



WATER CONDITIONING APPLIANCE



60 SERIES

OWNER'S MANUAL AND INSTALLATION GUIDE

VERSION 5.2

25 Year Limited Warranty

TO PLACE THIS EQUIPMENT UNDER WARRANTY, THE WARRANTY REGISTRATION CARD MUST BE COMPLETED AND RETURNED BY THE ORIGINAL OWNER TO HAGUE QUALITY WATER INTERNATIONAL WITHIN 30 DAYS OF INSTALLATION.

Coverage

This warranty covers the Hague WaterMax® Appliance delivered to the original owner when the appliance is purchased for personal, family, or household use. It is intended to cover defects occurring in workmanship or materials or both.

Warrantor's Performance and Length of Warranty

Hague Quality Water International warrants that upon receipt from the owner of any Hague Media Tank, Brine Tank, Valve Body, or the fine mesh polystyrene resin found to be defective in material or workmanship, Hague will repair or replace the defective item, at no charge for that item, for 25 YEARS from date of installation.

Hague Quality Water International further warrants that upon receipt from the owner of any other mechanical or electronic parts, which are found to be defective in material or workmanship, Hague will repair or replace the defective parts, at no charge for those parts for 3 YEARS from date of installation; and thereafter will repair or replace the defective parts only upon receipt of payment by the owner of the defective parts of the following percentages of the then current list prices for the parts:

Number of Years From Installation Date	% Owner Pays for Repair/Replacement of Parts
3-4 Years	50%
4-5	55
5-6	60
6-7	65
7-8	70
8-9	75
9-10	80
10+	100

All defective parts must be returned, along with the equipment serial number and date of original installation, to an authorized Hague dealer of Hague Quality Water International PREPAID, and replacement parts will be returned by Hague to the owner FREIGHT COLLECT.

Further Exclusions and Limitations on Warranty:

This warranty is null and void unless the Hague Appliance was purchased from an independent Hague dealer. **THERE ARE NO WARRANTIES OTHER THAN THOSE DESCRIBED IN THIS WARRANTY INSTRUMENT.**

This warranty does not cover any service call or labor costs incurred with respect to the removal and replacement of any defective part or parts. Hague Quality Water International will not be liable for, nor will it pay service call or labor charges incurred or expended with respect to this warranty.

In the event the water supply being processed through this product contains sand, bacterial iron, algae, sulfur, tannins, organic matter, or other unusual substances, then unless the appliance is represented as being capable of handling these substances in the appliance specifications, other special treatment of the water supply must be used to remove these substances before they enter this product. Otherwise, Hague Quality Water International shall have no obligations under this warranty.

This warranty does not cover damage to a part or parts of the appliance from causes such as fire, accidents, freezing, or unreasonable use, abuse, or neglect by the owner.

This warranty does not cover damage to a part or parts of the appliance resulting from improper installation. All plumbing and electrical connections should be made in accordance with all local codes and the installation instructions provided with the appliance. The warranty does not cover damage resulting from use with inadequate or defective plumbing; inadequate or defective water supply or pressure; inadequate or defective house wiring; improper voltage, electrical service, or electrical connections; or violation of applicable building, plumbing, or electrical codes, laws, ordinances, or regulations.

THIS WARRANTY DOES NOT COVER INCIDENTAL, CONSEQUENTIAL OR SECONDARY DAMAGES.

ANY IMPLIED WARRANTIES ON THE PRODUCT DESCRIBED IN THIS WARRANTY WILL NOT BE EFFECTIVE AFTER THE EXPIRATION OF THIS WARRANTY.

No dealer, agent, representative or other person is authorized to extend or expand this limited warranty.

Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusion may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

Claims Procedure

Any defects covered by this warranty should be promptly reported to Hague Quality Water International at 4343 South Hamilton Road, Groveport, Ohio 43125. In writing about the defects, please provide the original owner's name, telephone number, and original address; serial number and model number of the product; date of purchase; and name of dealer from whom purchased. Hague Quality Water International reserves the right to replace defective parts with exact duplicates or their equivalent.

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General Information

Congratulations on choosing a superior Hague water treatment appliance! Soon you and your family will be enjoying clean, clear water. Use this guide to attain the maximum benefit from your appliance. As an owner, you may find the first few pages to be the most helpful in solving your needs. If you have trouble with the operation of your appliance, see Troubleshooting in the back of this manual or contact your independent Hague dealer.

Completely fill out the Warranty Card and return it by mail to ensure that the appliance is registered with the factory and the warranty becomes validated.

Warning: This appliance must be applied to potable water only. It is recommended that an independent Hague dealer install and maintain this appliance.

Note: The manufacturer reserves the right to make specification and product changes without prior notice.

This manual is for installation, operation, and maintenance of the following **WaterMax®** water conditioning appliance models:

- 63MAQ*
- 63BEQ*
- 63MXQ*
- 63MDQ
- 62AMQ*
- 62APQ*
- 62AKQ
- 62AJQ
- 61AAN

*Tested by WQA

If your specific model is not listed here, your **WaterMax®** has been customized to solve additional water conditioning problems that you may have. Your dealer will be happy to explain any additional special features.

Note: For Model 62AJQ, be sure to read 62AJQ Replenishment Procedure. For Model 61AAN, be sure to read 61AAN WaterMax® Iron Filter Sizing Operation and Iron Filter and Potassium Feeder Installation Guide.

For Owner's Reference

Date of Installation: _____

Model Number: _____

Serial Number¹: _____

Installer's Signature: _____

Dealership Name: _____

Dealership Address: _____

Dealership Phone Number: _____

Returned Warranty Card Date: _____

Hardness: _____

Iron: _____

pH: _____

Water Pressure: _____

Water Temp: _____

¹ The serial number is located on the left front support panel.



Getting Maximum Efficiency From the Appliance

To achieve the maximum benefit and performance from this appliance, familiarize yourself with this manual and the appliance.

1. The salt level should always be at least 1/3 full. Refill the salt when the level drops below the water level in the brine cabinet. A resin cleaner can be used on a monthly basis. A clean pellet, solar, or cube-type salt is recommended. Do not use rock salt.
Caution: Do not mix different types of salt.
2. You may use a salt substitute (such as potassium chloride) in place of water conditioner salt. A Hague dealer should be contacted before a switch is made to a salt substitute. If potassium chloride is used in place of salt, the technician should select the potassium option during the programming of the controller. See Service Settings.
Caution: Do not use potassium chloride if there is iron and/or manganese in the water.
3. Program the appliance to regenerate at a time when the water is not being used. If there is more than one appliance, allow two hours between each regeneration.
4. If dirt, sand, or large particles are present in the water supply, the appropriate Hague filter can eliminate this problem. See WaterMax® Filter Specifications.
5. The appliance may be disinfected with 5.25% sodium hypochlorite, which is the active ingredient in household chlorine bleach. To disinfect the appliance, add 4.0 fluid ounces of chlorine bleach solution to the brine well of the brine tank. The brine tank should have water in it. Start a manual regeneration.
6. Protect the appliance, including the drain line, from freezing.
7. The bypass valve (located on the main control valve) enables you to bypass the appliance if any work is being performed on the appliance, well pump, or plumbing. See Bypass Valve. Use it also for watering plants or lawns with untreated water. To bypass, turn the blue cone-shaped knob counterclockwise until it stops; turn it clockwise to restore service.
8. Before putting the appliance back in service after work has been performed, turn on the nearest cold water tap until water runs clear.
9. Adhere to all operational, maintenance, and placement requirements.
10. Inspect and clean the brine tank and air check/draw tube assembly annually or when sediment is present in the brine tank.
11. Potassium permanganate will need to be added periodically to any iron filter.

Six-Button Controller

This appliance features a six-button controller with an LCD display. The controller can be used to view the appliance's status, perform regenerations, and change settings. An independent Hague dealer should set the Service Settings during installation of the appliance.

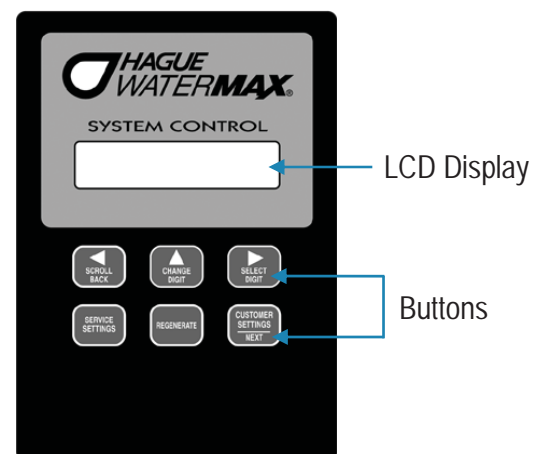


Figure 1: Six-Button Controller

Six-Button Controller, Cont.

