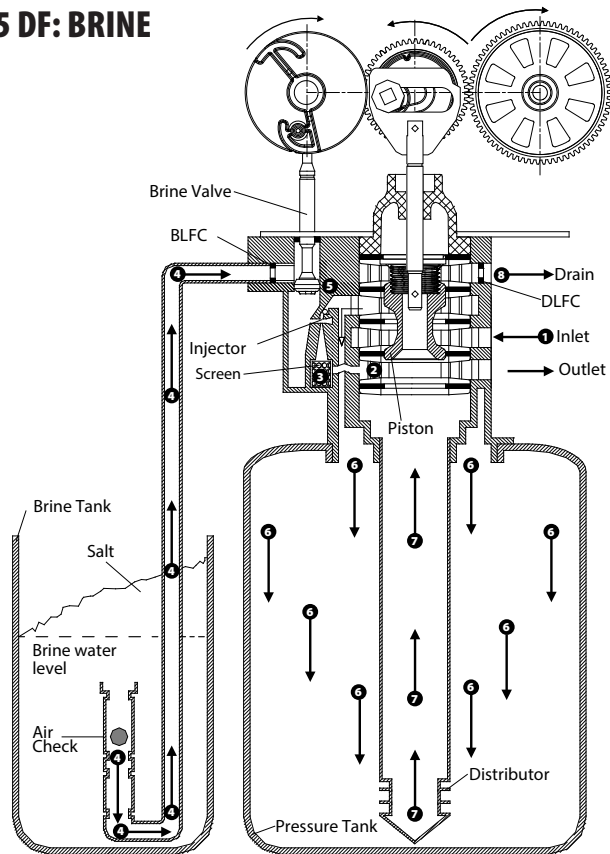
### 85 DF: BACKWASH



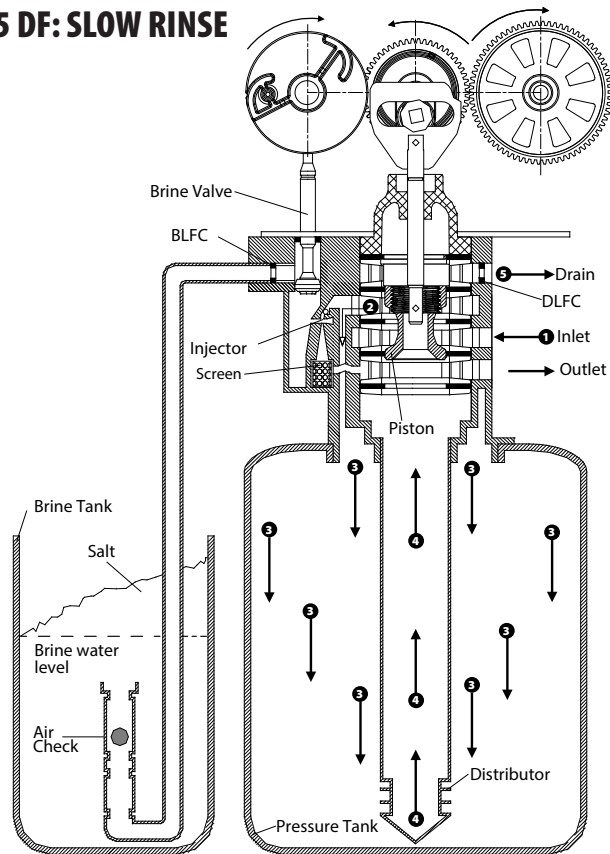


# 85 DOWNFLOW DIAGRAMS (CONTINUED)

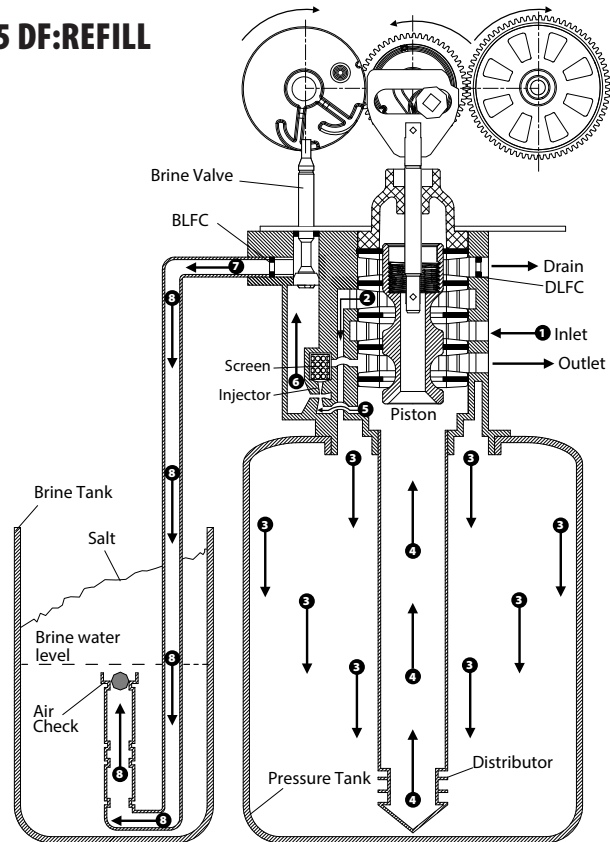
85 DF: BRINE



85 DF: SLOW RINSE

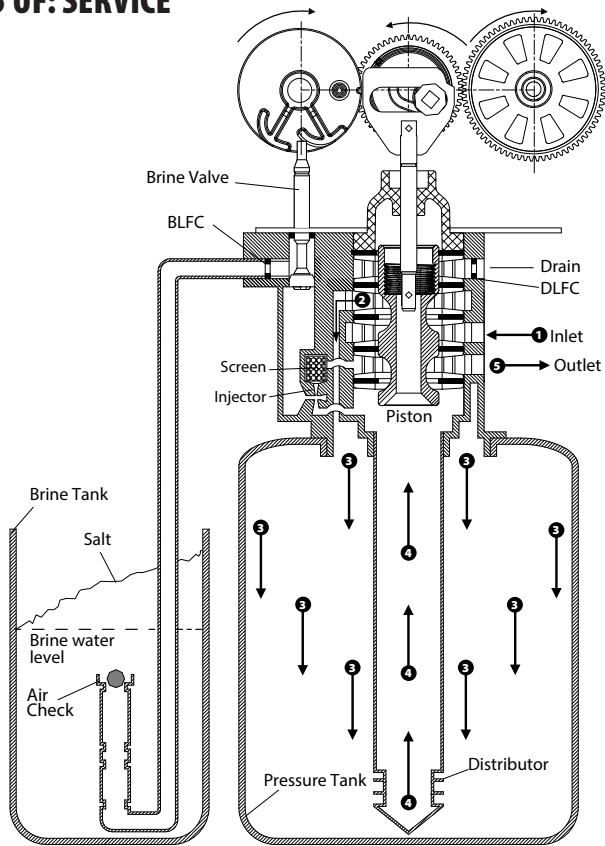


85 DF: REFILL

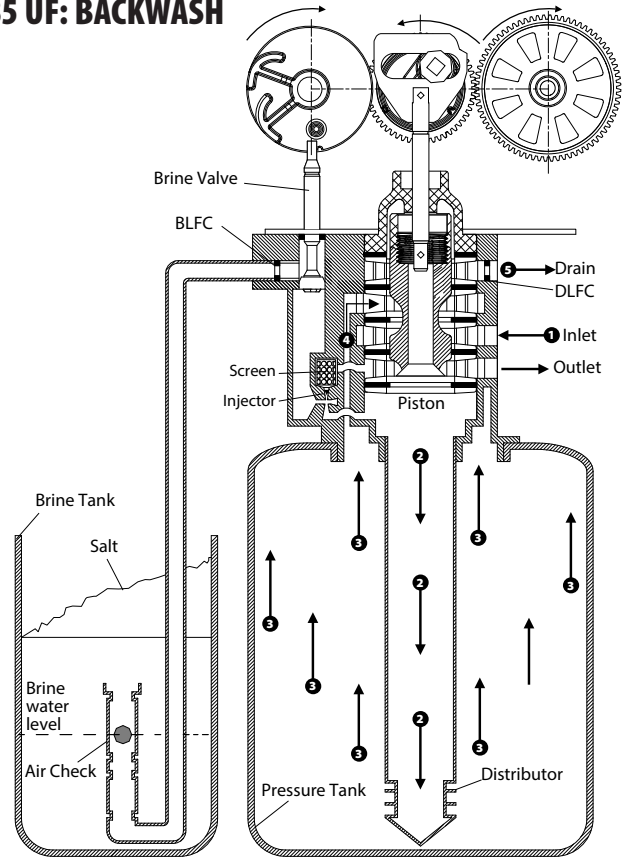


# 85 UPFLOW DIAGRAMS

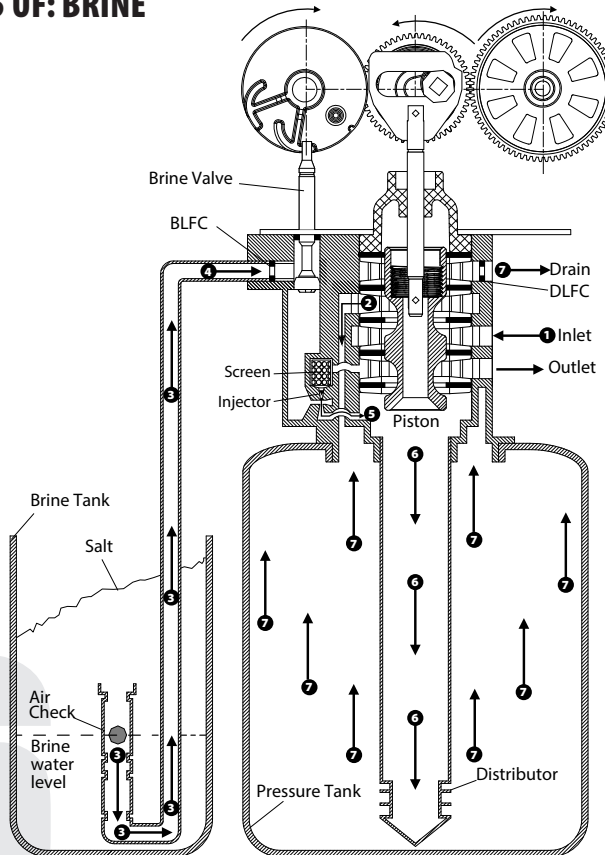
## 85 UF: SERVICE



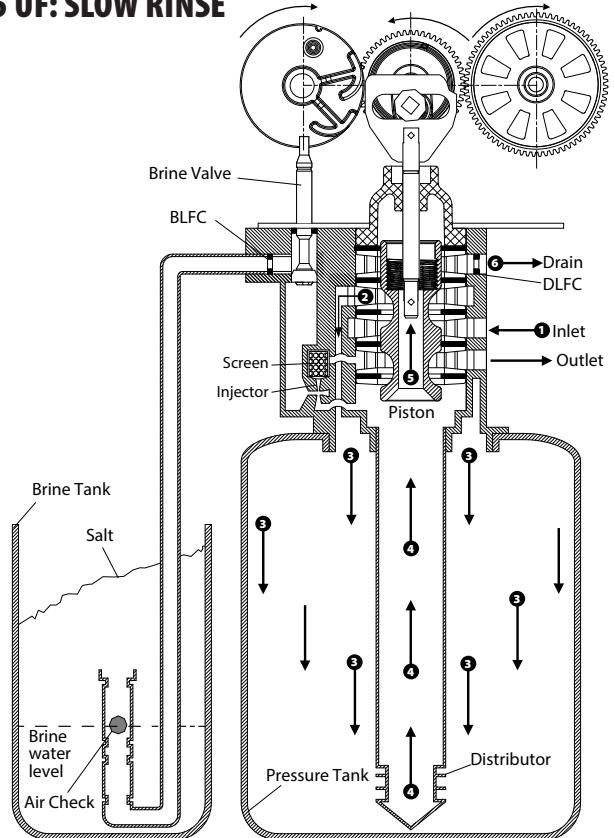
## 85 UF: BACKWASH



## 85 UF: BRINE

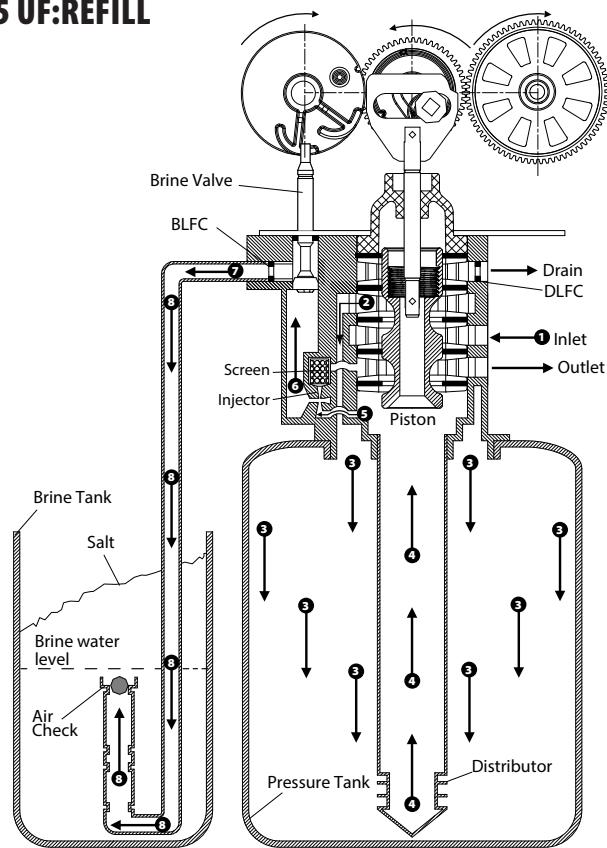


## 85 UF: SLOW RINSE



# 85 UPFLOW DIAGRAMS (CONTINUED)

## 85 UF:REFILL



# 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>	<p>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></p> <p>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).</p> <p>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></p> <p>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></p>
<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>	<p>Check diagnostics for last regeneration - <b>See How Your Conditioner Works</b></p> <p>Open nearest conditioned water outlet and check if gallons is counting down, if not metering - <b>Contact authorized service representative</b></p>
<b>Not using salt</b>	<p>Injectors or injector screen plugged. Clean and or replace injectors and screen - <b>See 'Maintenance'</b></p> <p>Salt Bridged in salt tank - <b>See 'Maintenance'</b></p>
<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>	<p>Clean and or replace injectors - <b>See 'Maintenance'</b></p> <p><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.</p>
<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>	<p>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></p> <p><b>Corroded or damaged rear circuit</b> – replace circuit <b>Contact your authorized service representative, if necessary.</b></p>
<b>Discolored water</b>	<p><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></p> <p><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></p> <p>- 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></p>
<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 (CONTINUED)