Controller Part	Function
LCD Display	Shows the status of the controller
Normal Operating Mode	Shows <ul style="list-style-type: none"> • The amount of soft water remaining until the next automatic regeneration (Each person in the household uses about 75 gallons per day) • The number of days until the next regeneration (Mode 1) • The current day and time and the flow rate in gallons (or liters) per minute • The time of the next scheduled regeneration (If the Regenerate button has been pressed and released)
Customer Setting Mode	Includes setting the time of day, the regeneration time, and the number of people in the household; depending on the service settings, this option may not be available
Service Settings Mode	Includes settings such as the language, mode, water hardness, and time of each regeneration step. Service Settings must be set before Customer Settings. Otherwise, some values may not be available. Intended for use by qualified service personnel
Water Flowing Indicator	Indicates that water is flowing through the appliance; useful for checking for proper plumbing and leaks
Recharge/Regeneration Status	Shows regeneration cycle positions during regeneration
Scroll Back Button	Steps back to a previous parameter setting without the need to scroll forward through all settings
Change Digit Button	Used with the Select Digit button to set the value of certain parameters. Pressing the Change Digit button changes the value under the cursor to the next available value, typically increasing by one until all values have been displayed and the process begins again
Select Digit Button	Moves the cursor when setting parameters <ol style="list-style-type: none"> 1. Press and release the Select Digit button to move the cursor one digit to the right of the parameter to be changed 2. When the cursor is at the extreme right position, press the Select Digit button again to reset the cursor to the extreme left position
Service Settings Button	Enters the Service Setting programming mode—for use by Hague dealer. See Service Settings
Regenerate Button	Used to start an immediate regeneration
Customer Settings/Next Button	Enters the Customer Setting programming mode. See Customer Settings

Customer Settings

Service Settings must be set before Customer Settings; Service Settings should be set during installation of the appliance.

To set Customer Settings, press and hold the Customer Settings button for about three seconds while "Customer Setting" displays. Release the button when "Set Time" displays.

Note: If a value displayed on the LCD is correct, press Next to move on to the next programmable value.

Step 1 *Set Time of Day*

Display reads "Set Time" followed by the current time that is set; the cursor will be under the second hours digit.

To Change the Time of Day

- A. Press Change Digit repeatedly until the current hour is displayed.
- B. Press Select Digit to set the hour and move the cursor to the right.
- C. Do the same to set the minutes. Select AM or PM. When the desired time is displayed, press Next.

Step 2 *Set Regeneration Time*

Display reads "Regeneration Time" followed by the current regeneration time that is set; the cursor will be under the second hours digit.

To Change the Regeneration Time

- A. Follow the procedure outlined above for setting the time.
- B. When the desired regeneration time is displayed, press Next.

Step 3 *Set Number of People*

Display reads "Number of People" followed by the current setting for the number of people in the household; the cursor will be under the tens digit.

To Change the Number of People

- A. Press Change Digit repeatedly until the desired value is displayed; values will cycle from 0 to 9.
- B. Press Select Digit and the cursor moves to the right.
- C. When the desired number of people is displayed, press Next.

Step 4 *Set Day of Week*

Display reads "Set Day of Week" followed by the current setting for the day.

To Change the Day

- A. Press Change Digit repeatedly until the desired day is displayed. Press Next.
- B. The value is saved and the controller returns to Normal operating mode.

Note: Whenever you experience an electrical outage, check your controller for the correct time and date. Make any necessary corrections.



Checklist Before Installation

Refer to this checklist before each installation.

- Water Quality**—If the water supply contains sand, sulfur, bacteria, iron bacteria, tannins, algae, oil, acid, or other unusual substances, consider pre-treating the water to remove these contaminants before the water supply enters the appliance, unless the appliance is represented as being capable of treating these contaminants in its specifications.

The appropriate WaterMax® Water Filter can address these water shortcomings. See WaterMax® Filter Specifications for details on each filter.

- Iron**—A common problem found in many water supplies is iron. It is important to know what type of and how much iron is in the water supply.

Iron Type	Description
Ferrous Iron* (sometimes called clear water or dissolved iron)	Only type of iron that can be treated with a water softener
Ferric Iron	Insoluble and the particles can eventually foul a resin bed. It should be filtered out before the water reaches the softener
Organic Iron or Bacterial Iron	Attached to other organic compounds in the water. Additional treatment is needed to remove this type of iron
Colloidal Iron	Not dissolved, yet stays in suspension. A softener cannot remove this type of iron

* If the water supply contains ferrous iron, a commercially available resin bed cleaner should be used every six months.

- Water Pressure**—Not less than 20 psi or greater than 120 psi (1.4–8.4 bar) constant. If water pressure exceeds 70 psi, a pressure regulator is recommended.
- Water Supply Flow Rate**—A minimum of 3 gallons per minute or equal to the backwash flow rate of the particular model is recommended. For the purposes of plumbing sizing, only the rated service flow rate and corresponding pressure loss may be used. Prolonged operation of a water conditioner at flow rates exceeding the tested service flow rate may compromise performance.
- Water Temperature**—Not less than 40° or greater than 120°F (6°–49°C).
- Drain**—Drain the appliance to an appropriate drain, such as a floor drain or washer drain that will comply with all local and state plumbing codes. To prevent back-siphoning, provide an adequate air gap or a siphon break. See Installation Steps and Start-Up Procedures.
- Electricity**—The transformer supplied is for a standard 115 volt, 60-cycle AC outlet for locations in North America or 220 volt, 50-cycle AC outlet for locations outside North America.



Precautions

Do

1. Comply with all state and local, building, plumbing, and electrical codes.
2. Install the appliance before the water heater.
3. Install the appliance after the pressure tank on well-water installations.
4. Install a pressure-reducing valve if the inlet pressure exceeds 70 psi.
5. Install a gravity drain on the cabinets.
6. Secure the drain line on the appliance and at the drain outlet. See Installation Steps and Start-Up Procedures.
7. Allow a minimum of 8 to 10 feet of 3/4" pipe from the outlet of the appliance to the inlet of the water heater.

Do Not

1. Do not install if checklist items are not satisfactory. See Checklist Before Installation.
2. Do not install if the incoming or outlet piping water temperature exceeds 120°F (49°C). See Specifications.
3. Do not allow soldering torch heat to be transferred to valve components or plastic parts.
4. Do not overtighten the plastic fittings.
5. Do not plumb the appliance against a wall that would prohibit access to plumbing. See Installation Steps and Start-Up Procedures.
6. Do not install the appliance backward. Follow the arrows on the inlet and outlet.
7. Do not plug the transformer into an outlet that is activated by an On/Off switch.
8. Do not connect the drain and the overflow (gravity drain) together.
9. Do not use to treat water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the appliance.
10. Do not allow your appliance to freeze.

Note: A bacteriostasis claim does not mean that these devices will make microbiologically unsafe water safe to consume or use.



Installation Steps and Start-Up Procedures

Step 1 *Prepare the Placement Area*

- A. Make sure the placement area is clean.
- B. Turn off the electricity and water supply to the water heater. For gas water heaters, turn the gas cock to "Pilot."
- C. Examine the inlet plumbing to ensure that the pipe is not plugged with lime, iron, or any other substance. Clean or replace plugged plumbing.
- D. Make sure the inlet/outlet and drain connections meet the applicable state and local codes.
- E. Check the arrows on the bypass valve to ensure that the water flows in the proper direction. See Bypass Valve.

Caution: Do not plumb the appliance in backward.

- F. Place the appliance in the desired location using Figure 2 as a guide.
- G. For most installations, install the appliance after the pressure tank and any water filter appliance or water meter and before the water heater unless otherwise recommended. When installing a carbon filter for well water, place the filter after any water conditioning appliance unless otherwise recommended.

Caution: If less than 10' of pipe connects the water treatment appliance(s) to the water heater, install a check valve between the water treatment appliance and the water heater as close to the water heater as possible. Ensure that the water heater has an adequately rated temperature and pressure safety relief valve.

- H. For outside installations, the appliance should be enclosed so it is protected from the weather.

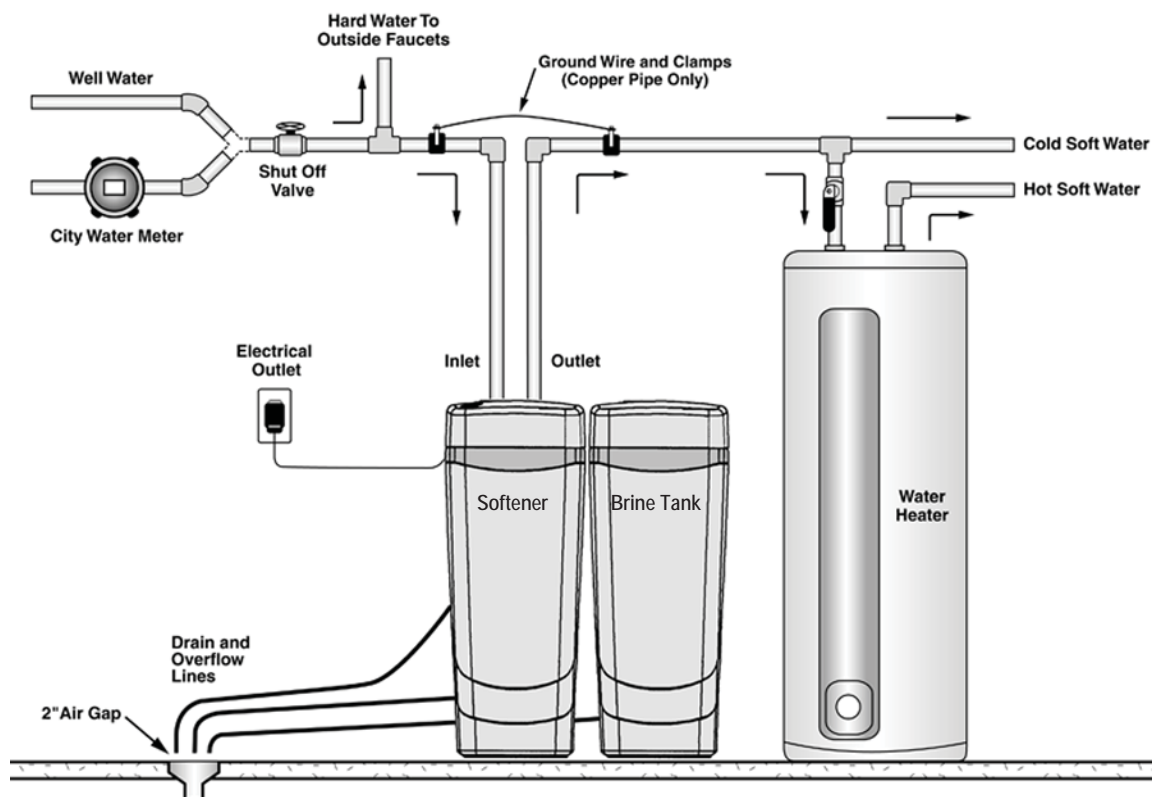


Figure 2: Appliance Placement

Installation Steps and Start-Up Procedures, Cont.

Step 2 *Turn Off Water Supply*

- A. Turn off the water supply.
- B. Open the hot and cold water taps to depressurize the lines.

Step 3 *Connect Water Lines*

- A. Connect water lines in compliance with all state and local, building, plumbing, and electrical codes.

Step 4 *Connect the Brine Tank*

- A. Connect the brine tank to the valve head with the flexible 3/8" plastic tube included with the appliance. Insert the plastic insert in the end of the brine tube. See Figure 18.

Step 5 *Connect Gravity Overflow Connections*

- A. The overflow elbows on each cabinet are shipped in the up position. Rotate the overflow elbows to the down position.
- B. Connect the overflow lines to each cabinet. The overflow line drains excess water to a floor drain should the tank fill with too much water or the appliance malfunctions.
- C. Connect 1/2" I.D. tubing (size cannot be reduced) between the overflow fitting and a suitable waste receptor. This tubing is not supplied with the appliance. Ensure that the overflow line ends at a drain that is at least 3" lower than the bottom of the overflow fitting. The gravity line cannot be run overhead.

Step 6 *Connect Drain Line*

- A. Connect the drain line to the drain end cap with a tube fitting (not supplied). The drain line must be a minimum of 1/2" I.D. tubing.
- B. Route the drain line to a floor drain, laundry tub, or other suitable waste receptor. Maintain a minimum 2" air gap between the drain line and the flood level rim of the waste receptor to prevent back-siphoning. This drain line should make the shortest run to the suitable drain.
- C. The drain line may be elevated up to 8 feet from the discharge on the appliance as long as the water pressure in your system is 40 psi or more.
- D. If the drain line is 25 feet or longer, increase the drain line to 3/4-inch I.D. The end of the drain line must be equal to or lower in height than the control valve.
Caution: The drain line must not be kinked, crimped, or restricted in any way.

Step 7 *Flush Lines*

- A. Place the appliance in the bypass position and turn on the main water supply.
- B. Open the nearest cold water faucet to flush the plumbing of any excess soldering flux, air, or any other foreign material.

Installation Steps and Start-Up Procedures, Cont.

Step 8

Check for Leaks

- A. Close all faucets.
- B. Check all lines and connections for leaks. If leaks are found:
 1. Turn off the main water supply.
 2. Open a cold water faucet to depressurize the lines.
 3. Close the faucet to eliminate any siphoning action.
 4. Repair all leaks.
 5. Turn on the water supply.
 6. Place the bypass in the "Service" position to slowly fill the appliance.
 7. Open a cold water faucet to purge air out of the appliance.
 8. Close the faucet and recheck for leaks.

Step 9

Plug in the Transformer

- A. Connect the transformer power cord to the back of the controller.
- B. Plug the transformer into an appropriate outlet.
- C. Ensure that the outlet selected is not operated by an On/Off switch.

Step 10

Set Up the Controller

- A. Program the appliance controller. See Setting and Using the Controller.

Step 11

Add Water to the Brine Tank

- A. Add water to the brine tank to a minimum of 2" above the grid plate. After the first regeneration, the appliance will automatically refill the correct amount of water into the brine tank.
- B. Ensure that the salt dosage is set as recommended for the application.
- C. Initiate a manual regeneration (see Setting and Using the Controller) and inspect for proper operation. Allow the appliance to draw all the water out of the brine cabinet until the air check/draw tube sets.
- D. Press the Regenerate button to advance to the Brine Refill position. Let the tank fill with the proper amount of water. The controller will then step the valve to the Home position.
Note: This initial startup is the only time you will add water to the brine tank. Do not add water at any other time.

Step 12

Fill the Brine Tank With Salt

- A. Fill the brine tank with salt. Use clean, white pellet or solar salt. Do not mix pellet with solar salt.
Note: Always keep the salt level above the water level. For convenience, completely fill the tank when refilling with salt.
- B. After you add salt, including adding it after the tank has run out of salt, wait two hours for saturated brine before starting any regeneration.
Caution: Use of potassium chloride when iron and/or manganese are present in the raw water supply is not recommended.



Installation Steps and Start-Up Procedures, Cont.

Step 13 *Complete the Installation*

- A. Open the inlet valve and turn on the electricity to the water heater. For gas water heaters, return the gas cock to "On."
- B. Open a cold water tap and allow the appliance to flush for 20 minutes or until approximately 72 gallons have passed through the appliance. This procedure is required to meet NSF compliance. Verify the flow rate on the controller, which indicates water flow. See Figure 1.
- C. Ensure that the bypass is left in the "Service" position. See Bypass Valve.
- D. Adjust the blending valve if it is being used. See Blending Valve.
- E. Test the water at the test port to verify soft water.
- F. Place the covers on both of the cabinets.

Bypass Valve

The bypass valve can isolate the appliance should the appliance malfunction or leak. It can also permit the use of untreated water for watering plants, shrubs, or lawns.

The bypass is located on the main control valve. See Figure 3. To engage the bypass, locate the blue cone-shaped knob on the right-hand side (facing the front of the appliance), behind the controller. Turn the knob counterclockwise until it stops. Do not overtighten. The appliance will be bypassed and all water to the home is raw, untreated water. To prevent untreated water from entering the home, water should not be used inside the home when the appliance is in bypass mode. Ensure that the appliance is returned to service mode when the appliance is repaired or the use of untreated water is complete by turning the knob clockwise until it stops.