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. Check size of BLFC noted on silver label of valve and be sure valve is programmed to correspond to the correct size used.
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>Drive motor defective</b> replace motor - <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>	Replace piston and seal assemblies - <b>See Replacement/Service Section</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 monthly 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 dealer and follow the directions on the resin cleaner package.



Item #	Description
45127	Rust Out - 5 lb. Bottle
45128	Rust Out - 50 lb Pail (USA only)

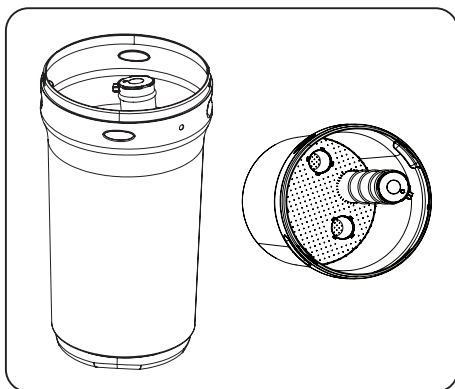


Item #	Description
45147	ResCare - 1 gal. (128 oz) Bottle
80030022	ResCare - 64 oz Bottle (Easy Feeder Refill)

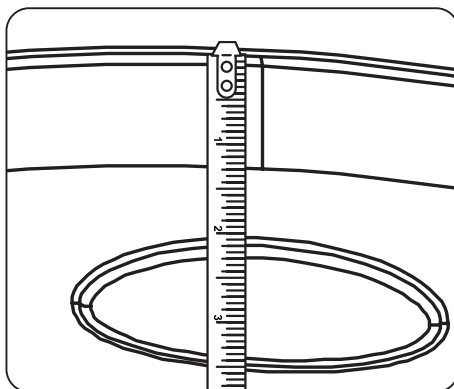


Item #	Description
55030010	Easy Feeder Starter Kit 1 oz & ½ oz wick with 64 oz of Rescare

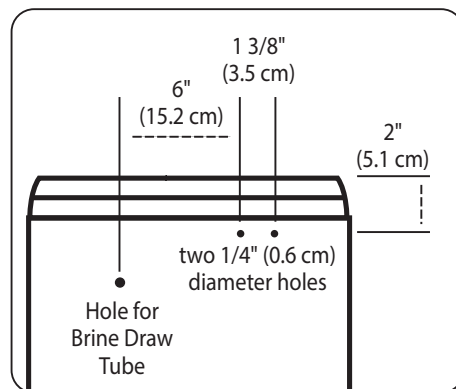
## Easy Feeder® Starter Kit Installation Instructions



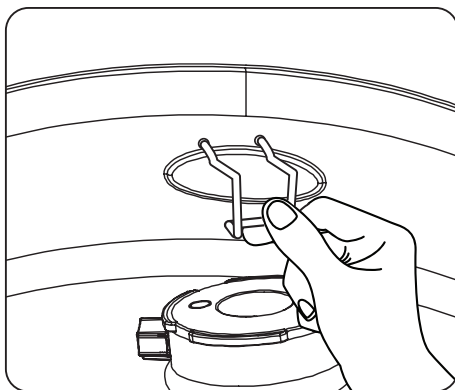
1. Install the grid and brine well inside the round tank.



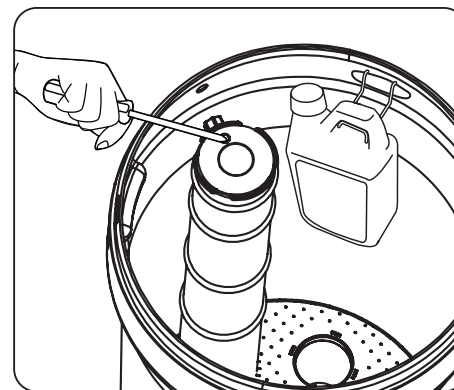
2. Measure 2 inches from the top of the tank beside the oblong molding.



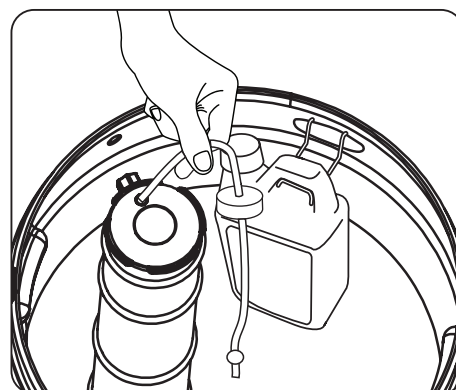
3. Mark the location of the 3 required holes.



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.

### NOTE

Remove appropriate wick assembly from box and submerge in water until wick is completely saturated (Soak minimum of 2 minutes).

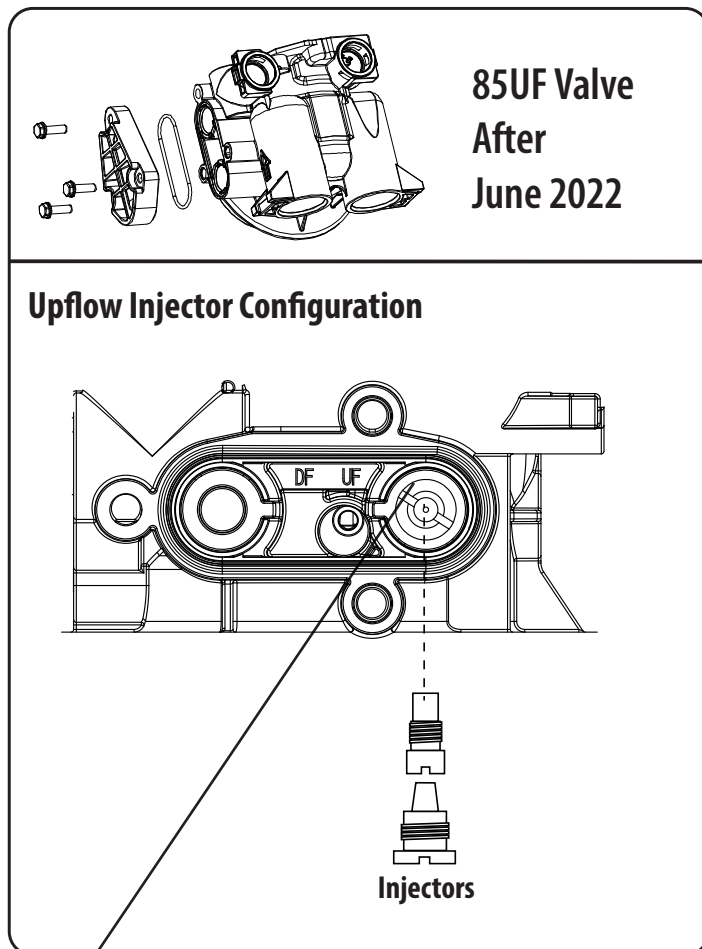
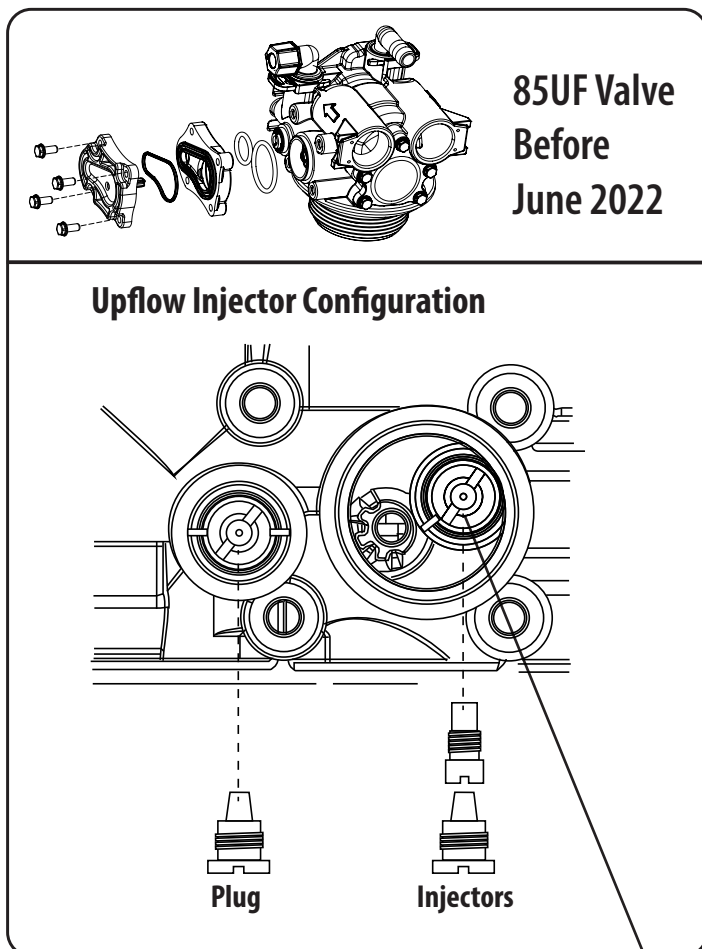


# PROBLEM WATER INJECTOR KIT

## PROBLEM WATER INJECTOR KIT For use on upflow softeners only.

**IMPORTANT!:** If the water source this water softener is being applied on is not municipal water and contains up to 2.0 mg/l/ppm of ferrous (Clear Water) iron and/or up to .75 mg/l/ppm of manganese, the enclosed Problem Water Injector Kit needs to be installed into the control valve following these instructions.