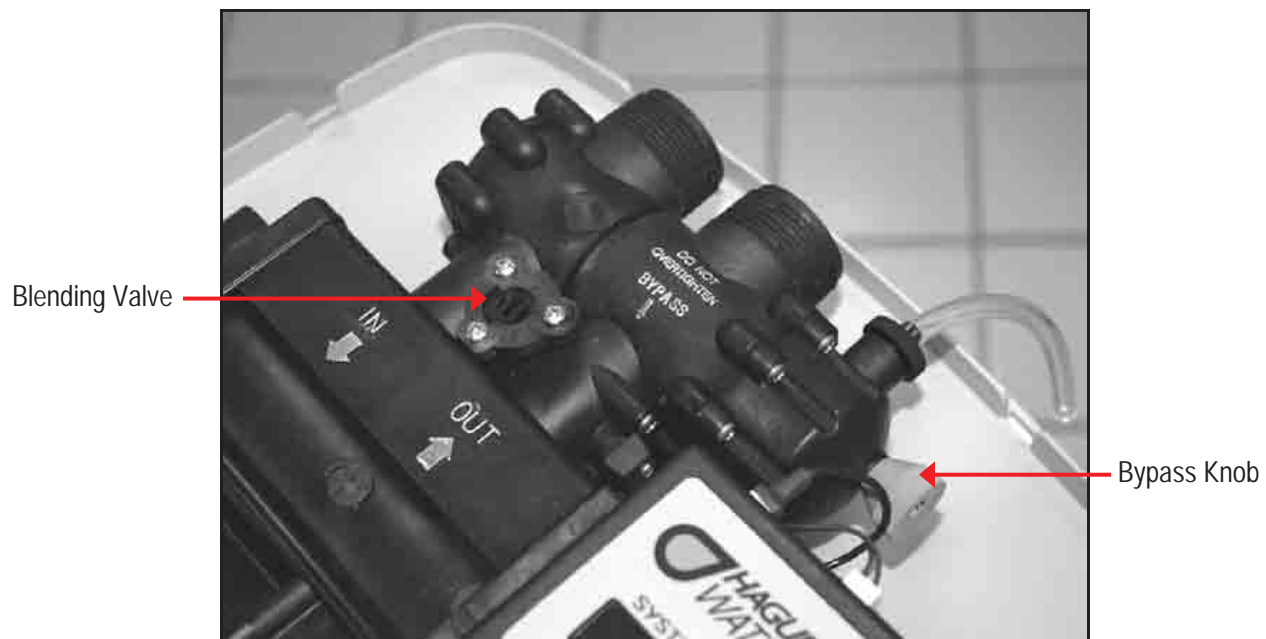


Figure 3: Bypass Valve

Blending Valve

In some situations, the blending valve may be used to decrease water softness. The amount of hardness blended back into the water line is determined by the hardness of the incoming water and the setting of the blending valve. Where extremely hard water is present, the blending valve may only need to be “cracked” open. Where the incoming water has relatively low levels of hardness, the blending valve will need to be opened further.

The blending valve is located between the input and output connections on the top of the bypass valve. See Figure 3. It is adjusted by placing a flat blade screwdriver in the slot provided and turning clockwise to open. Total movement of the blending valve from full closed to full open is 1/4 revolution. Precise setting of the blending valve will require “trial and error” testing. The initial setting should be conservative. Because of the blending valve’s ease of access and adjustment, the user can increase or decrease the setting according to their preference over a period of time.

Use of the blending valve is not recommended where objectionable concentrations of ferrous iron or sediment are present. Because the blending valve is mixing “raw” water with softened, any ferrous iron or sediment in the “raw” water will also be blended and reintroduced into the softened water line.

Note: If the appliance is installed for barium and/or radium reduction, the blending valve must remain in the fully closed position at all times.

Setting and Using the Controller

The controller must be set up correctly for the appliance to perform properly.

Note: Ensure that the bottom of the controller is firmly locked onto the four tabs on the top of the drive end cap assembly. See Cabinet and Cover Assemblies diagram later in this manual.

Regenerate Button

The Regenerate button is used when starting the water filtration appliance and to start an immediate regeneration. The Regenerate button can be used in two ways:

1. The Regenerate button can be used to put the appliance into an immediate regeneration.

- A. Press and hold the Regenerate button for about five seconds until the display changes to “Going to.”
- B. The appliance is in regeneration mode and will display the status of each cycle. After all regeneration cycles are complete, the display will return to normal operating mode.

2. The Regenerate button can be used to quickly advance through all of the regeneration cycles to speed up the cycles, which is used when starting up or diagnosing the appliance only.

- A. To advance through the regeneration cycles, press and hold the Regenerate button for about five seconds until the display changes to “Going to.”
- B. The cycle position will display (for example, Backwash 1).
- C. Each cycle can be advanced by pressing the Regenerate button. Always wait until the cycle position displays before advancing to the next cycle position.



Figure 4: Regenerate Button

Service Settings

To program Service settings on the 60 Series controller, press and hold the Service Settings button while "Service Settings" is displayed until "Set Language English" is displayed. The Next function becomes active on the Customer Settings/Next button. Use the Next button to step through parameters that can be set. Programming Service Settings is similar to programming Customer Settings (see Customer Settings for programming details). The values that can be set are listed below. (Metric values are in parentheses.)

Note: The Service Settings must be set before the Customer Settings.

Display	Meaning	Possible Values	Comments
Set Language English	Set the language of the display	Set Language English Entrer Langue Francais Entre La Lengua Español Sprache Entr. Deutsch Ambienti Lingua Italiano	
Units English	Units of measure	English Metric	
Show History Yes	Enables entry to the history file or bypass of the history file	Yes No	Enter history file Bypass history file
(Hist) Soft. v. # 2.04	Displays the current software version	Cannot be set	Displays only when History is set to Yes
Install Date (Hist) 000000	Installation date of the appliance (MMDDYY)	000000 to 999999	Displays only when History is set to Yes
Number of People (Hist) 000	Record of the number of people in the household	000 to 999 (should match Customer Settings)	Displays only when History is set to Yes
Hardness (Hist) Grains 000 Iron (Hist) ppm 000 Manganese (Hist) ppm 000 Chlorine (Hist) ppm 000 Sulfur (Hist) ppm 000 pH (Hist) 00.0 Iron (Hist) Bacteria Yes	Record of tested water characteristics	000 to 999 ppm (mg/L) 000 to 999 ppm (mg/L) 000 to 999 ppm (mg/L) 000 to 999 ppm (mg/L) 000 to 999 ppm (mg/L) 00.0 to 99.9 Yes or No	Display only when History is set to Yes
Total Regens (Hist) 00000	Total number of regenerations the appliance has gone through	Cannot be reset 00000-99999	Displays only when History is set to Yes
Total Gallons (Hist) 00000000	Total amount of water that has passed through the appliance	Cannot be reset 00000000-99999999	Displays only when History is set to Yes
Model Number (Hist) 00AAA	Model number of the appliance	00AAA to 99ZZZ	Displays only when History is set to Yes
Save History Yes	Saves history values	Yes No	Displays only when History is set to Yes

Service Settings, Cont.

Display	Meaning	Possible Values	Comments
Total Regens 00000	Total number of regenerations since Service Settings was last entered	Cannot be reset 00000–99999	
Total Gallons 00000000	Total amount of water that has passed through the appliance since Service Settings was last entered	Cannot be reset 00000000–99999999	
Mode 1 Frequency	Operating (Regeneration) Mode	Mode 1 Frequency Mode 1 Days of the Week Mode 2 Demand Delayed Mode 3 Demand	See Operating Modes section that follows
Days Between Regenerations 01	Number of days between regenerations	00 to 12	Displays only when in Mode 1 Frequency
Regen Days SMTWTFS YYYYYYYY	Select which days to regenerate	Various combinations or Y's and blank spaces	Displays only when in Mode 1 Days of the Week
Hardness Grains 040	Hardness of the water that was tested	003 to 999 Grains (00000 to 99999 mg/L)	This is the actual hardness reading and is not compensated for iron
Iron ppm 00	Amount of iron in parts per million of the water that was tested	00 to 99 ppm (mg/L)	This value is used to calculate compensated hardness automatically
Manganese ppm 00	Amount of manganese in parts per million of incoming water	00 to 99 ppm (mg/L)	This value is used to calculate compensated hardness automatically
Salt Type Sodium	Regenerant filling the brine tank	Sodium Potassium	
Compensated Hardness 00040	Compensated hardness using the hardness, iron, and manganese settings	Cannot be set ppm or (mg/L)	The formula used is: Hardness + (4 x each ppm iron) + (4 x each ppm manganese) = compensated hardness
Capacity Grains 28730	The desired capacity number	00000 to 99999 Grains (0000 to 9999 gm)	



Service Settings, Cont.

Display		Meaning	Possible Values	Comments
72–96 Hour Regeneration	No	A way to force regeneration at regularly-scheduled intervals	No (or Yes, for iron)	See 72–96 Hour Regeneration that follows. Displays only when in Modes 2 or 3
Distiller/RO	No	Indicates if a distiller or reverse osmosis appliance is plumbed to use filtered water from the appliance	No (or Yes if a distiller or reverse osmosis appliance is used)	Displays only when in Mode 2
Backwash 1	<u>01.0</u>	Number of minutes the first backwash cycle lasts	00.0 to 99.9	Set to the nearest tenth of a minute
Brine/Rinse	<u>30.0</u>	Number of minutes the first brine and slow rinse cycle lasts	00.0 to 99.9	Set to the nearest tenth of a minute
Backwash 2	<u>05.0</u>	Number of minutes the second backwash cycle lasts	00.0 to 99.9	Set to the nearest tenth of a minute
Salt per Regen lbs.	<u>06.2</u>	Amount of salt set to be used in each regeneration to achieve the capacity setting	00.0 to 99.9 lb (kg)	Set to the nearest tenth
Turbine Pulses Normal		Used by qualified personnel for diagnostic purposes	Normal Test Mode	
Regenerate Tonight	Yes	Sets the appliance to regenerate tonight	No or Yes	If set to Yes, it will force a regeneration at the next set regeneration time (such as 02:00 AM). After the regeneration, the value will be set to No. Displays only when in Modes 1 or 2



Service Settings, Cont.