**FAILURE TO DO THIS WILL RESULT IN UNSATISFACTORY OPERATION OF THIS EQUIPMENT AND VOID ANY IMPLIED PERFORMANCE WARRANTY.**



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.

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

**\*NOTE:** Remember to properly lubricate ALL O-Rings with the silicone lubricant supplied.

### NOTICE

Do NOT over tighten injectors. Snug-tight only.



Failure to make these changes will result in unsatisfactory operation of this equipment and void any implied performance warranty.



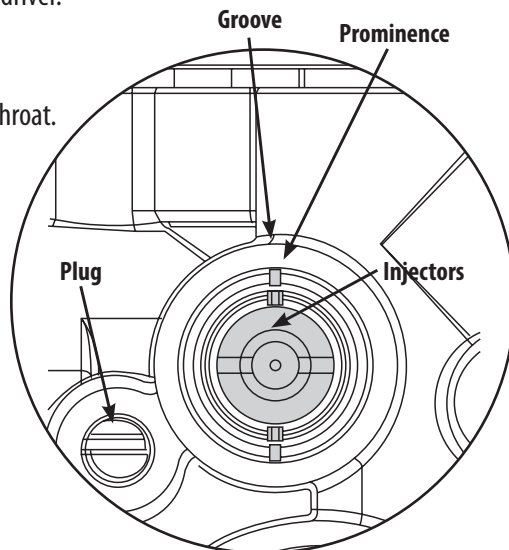
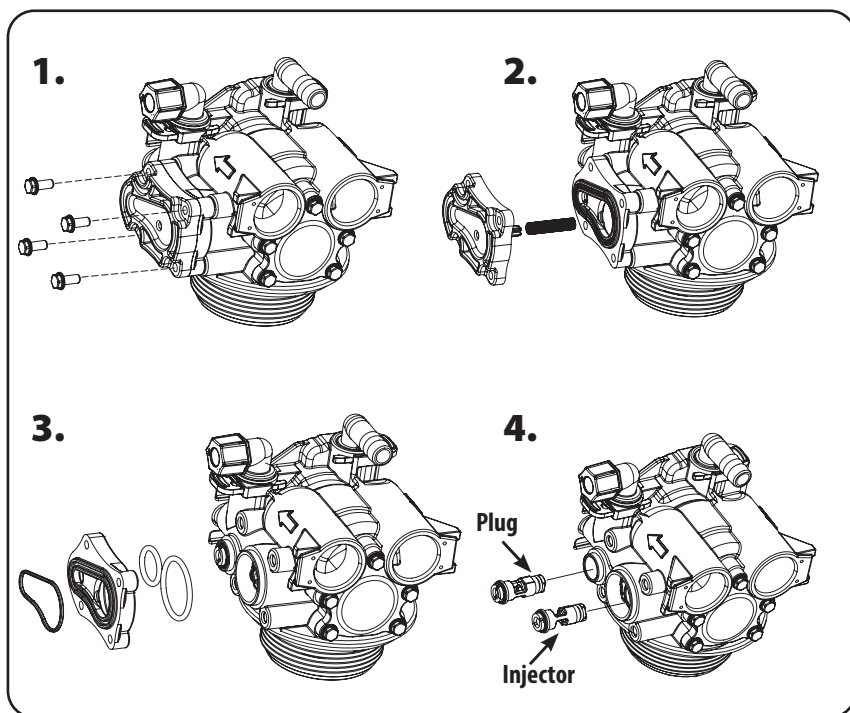
# PROBLEM WATER INJECTOR KIT (CONTINUED)

## CLEAN INJECTOR ASSEMBLY - FOR MODELS BEFORE JUNE, 2022

Sediment, salt, and silt will restrict or clog the injector. A clean water supply and pure salt will prevent this from happening. The injector assembly is located on the right side of the control valve when facing your softener.

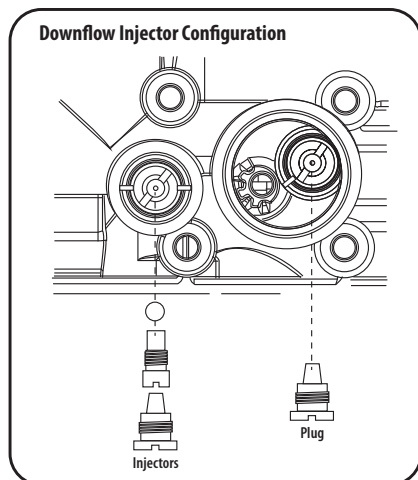
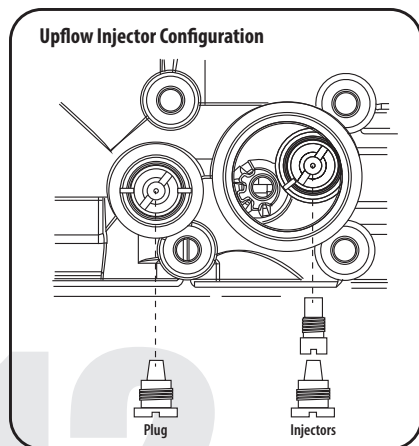
### The assembly is easy to clean, start by:

1. Shut the water supply to your softener OFF.
2. Reduce the pressure by opening a cold-treated tap.
3. Using a screwdriver, remove the four (4) screws holding the injector cover to the control valve body.
4. Carefully, remove the cover, and disassemble as shown below.
5. The injector orifice is removed from the valve body by carefully turning it out with a screwdriver.
6. Remove the injector throat the same way.
7. Carefully flush all parts including the screen.
8. Use a mild acid such as vinegar or Pro Rust Out to clean the small holes in the orifice and throat.
9. Reassemble by reversing the procedure.



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

- Remove the four (4) screws of the injector cap.
- Pull the Injector Cap out.
- Remove the Injector Assembly, O-ring, and screen.
- Clean the injectors and replace the cap.
- Be sure to replace the O-rings when reassembling and lubricate with approved 100% silicone-based lubricant. Order Part #92360.
- During final assembly be sure the injector is seated correctly as shown in figure above.





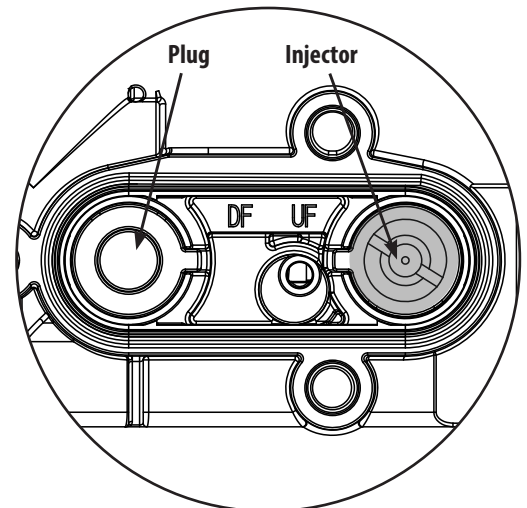
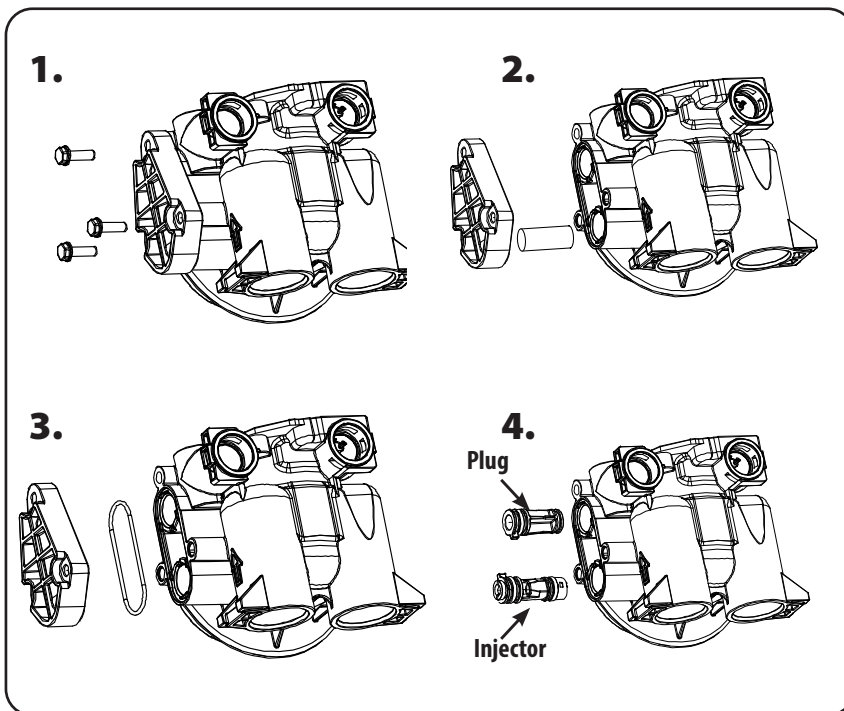
# PROBLEM WATER INJECTOR KIT (CONTINUED)

## CLEAN INJECTOR ASSEMBLY - FOR MODELS AFTER JUNE, 2022

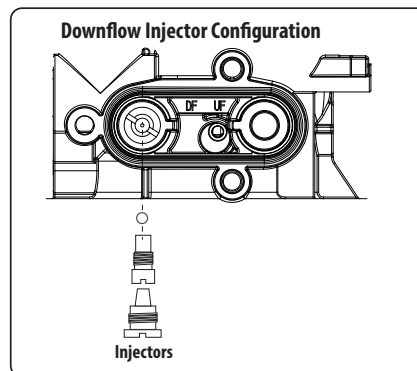
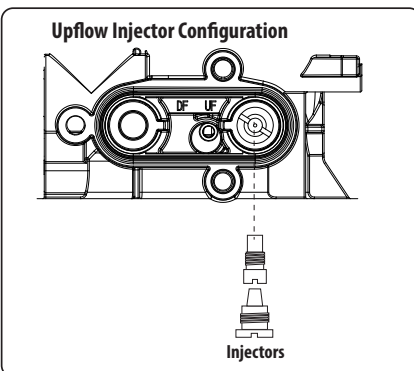
Sediment, salt, and silt will restrict or clog the injector. A clean water supply and pure salt will prevent this from happening. The injector assembly is located on the right side of the control valve when facing your softener.