Operating Modes

The controller has a Timer mode (Mode 1 Frequency and Mode 1 Days of the Week), a Demand Delayed mode (Mode 2), and a Demand Immediate mode (Mode 3). These modes are equipped with Capacity Guard[®], which ensures that a supply of conditioned water will be available even with excessive water usage.

Mode 1—Timer Mode

When the appliance is in Mode 1 Frequency, it will regenerate based on the frequency that is set, for example every two days or up to every 12 days. The days between regenerations can be set. When the appliance is in Mode 1 Days of the Week, it will regenerate on a specific day or days of the week. The display will show:

Regen	SMTWTFS
Days	YYYYYYY

Use the Select and Change Digit buttons to eliminate the days NOT to regenerate. The display will show the days to regenerate.

Regen	SMTWTFS
Days	Y Y Y

Mode 2—Demand Delayed Mode

When the appliance is in the Patented Savematic Demand Delayed mode, it will regenerate based on the actual water usage and the total capacity of the appliance. The time that the regeneration takes place can be set, for example 2:00 AM. Should the total capacity be depleted before the set regeneration time, a forced regeneration will occur.

Mode 3—Demand Immediate Mode

When the appliance is in the Demand Immediate mode, it will regenerate based on water usage alone. Regeneration will occur when the capacity limit is reached. The time of regeneration cannot be set.

72–96 Hour Regeneration

If this value is set to Yes, the appliance will be forced to regenerate every 96 hours unless a regeneration based on water usage occurs within the time interval. The value should always be set to Yes if iron is present in the water.



Service Settings, Cont.

Mode 1 (Timer Mode) Setting Chart

This section provides guidance for using different service settings to achieve the desired capacity.

60 Series	63MAQ ¹	63BEQ ^{1,2}	63MXQ ¹	63MDQ	62AMQ ¹	62APQ ^{1,3,4}	62AKO	62AJQ ⁵
Mode 1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Regeneration Frequency	As required	As required	As required	1 or 2 days	As required	1 or 2 days	1 or 2 days	1 or 2 days
96 hour regeneration (if iron present—yes) ⁶	—	—	Yes	—	Yes	—	—	—
#1 Salt Setting								
Backwash 1 (minutes)	1	1	1 ⁶	—	2 ⁶	—	—	—
Brine/Rinse (minutes)	7	7	7	—	7	—	—	—
Backwash 2 (minutes)	3	3	3	—	2	—	—	—
Capacity (grains) @ salt (lb)	5,900 @ 1.1 lb	5,900 @ 1.1 lb	8,400 @ 1.6 lb	—	5,200 @ 1 lb	—	—	—
#2 Salt Setting								
Backwash 1 (minutes)	1	1	1 ⁶	—	2 ⁶	—	—	7 ⁶
Brine/Rinse (minutes)	12	12	19	—	12	—	—	12
Backwash 2 (minutes)	3	3	3	—	2	—	—	2
Capacity (grains) @ salt (lb)	16,300 @ 3.2 lb	16,300 @ 3.2 lb	20,000 @ 4.2 lb	—	11,900 @ 2.7 lb	—	—	11,900 @ 2.7 lb
#3 Salt Setting								
Backwash 1 (minutes)	1	1	1 ⁷	1	2 ⁷	7	7	7
Brine/Rinse (minutes)	30	30	47	38	30	30	30	30
Backwash 2 (minutes)	3	3	3	3	2	2	2	2
Capacity (grains) @ salt (lb)	26,700 @ 6.2 lb	26,700 @ 6.2 lb	38,700 @ 9.6 lb	23,100 @ 8.5 lb	23,100 @ 6.2 lb	23,100 @ 6.2 lb	23,100 @ 6.2 lb	23,100 @ 6.2 lb
#4 Salt Setting⁸								
Backwash 1 (minutes)	1	1	1 ⁷	1	4 ⁷	7	7	7
Brine/Rinse (minutes)	45	45	60	45	45	45	45	45
Backwash 2 (minutes)	3	3	3	3	2	2	2	2
Capacity (grains) @ salt (lb)	32,500 @ 9.5 lb	32,500 @ 9.5 lb	49,300 @ 14.4 lb	30,300 @ 10.7 lb	30,000 @ 9.3 lb	29,800 @ 9.3 lb	30,300 @ 9.3 lb	30,300 @ 9.3 lb

¹ Models 63MAQ, 63BEQ, 63MXQ, 62AMQ and 62APQ are certified by WQA. All other models are not tested or certified by WQA.

² Municipally supplied chlorinated water only.

³ Must have a minimum of 2 ppm iron and a minimum of 200 ppm TDS. See Specifications.

⁴ Model has no backwash flow control button or retainer. Must have a minimum of 7 gpm @ 30 psi available for proper backwash.

⁵ Calcite will add additional hardness to water before softening.

⁶ If iron is present in water supply, use salt setting #3 or #4.

⁷ If iron is present in the water supply, set Backwash 1 to 7 minutes.

⁸ Do not use this salt setting in California.

Service Settings, Cont.

Mode 2 (Demand Delayed Mode) Setting Chart

This section provides guidance for using different service settings to achieve the desired capacity.

Note: Mode 2 and Mode 3 have the same settings. Mode 3 is NOT recommended for residential use.

60 Series	63MAQ ¹	63BEQ ^{1,2}	63MXQ ¹	63MDQ ³	62AMQ ¹	62APO ^{1,3,4}	62AKO ³	62AJQ ^{3,5}
Mode 2	Yes	Yes	Yes	No	Yes	No	No	No
Capacity	As required	As required	As required	—	As required	—	—	—
96 hour regeneration (if iron present—yes) ⁶	Yes or No	Yes or No	Yes or No	—	Yes or No	—	—	—
#1 Salt Setting								
Backwash 1 (minutes)	1	1	1 ⁶	—	2 ⁶	—	—	—
Brine/Rinse (minutes)	7	7	7	—	7	—	—	—
Backwash 2 (minutes)	3	3	3	—	2	—	—	—
Capacity (grains) @ salt (lb)	5,900 @ 1.1 lb	5,900 @ 1.1 lb	8,400 @ 1.6 lb	—	5,200 @ 1 lb	—	—	—
#2 Salt Setting								
Backwash 1 (minutes)	1	1	1 ⁶	—	2 ⁶	—	—	—
Brine/Rinse (minutes)	12	12	19	—	12	—	—	—
Backwash 2 (minutes)	3	3	3	—	2	—	—	—
Capacity (grains) @ salt (lb)	16,300 @ 3.2 lb	16,300 @ 3.2 lb	20,000 @ 4.2 lb	—	11,900 @ 2.7 lb	—	—	—
#3 Salt Setting								
Backwash 1 (minutes)	1	1	1 ⁷	—	2 ⁷	—	—	—
Brine/Rinse (minutes)	30	30	47	—	30	—	—	—
Backwash 2 (minutes)	3	3	3	—	2	—	—	—
Capacity (grains) @ salt (lb)	26,700 @ 6.2 lb	26,700 @ 6.2 lb	38,700 @ 9.6 lb	—	23,100 @ 6.2 lb	—	—	—
#4 Salt Setting⁸								
Backwash 1 (minutes)	1	1	1 ⁷	—	4 ⁷	—	—	—
Brine/Rinse (minutes)	45	45	60	—	45	—	—	—
Backwash 2 (minutes)	3	3	3	—	2	—	—	—
Capacity (grains) @ salt (lb)	32,500 @ 9.5 lb	32,500 @ 9.5 lb	49,300 @ 14.4 lb	—	30,000 @ 9.3 lb	—	—	—

¹ Models 63MAQ, 63BEQ, 63MXQ, 62AMQ and 62APO are certified by WQA. All other models are not tested or certified by WQA

² Municipally supplied chlorinated water only.

³ NA, See Mode 1 Setting Chart.

⁴ Model has no backwash flow control button or retainer. Must have a minimum of 7 gpm @ 30 psi available for proper backwash. See Mode 1 Setting Chart.

⁵ Calcite will add additional hardness to water before softening.

⁶ If iron is present in water supply, use salt setting #3 or #4.

⁷ If iron is present in the water supply, set Backwash 1 to 7 minutes.

⁸ Do not use this salt setting in California.