### The assembly is easy to clean, start by:

1. Shut the water supply to your softener OFF.
2. Reduce the pressure by opening a cold-treated tap.
3. Using a screwdriver, remove the four (4) screws holding the injector cover to the control valve body.
4. Carefully, remove the cover, and disassemble as shown below.
5. The injector orifice is removed from the valve body by carefully turning it out with a screwdriver.
6. Remove the injector throat the same way.
7. Carefully flush all parts including the screen.
8. Use a mild acid such as vinegar or Pro Rust Out to clean the small holes in the orifice and throat.
9. Reassemble by reversing the procedure.



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

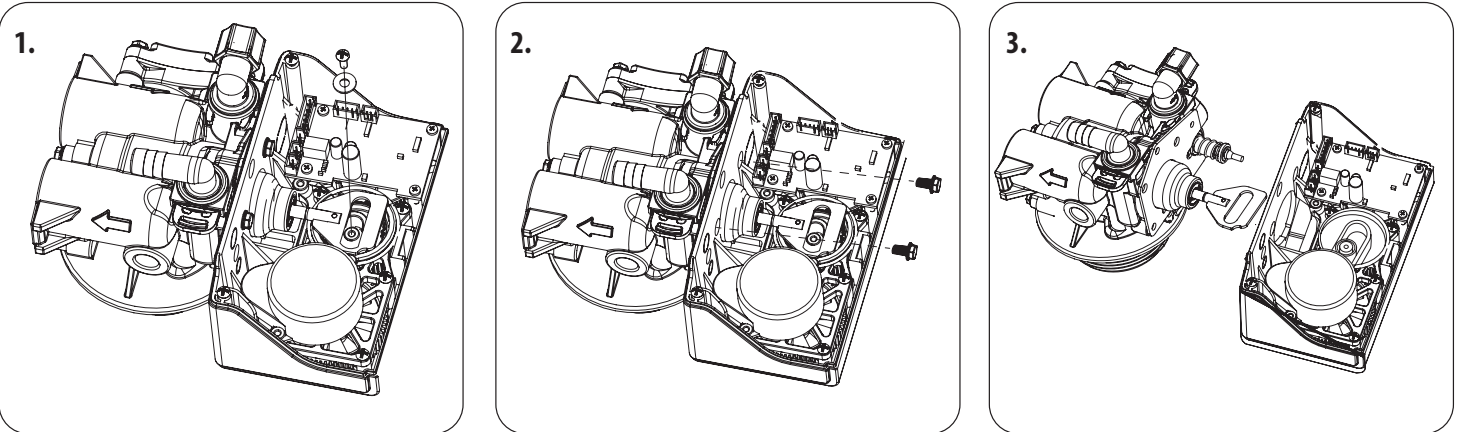


- Remove the three (3) screws of the injector cap.
- Pull the Injector Cap out.
- Remove the Injector Assembly, O-ring, and screen.
- Clean the injectors and replace the cap.
- Be sure to replace the O-rings when reassembling and lubricate with approved 100% silicone-based lubricant. Order Part #92360.
- During final assembly be sure the injector is seated correctly as shown in figure above.

# REPLACEMENT/SERVICE

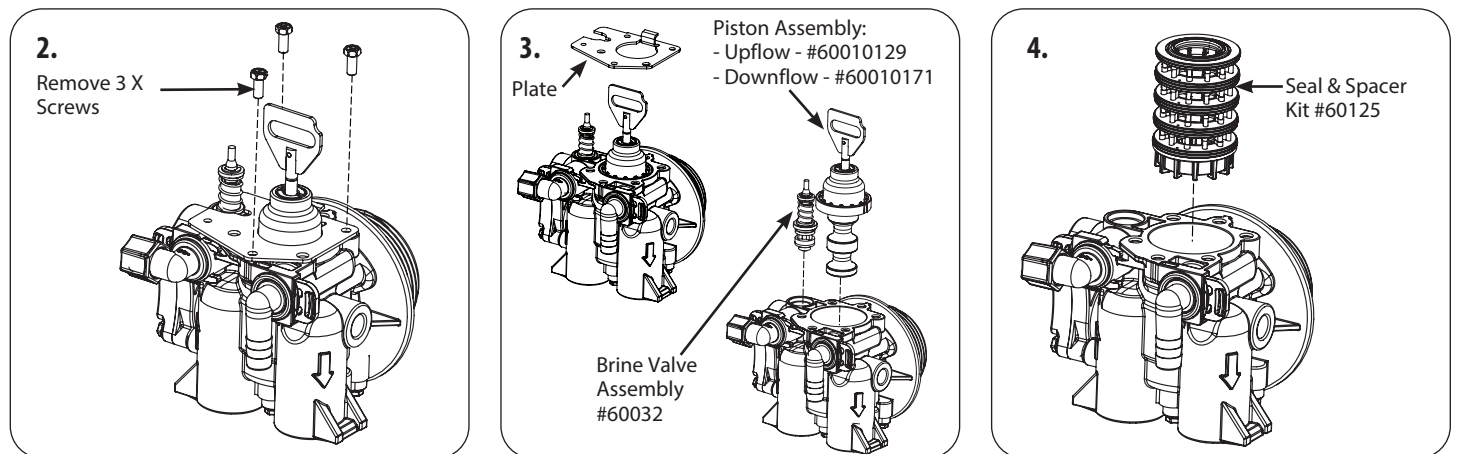
THE FOLLOWING 'REPLACEMENT / SERVICE SECTION', PAGES 9 TO 13 CONTAIN CONTENT THAT SHOULD ONLY BE USED BY A QUALIFIED SERVICE TECHNICIAN:

## 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.

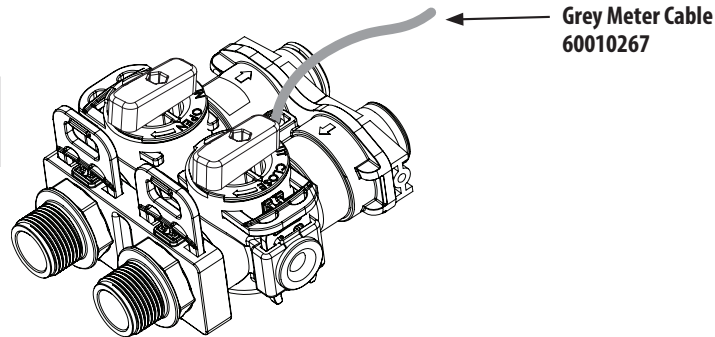
**CAUTION!**  
DO NOT use petroleum based grease products.

# BYPASS AND METER CABLE REPLACEMENT

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

Step 3

Remove Cover.

Step 4

Disconnect the cables from the front PCB display.

Step 5

Disconnect the cables from the rear PCB display.

Step 6

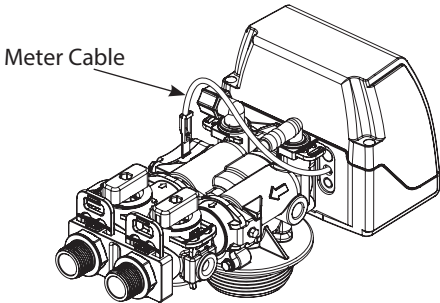
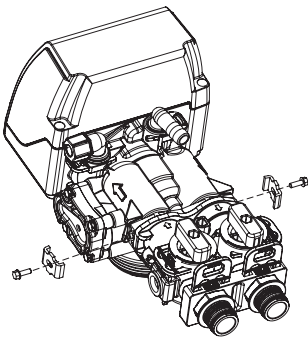
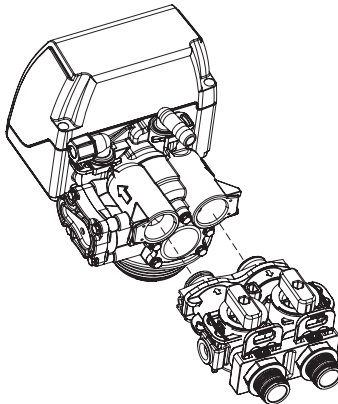
Remove strain relief with pliers.

Step 7

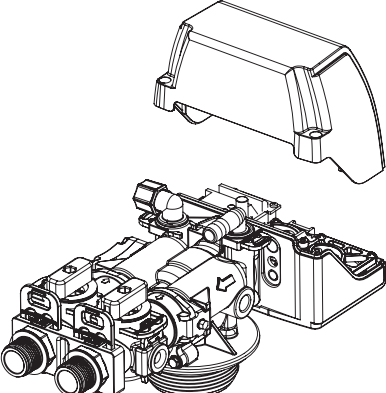
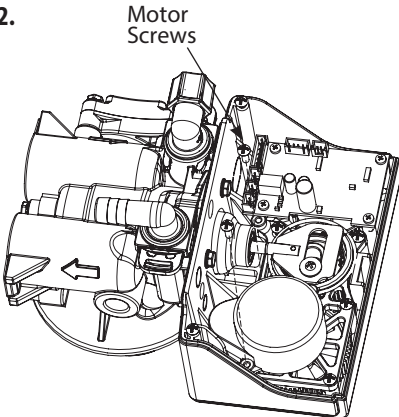
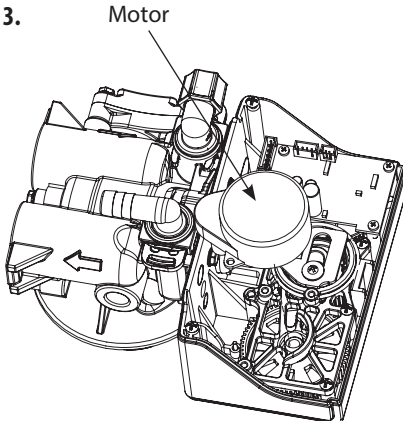
Replace the old cable with the new Cable.

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

# METER ASSEMBLY REPLACEMENT

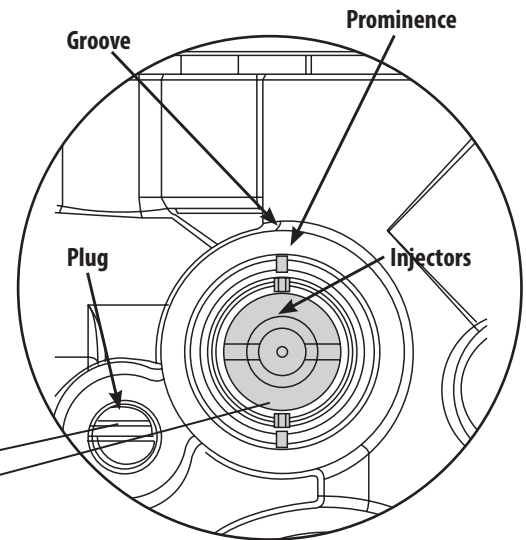
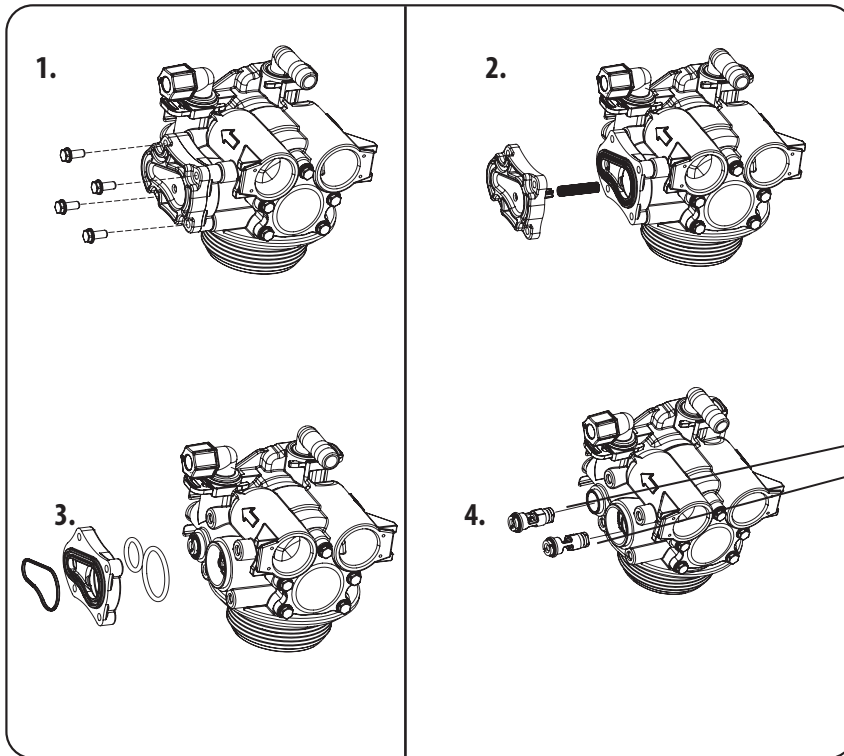
1.  Diagram 1 shows the meter assembly with the powerhead cover open. A label 'Meter Cable' points to the cable connected to the meter. The instruction is to disconnect the meter cable from the meter.
2.  Diagram 2 shows the meter assembly with the powerhead cover open. The instruction is to disconnect the valve from bypass by removing clips.
3.  Diagram 3 shows the meter assembly with the powerhead cover open. The instruction is to remove the coupling adapter from the bypass.