Salt Depths

Based on the water level measured from the bottom of the brine cabinet with grid plate, the following depths correlate to the amount of salt used per regeneration:

Modes 1 and 3		Mode 2	
Salt (lb)	Depth (in.)	Salt (lb)	Depth (in.) ¹
1.0	5-3/4	1.0	5
1.6	6	1.6	5-1/4
2.5	7-5/8	2.5	5-7/8
2.7	8	2.7	5-7/8
3.0	8-7/8	3.0	6
4.2	9-5/8	4.2	7-1/4
6.0	11-7/8	6.0	8-7/8
6.2	12	6.2	8-7/8
6.5	12-3/8	6.5	9
8.5	14-3/4	8.5	9-5/8
9.0	15-3/8	9.0	9-7/8
9.3	15-7/8	9.3	10
9.6	16-1/2	9.6	10-3/4
10.7	17-3/8	10.7	11-3/4
14.4	22	14.4	13-5/8

¹ These depths reflect 50% of the total brine refill for the Absolute Brining feature.

Note: Bold numbers pertain to available settings listed under Mode 1 and 2 Service Settings.

To maintain peak performance of the appliance, inspect and clean the brine tank and air check/draw tube assembly annually or when sediment is present in the brine tank.

62AJQ Replenishment Procedure

The neutralizing media that adjusts the pH level of the water must be refilled periodically. Typically, this media is calcite and is available from Hague. To refill the neutralizing media, measure the appliance's media bed depth upon installation (factory freeboard). Use this measurement to determine the amount of media to add to maintain optimum performance of the 62AJQ.

Tools and Materials Needed

The following tools and materials are needed to replace the neutralizing media:

- Analog scale (do not use digital)
- Steel tape measure
- 5-gallon bucket with handle
- Replacement media (P/N M050)
- 1/2" siphon hose
- Funnel with 1" fill tube
- 12" wooden ruler or dowel rod
- 3/4" socket

Replenishment Procedure

The replenishment procedure is as follows:

Step 1 *Turn Off the Water*

- A. Turn off the water to the appliance.
- B. Open a tap to depressurize the appliance.
- C. Close the tap.

Step 2 *Remove Water From Media Tank*

- A. Remove the fill plug from the media tank using a 3/4" socket.
- B. Insert the siphon hose into the fill port.
- C. Siphon the water into the bucket down to the media level in the tank.

Step 3 *Calculate Amount of Media to Add*

- A. Measure the freeboard distance from the top of the fill plug to the media. See Figure 5.
Note: The recommended freeboard distance is 4-3/4".
- B. Add five pounds of media per inch below 4-3/4".

Example:

Measured freeboard	6-3/4"
Minus factory freeboard	- 4-3/4"
Adjusted freeboard	2"

Replenishment equals 5 lb media x 2" (adjusted freeboard)
= 10 lb media.

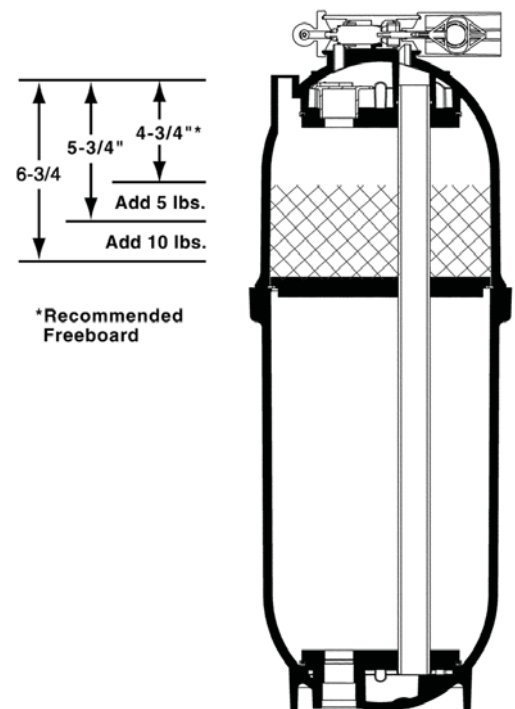


Figure 5: Max Freeboard Amount

62AJQ Replenishment Procedure, Cont.

Step 4 *Add Replenishment Media*

- A. Weigh the replenishment media.
- B. Place the funnel into the fill port.
- C. Pour the media into the funnel to fill the tank with the measured amount of media.

Step 5 *Refill Tank With Water*

- A. Open the main water valve.
- B. Slowly fill the tank with water up to the bottom of the fill port.
- C. Turn off the water.

Step 6 *Replace Fill Plug*

- A. Make sure the threads of the fill port are clean.
- B. Replace the fill plug.
Caution: Do not overtighten the fill plug.

Step 7 *Check for Leaks*

- A. Turn on the water to re-pressurize the appliance.
- B. Check for leaks.
- C. Fix any leaks.

The following pages provide information about the WaterMax® Iron Filter and Potassium Permanganate Feeder.

61AAN WaterMax[®] Iron Filter Sizing Formula

The WaterMax[®] Iron Filter may be programmed to regenerate every one to twelve days. Select the frequency based on the amount of iron in the water and the number of people in the household. **For optimum performance, program the water softener to regenerate first, followed by the Iron Filter.**

Example: Softener 1:00 am; Iron Filter 3:00 am. See the 61AAN WaterMax[®] Iron Filter Sizing Formula.

Regeneration Cycle Frequency Worksheet

This table will help you determine how often the iron filter will need to regenerate.

	Water		Example	
Total Iron	___ ppm x 1 =	___ ppm	3.5 ppm x 1 =	3.5 ppm
+ Manganese*	___ ppm x 3 =	___ ppm	0.2 ppm x 3 =	0.6 ppm
+ Sulfur	___ ppm x 5 =	___ ppm	1.0 ppm x 5 =	5.0 ppm
= Total compensated ppm		___ ppm		9.1 ppm
x Gallons per day for one person		75 gal		75 gal
= ppm per person per day	=	___ ppm		682.5 ppm
x Number of people in household		___ people		4 people
= Daily ppm capacity		___ ppm		2730 ppm
Iron filter capacity	=	10,000 ppm		10,000 ppm
÷ Daily ppm requirements	=	___ ppm		2730 ppm
= Frequency of regeneration		___ days		3.6 days
Set regeneration frequency	@	___ days		3 days

*If manganese is unknown, multiply the iron and sulfur total by 1.15 to adjust total compensated ppm.

Determine Monthly Usage

This table will help you determine how much regenerant the iron filter will use each month.

	Water	Example
Total days per month	___ days	30 days
÷ Frequency of regeneration	___ days	3 days
= Regenerations per month	___ regenerations	10 regenerations
x 4 oz per regeneration = oz KMnO ₄ per month	___ oz	4 oz x 10 regenerations = 40 oz
÷ 16 = lb per month	___ lb	40 oz ÷ 16 oz/lb = 2.5 lb

Notes:



Iron Filter and Potassium Feeder Installation Guide

Important: The 61AAN is capable of treating a combination of undesirable constituents in the water (iron, manganese, and/or hydrogen sulfide). However, the filter must be applied within the operating limits stated in the WaterMax® Filter Specifications in this manual. Failure to comply with these specifications will degrade performance and possibly cause the control valve to malfunction.

Note: The iron filter should be installed after the pressure tank or water meter and before the water heater or any water softener appliance, unless otherwise recommended. See Figure 6. A minimum 3/4" pipe is required for proper function of the filter. Examine the inlet piping to make sure the pipe is not plugged with lime or iron. If the piping is plugged, it must be cleaned or replaced.