# MOTOR REPLACEMENT

1.  Diagram 1 shows the meter assembly with the powerhead cover open. The instruction is to remove the powerhead cover and disconnect the LCD cable from the circuit board.
2.  Diagram 2 shows the meter assembly with the powerhead cover open. A label 'Motor Screws' points to the screws holding the motor in place. The instruction is to remove the motor screws.
3.  Diagram 3 shows the meter assembly with the powerhead cover open. A label 'Motor' points to the motor. The instruction is to pull the motor out from the powerhead.

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

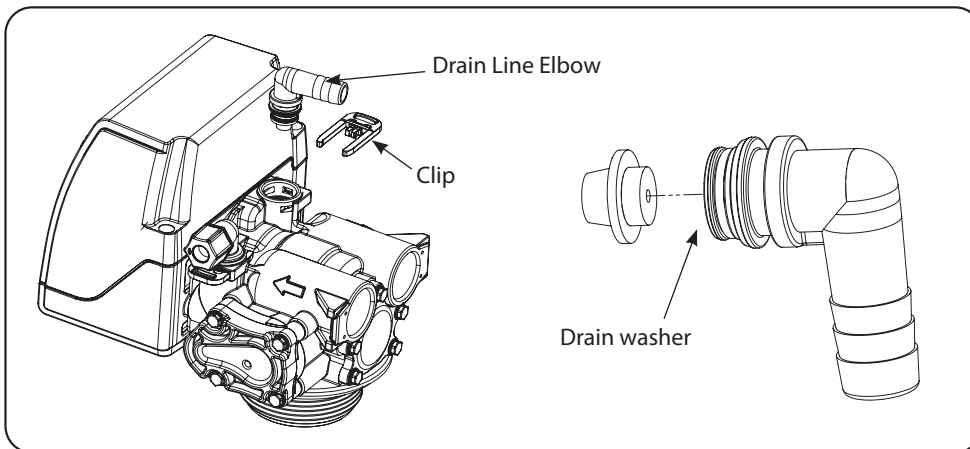
# CLEAN INJECTOR ASSEMBLY



**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

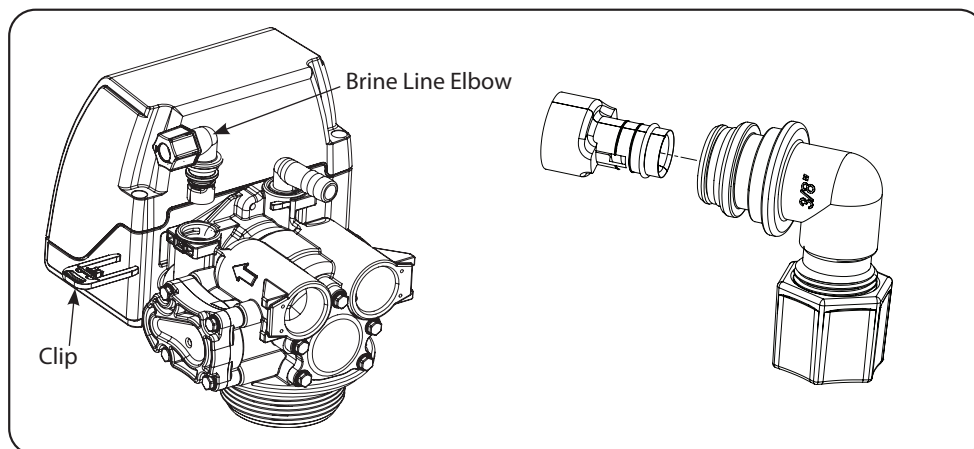


1. Pull the drain line clip and remove the drain line elbow and washer
2. Clean/replace drain line washer

## NOTE

Be sure to shut off any bypass line.

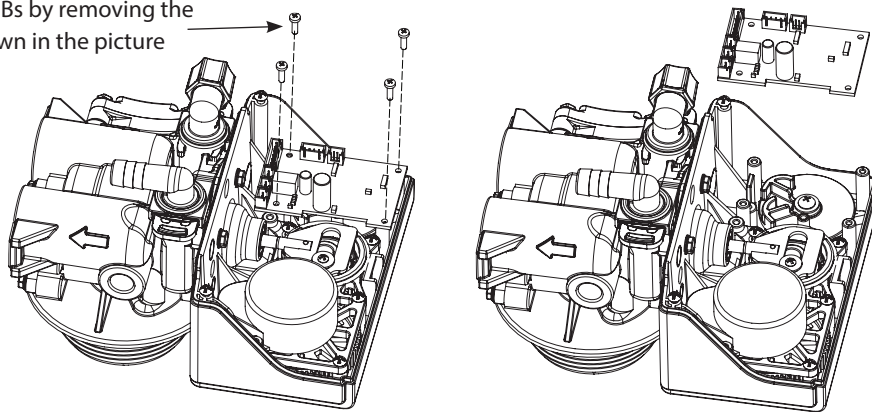
# BRINE LINE FLOW CONTROL REPLACEMENT





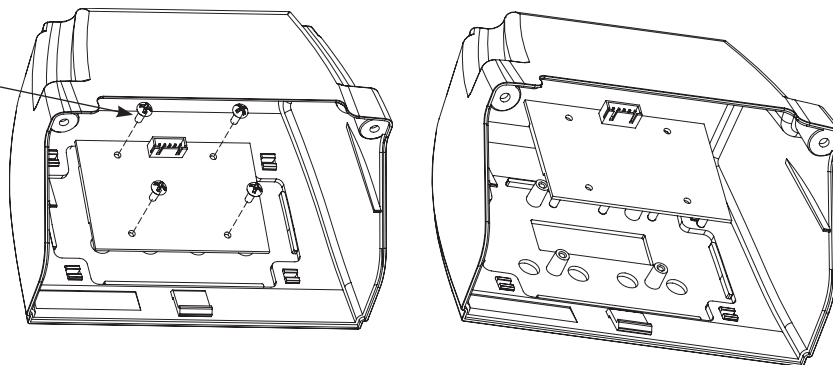
# PCB REPLACEMENT

Remove PCBs by removing the screws shown in the picture



# DISPLAY REPLACEMENT

Remove Display by removing the screws shown in the picture



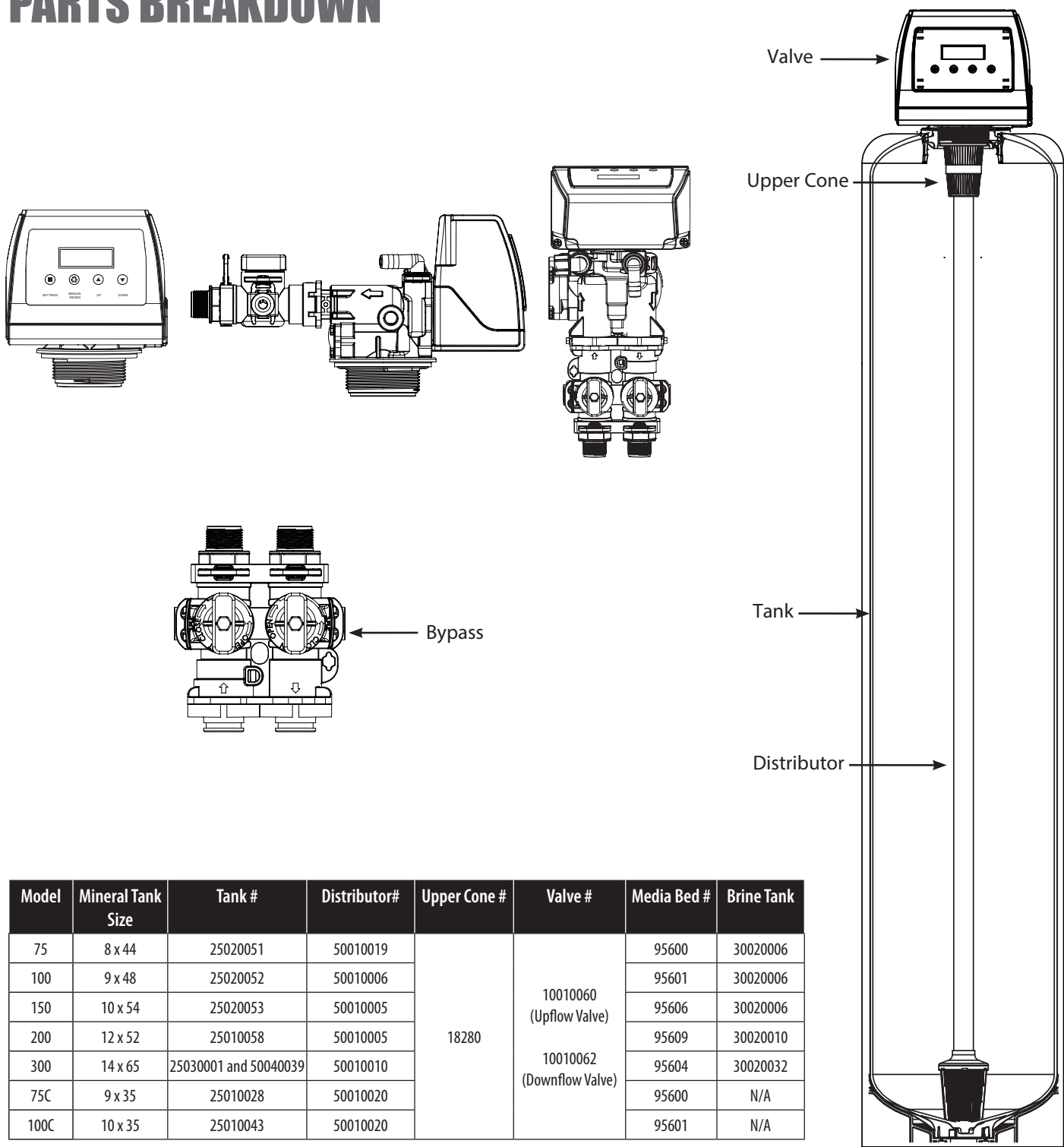
# AFTER SERVICING

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.

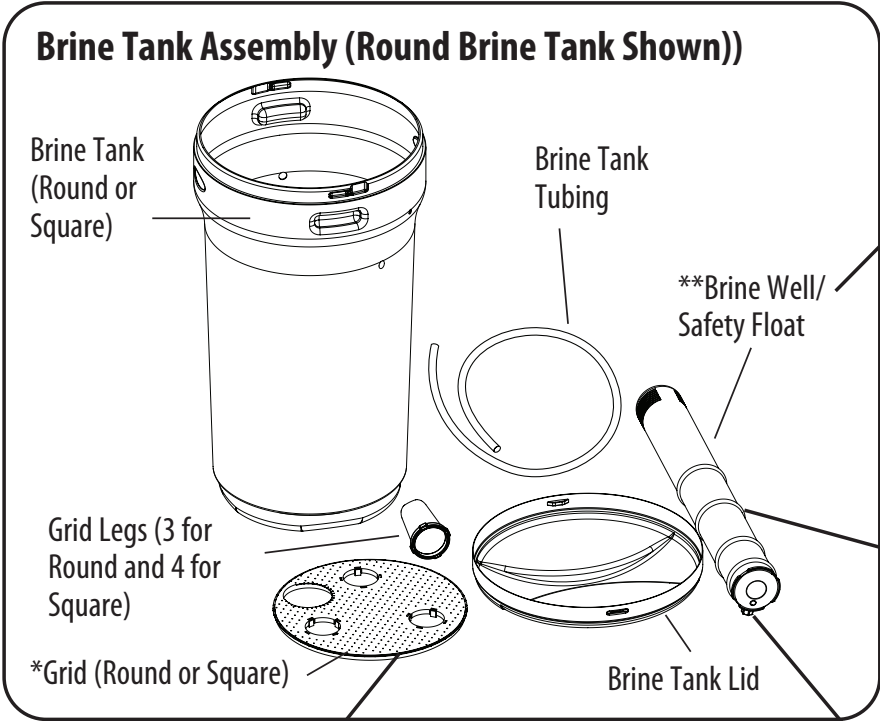
## NOTE

Be sure to shut off any bypass line.

PARTS BREAKDOWN



# PARTS BREAKDOWN

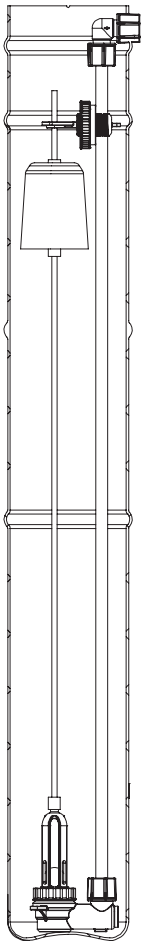


\*GRID  
55010013 - For BTR 100  
55010036 - For BTR145  
55010037 - For BTR 200

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

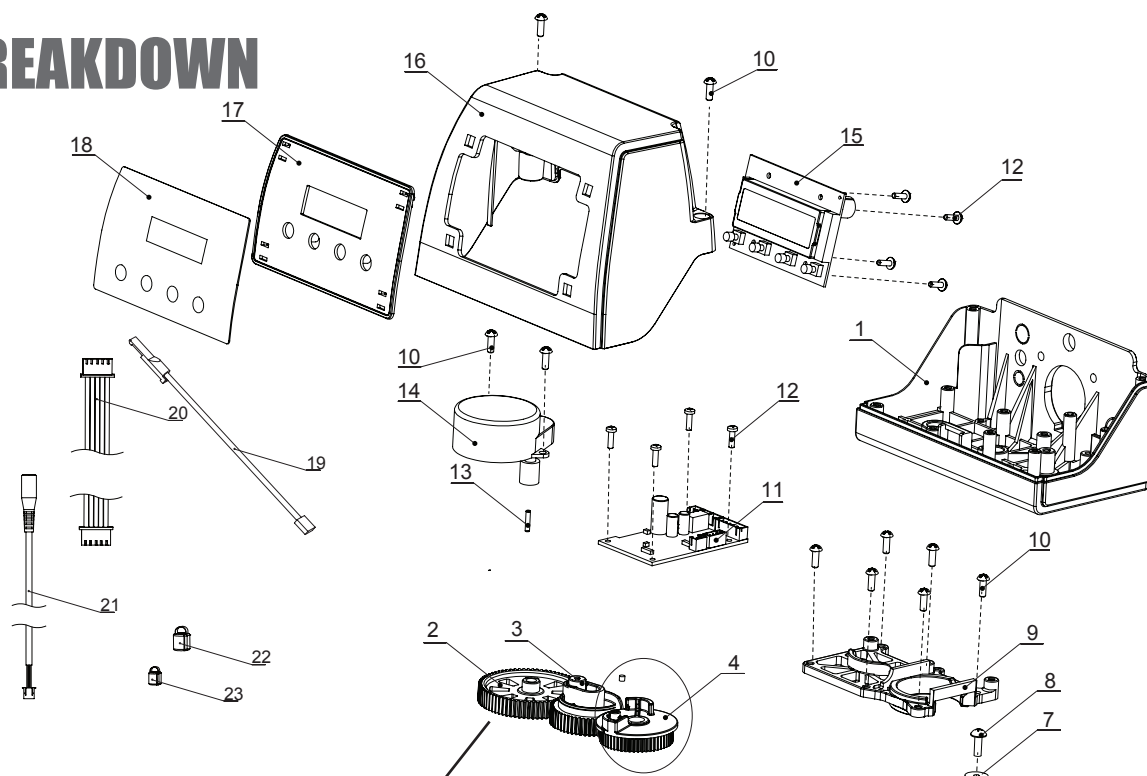
**IMPORTANT:**  
PLEASE ENSURE THE ATTACHED  
TUBE STIFFENER IS INSERTED  
INTO THE BRINE LINE BEFORE  
TIGHTENING  
THE NUT.

60010181 - Tube Stiffener 3/8" PLASTIC  
TUBE INSERT





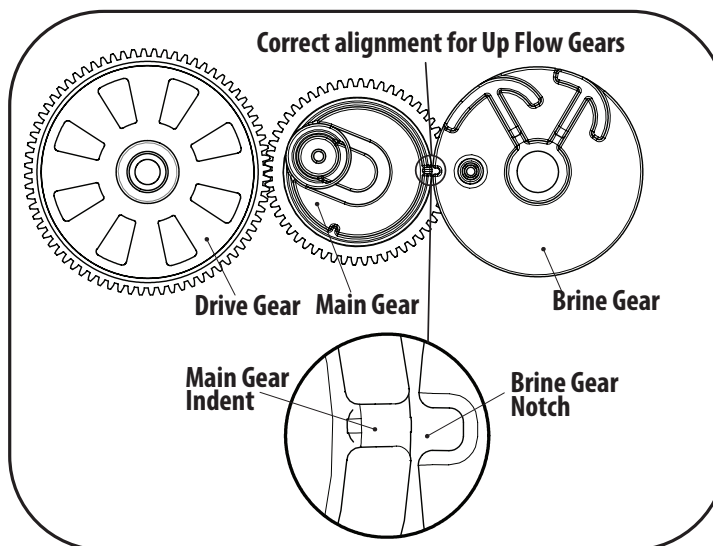
# PARTS BREAKDOWN



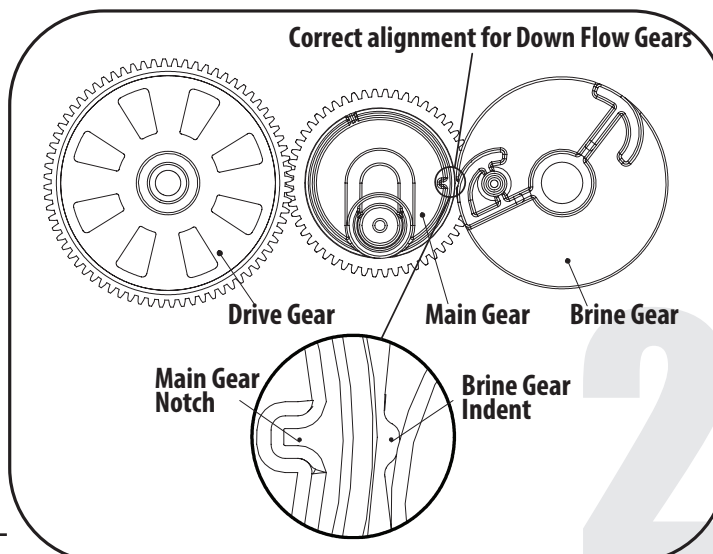
**Power head parts list**

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	60010267	Meter Cable, Grey	1
18	80080164	485HE Face Label	1
17	60095662	Bnt485 Display Plate(White)	1
16	60010309	Bnt485 Housing(White)	1
15	60021979	Bnt85HE Display (After Aug.15, 2019)	1
14	92393	Bnt85 Motor	1
13	60095658	Motor Pin	1
12	60010673	Screw-ST2.9×10	8
11	60021982	Main Pcb, (DF) (After Aug. 15, 2019)	
	60021981	Main Pcb, (UF) (After Aug. 15, 2019)	
10	60010574	Screw-ST3.5×13	10
9	60010573	Bnt85HE Mounting Plate	1
8	60010575	Screw-4.2×12	1
4	60095102	Gear, Brine, 85UF	1
	60095103	Gear, Brine, 85DF	
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	
	60010052	Transformer, 12V	