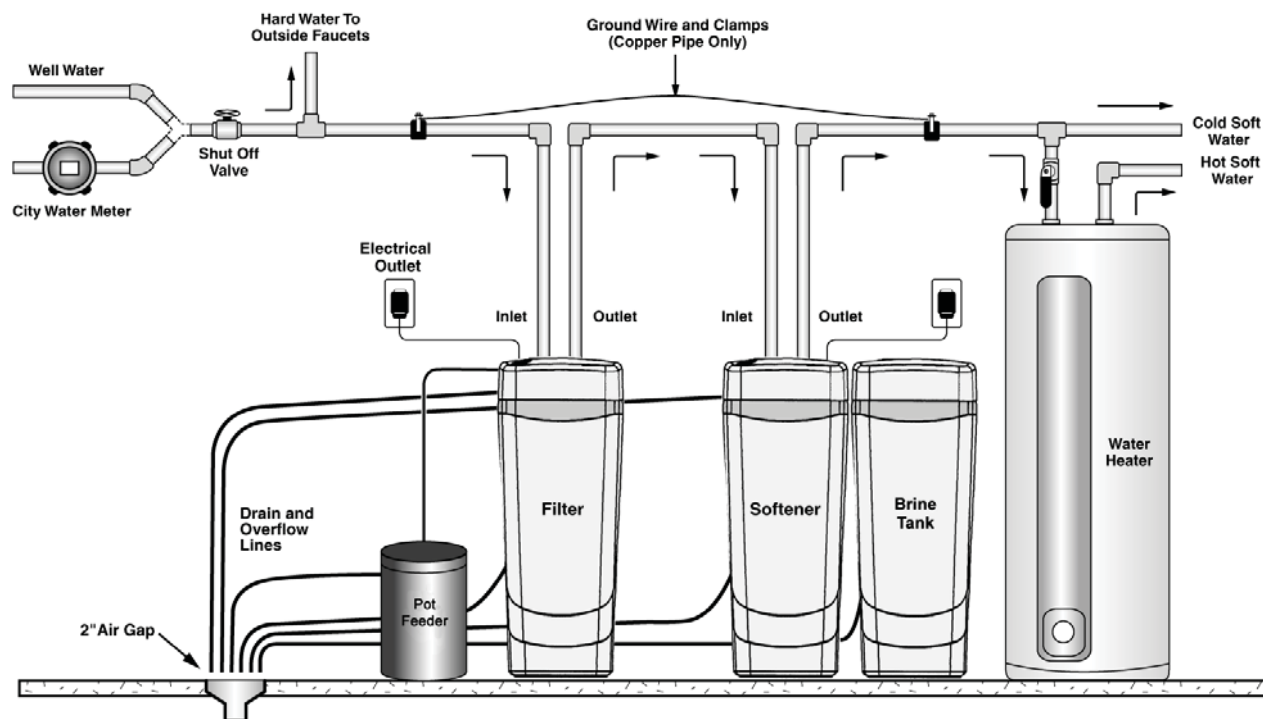


Figure 6: Iron Filter and Potassium Feeder Placement

Installation Tip: To install the filter, follow steps 1–10 of Installation Steps and Start-Up Procedures, excluding Step 4—Connect the Brine Tank. Instead, connect the potassium permanganate feeder as outlined on the following page.

Caution: Do not adjust the float assembly. This feeder is preset for a 4-ounce feed of potassium permanganate. Use care when working with potassium permanganate. Follow instructions printed on the cover of the feeder as well as the instructions on the potassium permanganate container.

Start-Up Procedures for 4-oz Potassium Permanganate Feeder

Step 1 *Unpack Feeder*

- A. Remove feeder from shipping carton.
- B. Read the instructions in red, remove the label from the feeder, and discard it into the shipping carton.
- C. See Figure 6 for feeder placement.
- D. Remove the cover and set aside.
- E. Pull up on the brine well cap to remove the safety shutoff assembly. Remove the rubber band from the air check/draw tube float rod assembly and replace the safety shutoff back into the brine well.
- F. Remove the plastic bag containing the three stainless steel screws and the 3/8" tubing.

Step 2 *Connect Lines*

- A. Connect the 3/8" tubing to the brine valve on the filter by pushing the tube to the stop. Pull back on the tubing to install the red locking clip behind the collet.
- B. Connect the tubing to the feeder.
- C. Connect the overflow line.

Step 3 *Add Water to Feeder*

- A. Add 1-1/2 gallons of treated water to the feeder. The water should cover the felt pad by at least 1/2".
Caution: Do not use water that contains iron, manganese, or hydrogen sulfide.

Step 4 *Set Air Check/Draw Tube*

- A. Allow the water to be drawn out of the feeder until the air check/draw tube sets and then let the feeder tank refill to the right level.

Step 5 *Add Potassium Permanganate to Feeder*

- A. Slowly add 5 lb of potassium permanganate (KMnO_4) to the feeder. Coarse granular Potassium Permanganate is recommended for this filter appliance (P/N S031).
Warning: Follow the safety instructions on the container when working with potassium permanganate. Use care when removing the cover and pouring it into the feeder.
- B. Place the cover on the feeder and secure it with the three stainless steel screws.

Step 6 *Regenerate Filter*

- A. Regenerate the iron filter immediately to charge the manganese greensand. To start a regeneration, push and hold the Regenerate button until the controller displays "Going to."

Step 7 *Complete the Installation*

- A. See Installation Steps and Start-Up Procedures—Step 13.

Assembly and Parts

Cabinet and Cover Assemblies

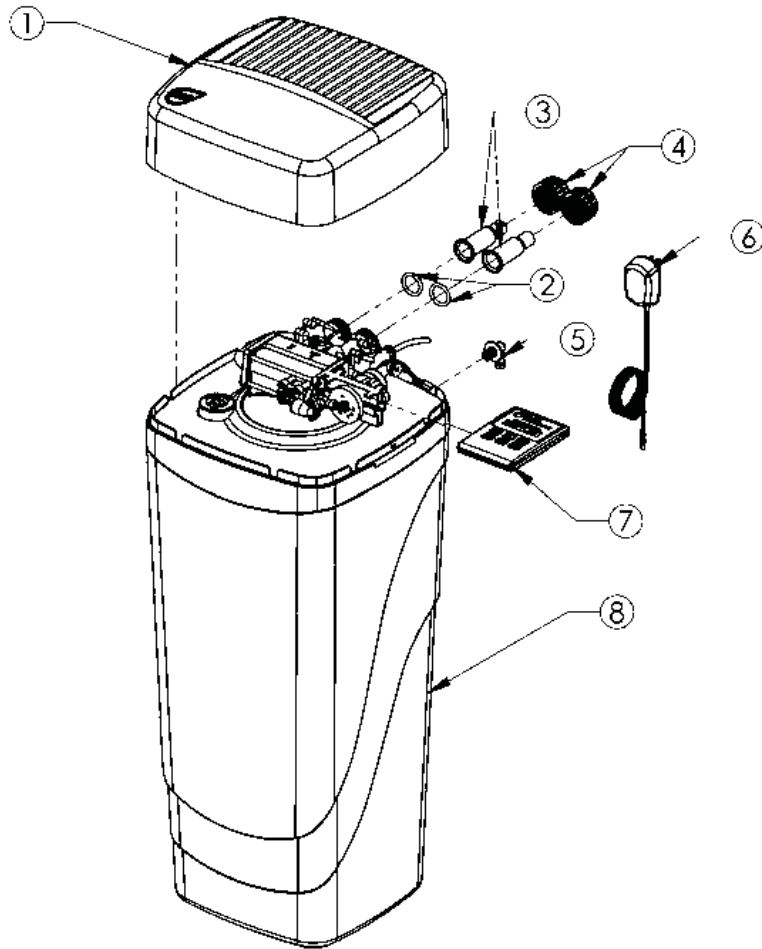


Figure 7: Cabinet and Cover Assemblies

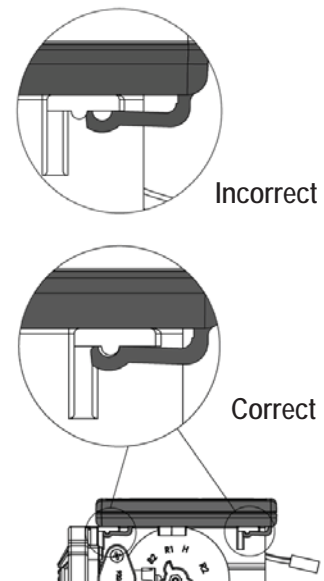


Figure 8: Controller Tab Lock Detail

	Part #	Description	Quantity
1	54501	Media Cabinet Cover Assembly	1
2	90837	Bypass Nut Gasket	2
3	90254	Copper Adapter	2
	90256	PVC Adapter (optional)	2
	90258	Copper Adapter, 1" (optional)	2
4	90251	Bypass Nut	2
5	C0700A	Cabinet Overflow	1
6	93245	12V Transformer/Power Cord	1
7	54500	6 Button Control Assembly	1
8	54003	Cabinet	1

Assembly and Parts, Cont.