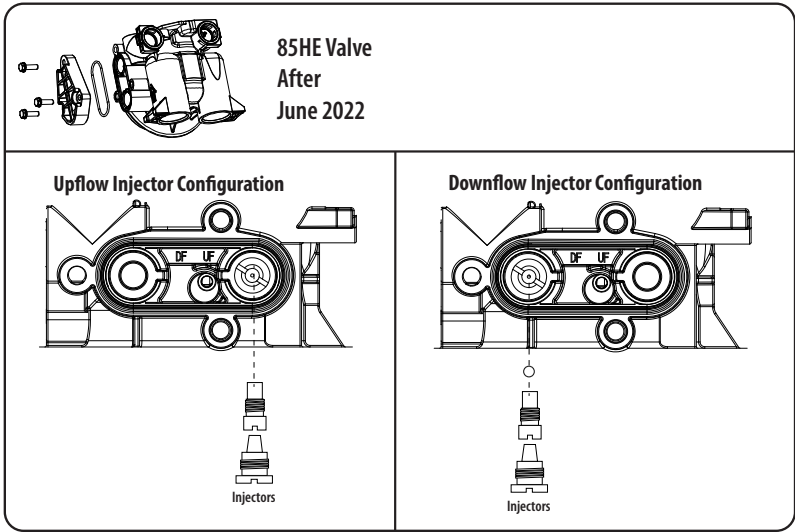
## Upflow Gear Alignment



## Downflow Gear Alignment

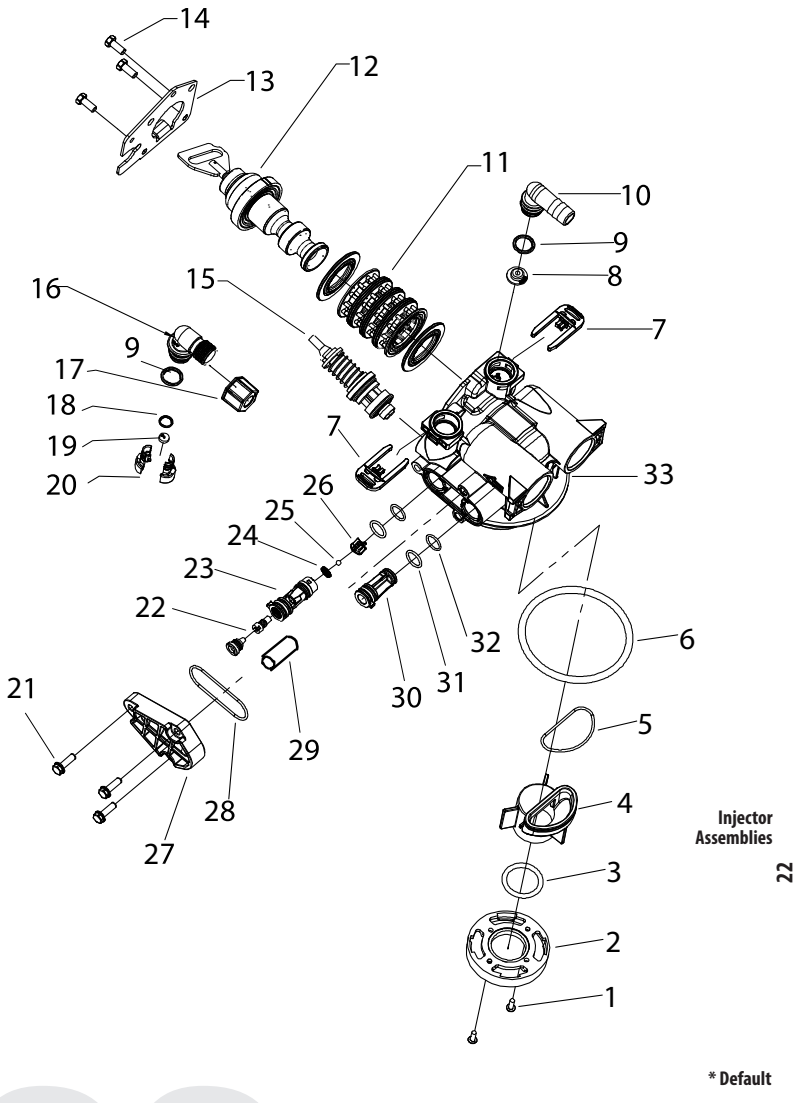


# PARTS BREAKDOWN



## 85 Valve Body Parts List (After June 2022)

No.	Part #	Description	QTY
1	60010099	Screw 2.9x13	2
2	60010599	Valve Bottom Connector	1
3	60010080	O-Ring 25x3.55	1
4	60010598	Adaptor Central Pipe	1
5	60010597	O-Ring 34.5x1.8	1
6	60010077	O-Ring 78.74x5.33	1
7	60010069	Secure Clips	2
8	optional sizes	Drain Line Flow Washer	1
9	60010044	O-Ring 12x2	2
10	60090001	Drain Fitting	1
11	60010409	Seals and Spacers kit	1
12	60010129	Upflow Piston Assembly	1
	60010171	Downflow Piston Assembly	
13	60010645	End Plug Retainer	1
14	60010075	Screw 5x12	3
15	60010417	Brine Valve	1
16	60090004	Brine Line Elbow	1
17	60010184	Nut 3/8 BLFC	1
18	60010188	O-Ring BLFC Holder	1
19	optional sizes	Brine Line Flow Washer	1
20	60010293	Brine Line Flow Washer Holder	1
21	60010419	Screw 5x20	3
22	optional sizes	Injectors	1
23	60010413	Injector Holder	1
24	60010418	Quad Ring Seal	1
25	60010416	Check Ball (Downflow Valve Only)	1
26	60010410	Retainer	1
27	60010411	Injector Cover	1
28	60010414	Gasget Injector Cover	1
29	60010415	Injector Screen	1
30	60010412	Injector Holder Plugged	1
31	60010338	O-Ring 12.42x1.78	2
32	60010186	O-Ring 12.5x1.5	2
33	60095066	Valve Body	1

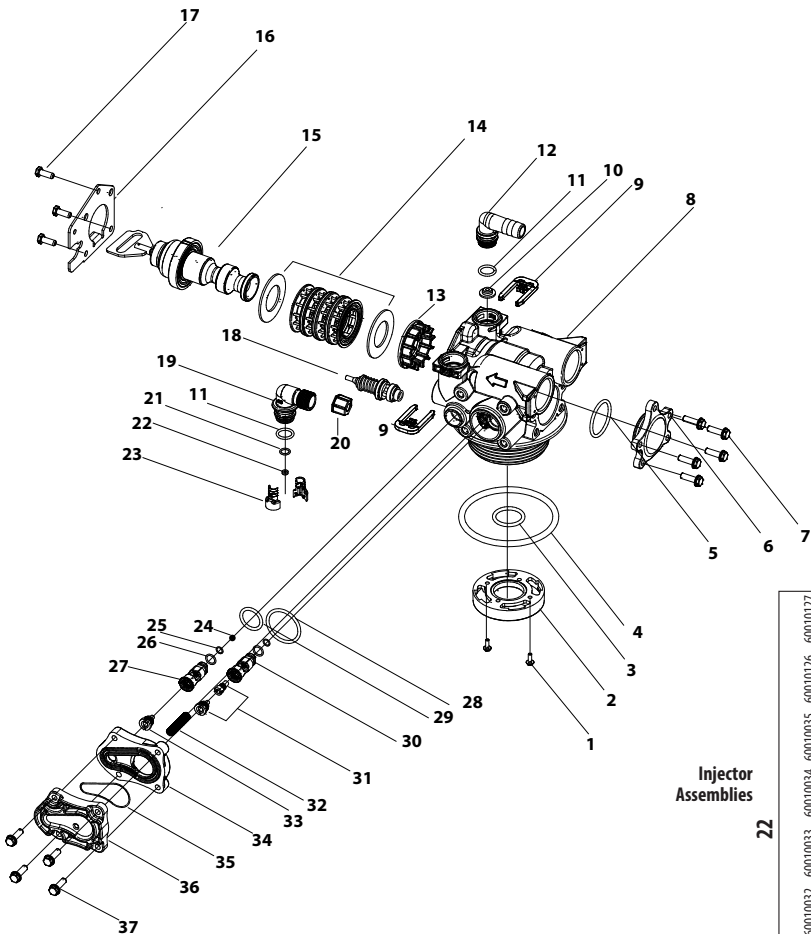
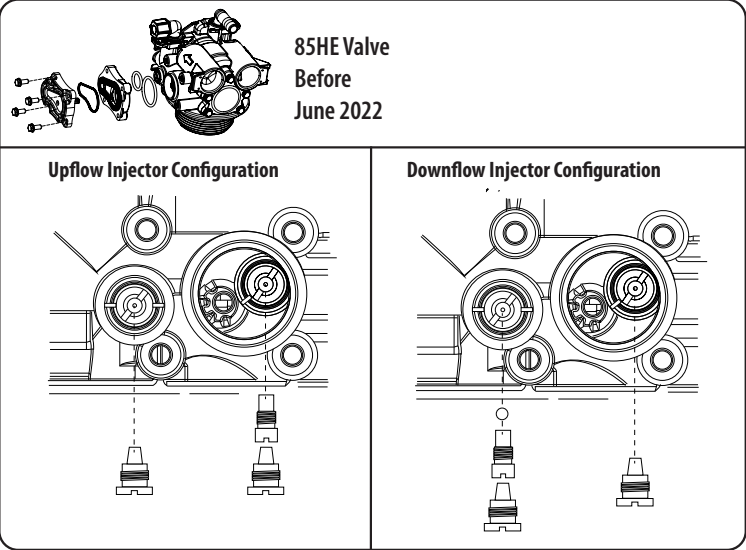


Part #	Part Description
60010601	INJECTOR SET #0000 BLACK THROAT
60010602	NOZZLE #0000 BLACK THROAT
60010603	INJECTOR SET #000 GREY THROAT
60010604	NOZZLE #000 GREY THROAT
60010605	INJECTOR SET #00 VIOLET THROAT
60010606	NOZZLE #00 VIOLET THROAT
60010607	INJECTOR SET #0 RED THROAT
60010608	NOZZLE #0 RED THROAT
60010609*	INJECTOR SET #1 WHITE THROAT
60010610*	NOZZLE #1 WHITE THROAT
60010611	INJECTOR SET #2 BLUE THROAT
60010612	NOZZLE #2 BLUE THROAT
60010613	INJECTOR SET #3 YELLOW THROAT
60010614	NOZZLE #3 YELLOW THROAT
60010685	INJECTOR SET #4 GREEN THROAT
60010686	NOZZLE #4 GREEN THROAT

Part #	Part Description
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
60010110	BLFC BUTTON #2 0.3GPM A32
60010082*	BLFC BUTTON #2 0.7GPM A32
60010128	BLFC BUTTON 0.2GPM

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

# PARTS BREAKDOWN



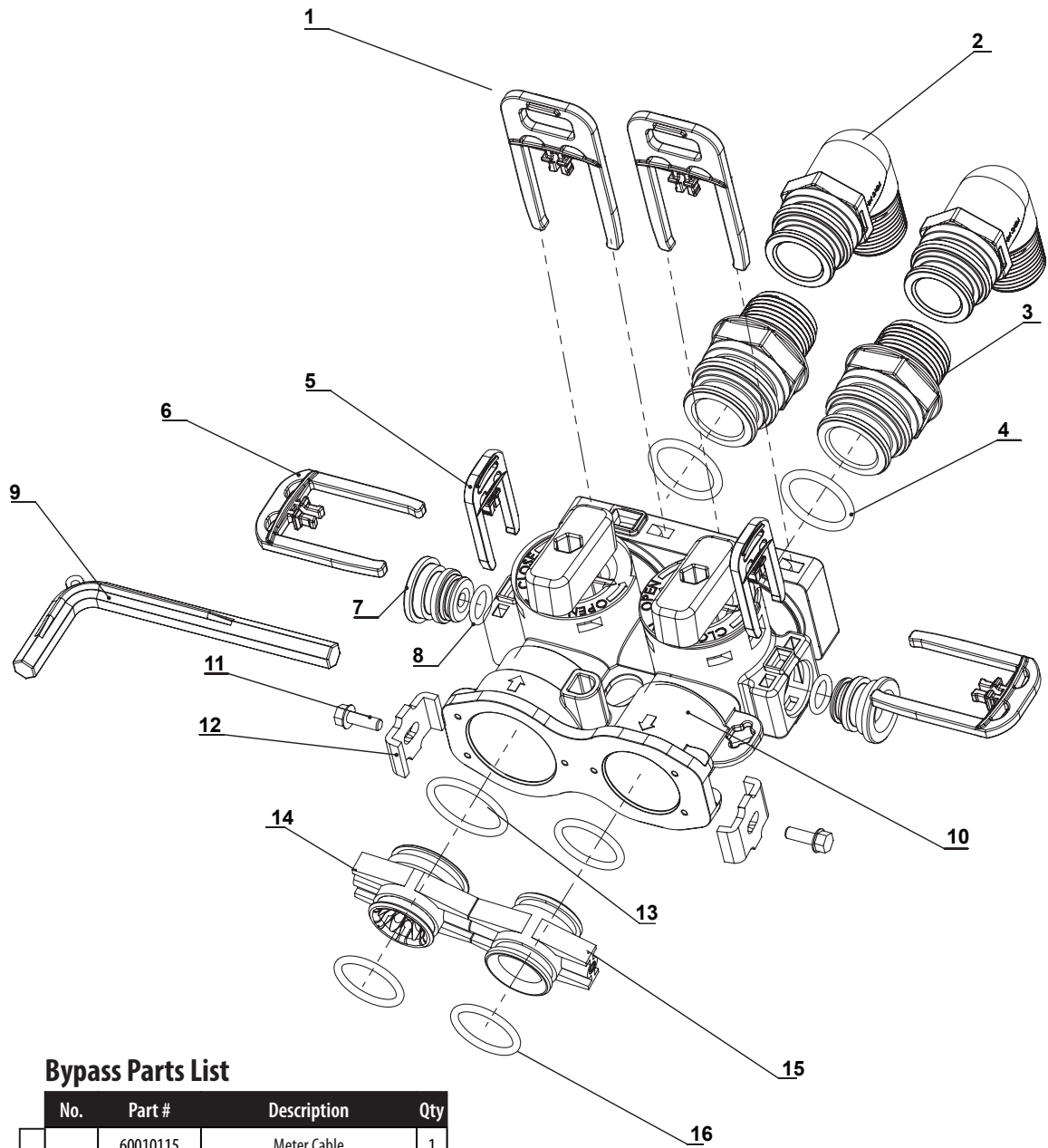
## 85 Valve Body Parts List (Before June 2022)

No.	Part #	Description	Qty
1	60010099	Screw 2.9x13	2
2	60010599	Valve Bottom Connector	1
3	60010080	O-Ring 25x3.55	1
4	60010077	O-Ring 78.74x5.33	1
5	60095614	O-Ring 30x2.65	1
6	60095063	End Cover	1
7	60010596	Screw 5x12	5
8	60095061	Valve Body	1
9	60010069	Secure Clip	2
10	optional sizes	Drain Line Flow Washer	1
11	60010044	O-Ring 12x2	2
12	60090001	Drain Fitting	1
13	60095060	Spacer (Before June 2022 Only)	1
14	60010409	Seals and Spacers kit	1
15	60010129	Upflow Piston Assembly	1
	60010171	Downflow Piston Assembly	
16	60010645	End Plug Retainer	1
17	60010075	Screw 5x12	3
18	60010417	Brine Valve	1
19	60090004	Brine Line Elbow	1
20	60010184	Nut 3/8 BLFC	1
21	60010188	O-Ring BLFC Holder	1
22	optional sizes	Brine Line Flow Washer	1
23	60010293	Brine Line Flow Washer Holder	1
24	60010191	Check Ball (Downflow Valve Only)	1
25	60010187	O-Ring 8x1.5	2
26	60010186	O-Ring 12.5x1.5	2
27	60010175	Injector Plug Body	1
28	60010190	O-Ring 32x3	1
29	60010189	O-Ring 18x3	1
30	60010174	Injector Fixed Sleeve	1
31	optional sizes	Injectors	1
32	60010192	Injector Screen	1
33	60095076	Injector Plug	1
34	60010193	Injector Cover Body	1
35	60010195	O-Ring 40x2.65	1
36	60010194	Injector Cover Cap	1
37	60010196	Screw 5x25	4

Part #	Part Description
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
60010613	INJECTOR SET #3 YELLOW THROAT
60010614	NOZZLE #3 YELLOW THROAT
60010685	INJECTOR SET #4 GREEN THROAT
60010686	NOZZLE #4 GREEN THROAT

Part #	Part Description
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
60010110	BLFC BUTTON #2 0.3GPM A32
60010082*	BLFC BUTTON #2 0.7GPM A32
60010128	BLFC BUTTON 0.2GPM

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

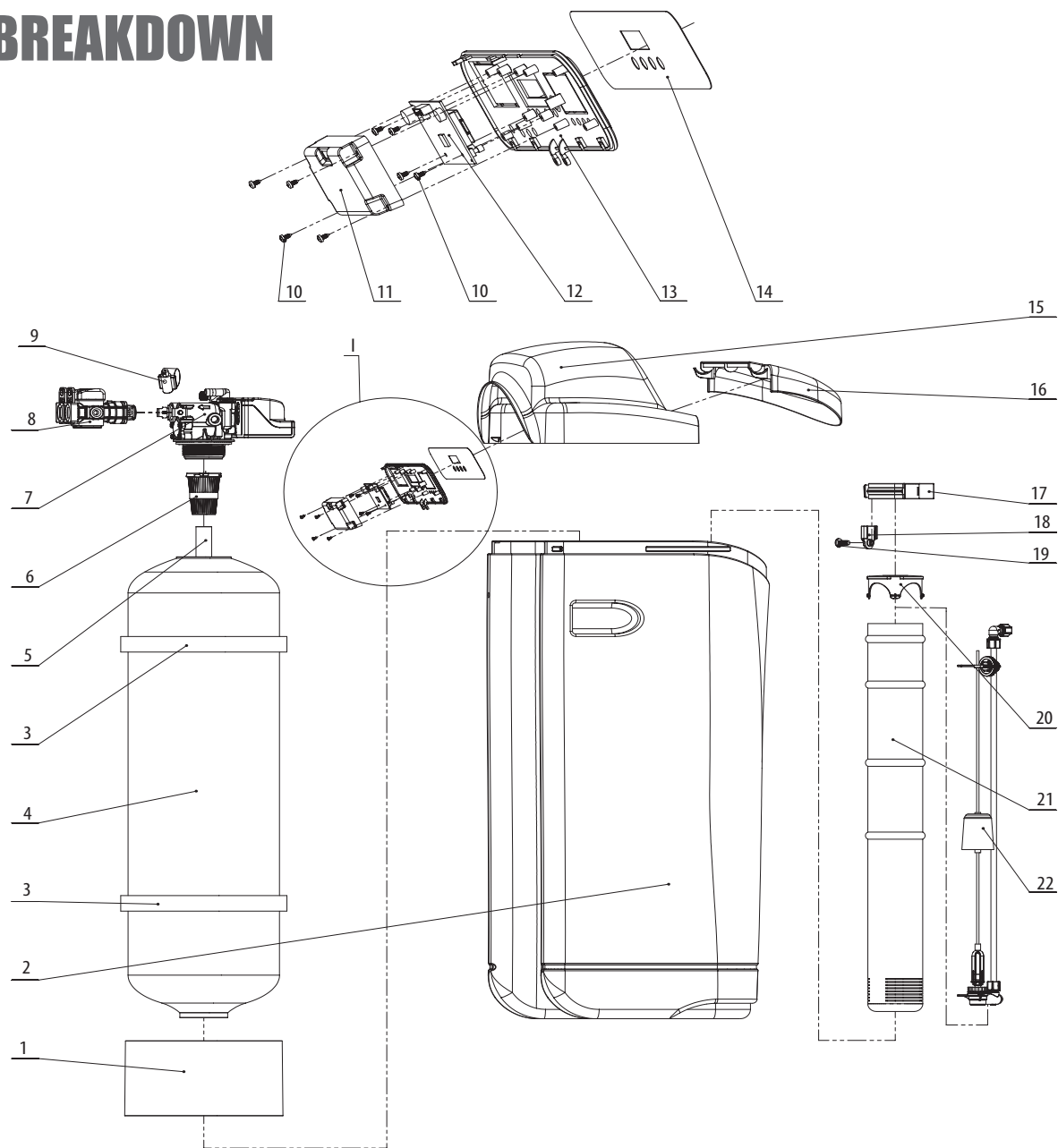


### Bypass Parts List

No.	Part #	Description	Qty
	60010115	Meter Cable	1
16	60010562	Small O-ring on Connector(Outlet)	3
15	60010079	Valve-Bypass Connector(Inlet)	1
14	60010101	Valve-Bypass Connector(Outlet)	1
13	60010561	Big O-ring on Connector(Outlet)	1
12	60010046	SS Clip	2
11	60010701	Screw on SS Clip	2
10		063 Bypass Body	1
9	60010006	Bypass Tool	1
8	60010044	O-ring on Plug	2
7	60010209	Bypass Plug	2
6	60095090	Shaft Clip	2
5	92846	Plug Clip	2
4	60010026	O-ring on Inlet and Outlet	2
3	60010019	Straight 1" NPT Inlet and Outlet	2
2	60010023	Elbow 3/4" NPT Inlet and Outlet	2
1	60010025	Secure Clip Inlet and Outlet	2

60095101

# PARTS BREAKDOWN



## 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, 18 & 17	55010022	KIT, CLIP, BRINE WELL	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
10		SCREW 2.9x6.5	10
9	302171	DRAIN LINE CLAMP	1
8	60095097-1	CANATURE BYPASS VALVE C/W METER	1
7	10010061	CONTROL VALVE ASSEMBLY(CS5)	1

No.	Part #	Description	Qty
6	18280	TOP CONE	1
5	50010020	D-TUBE(35")	1
4	25010028	PRESSURE TANK 0935(WITHOUT MEDIA)	1
	25010043	PRESSURE TANK 1035(WITHOUT MEDIA)	
3		PRESSURE TANK PROTECTION 9"	2
		PRESSURE TANK PROTECTION 10"	
2	N/A	TANK ASSY CSSH-935	1
	N/A	TANK ASSY CSSH-1035	1
1	50010011	9" TANK BASE	1
	50010013	10" TANK BASE	

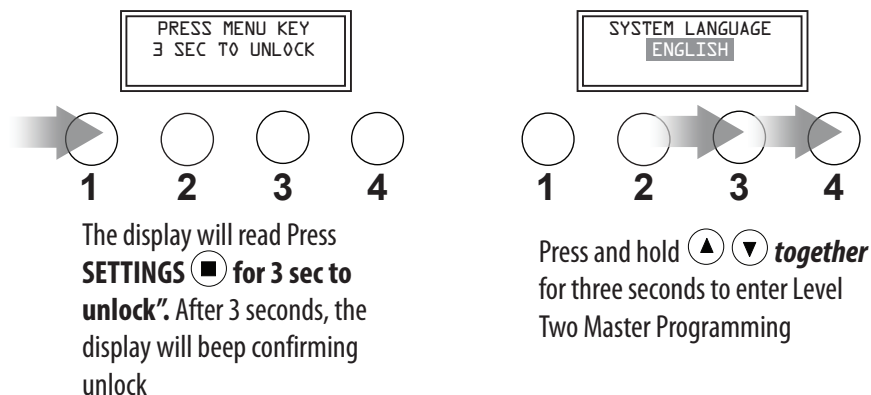
## LEVEL 2 PROGRAMMING (OPTIONAL SETTINGS):

**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.



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

- Press the **MANUAL REGEN** [recycle icon] key button and the value flashes
- Press the **UP** [up arrow icon] or **DOWN** [down arrow icon] keys to change the value
- Press the **MANUAL REGEN** [recycle icon] again to accept value
- Press the **DOWN** [down arrow icon] key to advance to the next value



# MASTER PROGRAMMING

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

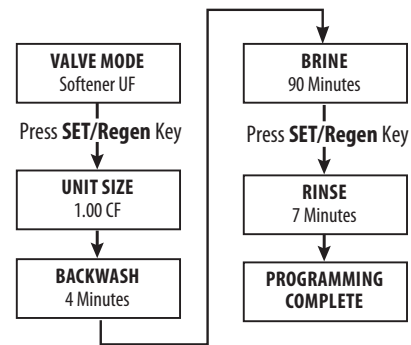
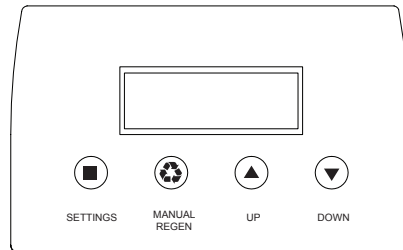
Press **MANUAL REGEN** Button and change value using **Up** and **Down** Buttons

## 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%.

## SMART CLEAN

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.

## 85UF Upflow Softener Programming

[illegible]