Brine Tank Assembly

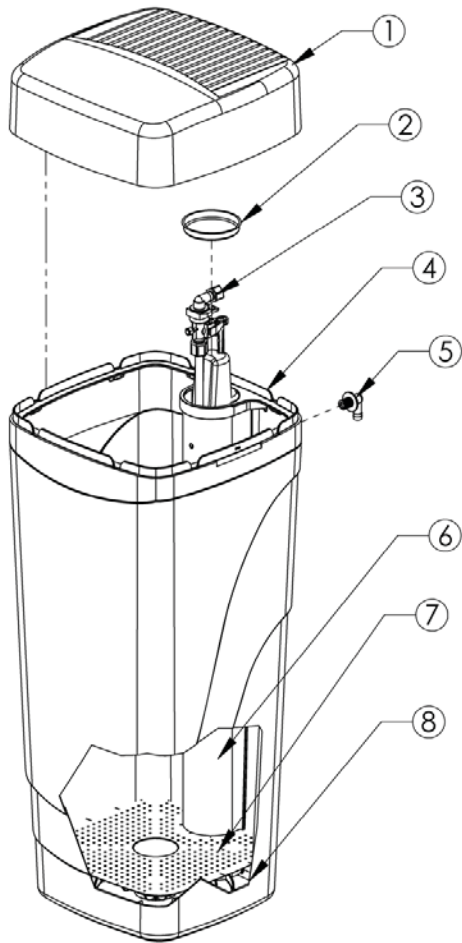


Figure 9: Brine Tank Assembly

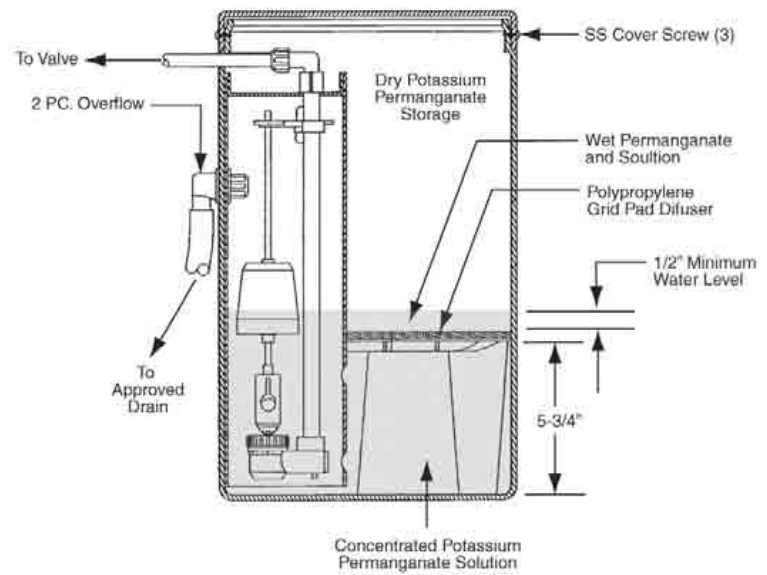


Figure 10: Potassium Permanganate Feeder (P/N PT1424)

	Part #	Description	Quantity
1	54006	Brine Tank Cover	1
2	90103	Brine Well Cap	1
3	54525	Safety Shutoff Assembly (See Figure 17)	1
4	54007	Support Panel (BT)	1
5	C0700A	Cabinet Overflow	1
6	54008	Brine Well	1
7	54009	Grid Plate	1
8	54003	Cabinet	1
	54509	Entire Assembly (all of the above parts)	

Assembly and Parts, Cont.

Cabinet and Assemblies

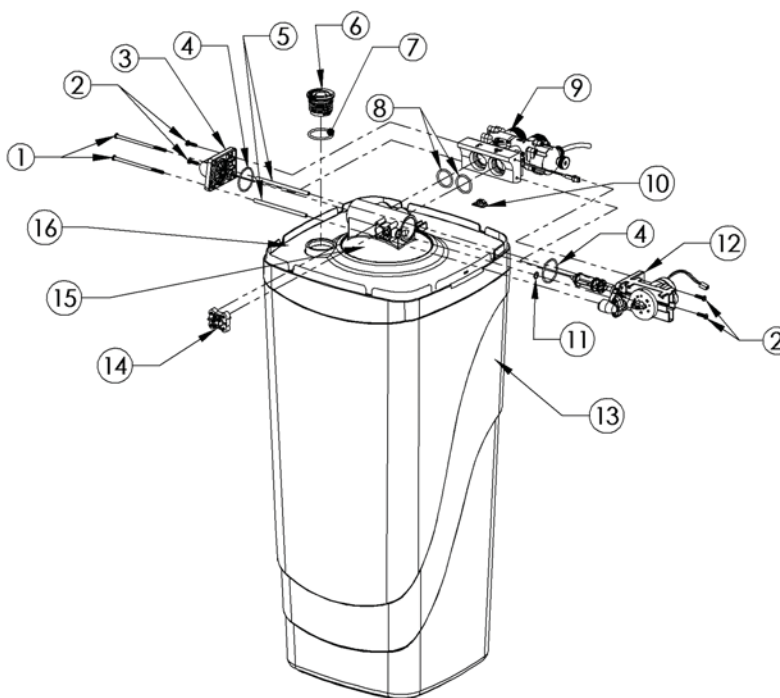


Figure 11: Cabinet and Assemblies

	Part #	Description	Quantity
1	93809	Screw	2
2	93870	Screw	4
3	90614	Drain End Cap Assembly (See Figure 16)	1
4	93808	O-Ring	2
5	93835	Sleeve	2
6	90238	Fill Plug	1
7	90829	O-Ring	1
8	93838	O-Ring	2
9	90615	Bypass Assembly (See Figure 13)	1
10	93833	Cord Clip	1
11	90828	O-Ring	1
12	95301T-JG	Drive End Cap Assembly (See Figure 14)	1
	95302T-BWO	Drive End Cap Assembly (Backwash only)	1
13	54003	Cabinet	1
14	93501	Injector Assembly (See Figure 12)	1
15	54508	Media Tank (3-compartment)	1
	54514	Media Tank (2-compartment) (center and bottom screen)	1
	54516	Media Tank (1-compartment) (bottom screen)	1
16	54005	Support Panel	1

Assembly and Parts, Cont.

Injector Assembly

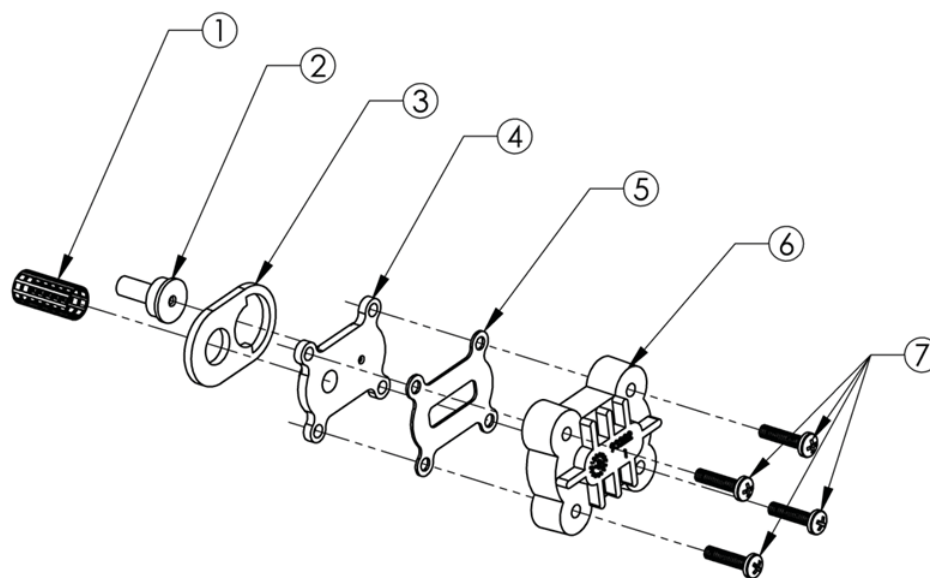


Figure 12: Injector Assembly

	Part #	Description	Quantity
1	93810	Injector Screen	1
2	93223	Injector Throat	1
3	93220	Injector Seal (Thick)	1
4	93221	Injector Nozzle	1
5	93232	Top Injector Seal (Thin)	1
6	93222	Injector Cap	1
7	90807	Screw	4
	93501	Entire Assembly (all of the above parts)	

Assembly and Parts, Cont.

Injector Assembly Cont.

93810 Injector Screen	Acts as a pre-filter to keep debris from entering the Injector Nozzle (93221) and Throat (93223). Attaches to the cylinder on the Nozzle plate and spherical "bump" inside the Valve Body. Some compression of the screen may occur during assembly. The opening in the screen must be clear to ensure proper flow to the Injector assembly.
93223 Injector Throat	In conjunction with the Injector Nozzle (93221) it creates the vacuum that draws the brine solution from the brine cabinet. The center hole should be clear of debris, round, and undamaged. The Throat should be pressed flush into the opening in the valve. If the Throat is removed, it must be replaced with a new one.
93220 Thick Injector Seal	Seals between the Injector Nozzle (93221) and the Main Valve Body. The gasket has a definite hole pattern that has to match up with the Nozzle and the Main Valve Body opening. The gasket seals at its outer edges and between the inlet screen and nozzle opening. These areas must be free of defects, such as tears or pits, and be free of debris.
93221 Injector Nozzle	Together with the Throat (93223) creates the vacuum that draws the brine solution from the Brine Cabinet. There are two openings in the Nozzle (93221) plate. The small hole, flush on both sides, is the one that creates the "injection-stream" that enters the Throat. It is important that this hole is round, undamaged, and clear of debris. If this hole becomes "clogged," do not use anything (such as metal objects) to clear this opening. Damage may occur. Use a clean cloth and flush with water. If necessary, a wooden toothpick may be used. When assembling to the Valve, the Nozzle hole should line up with the Throat.
93232 Top Injector Seal (Thin)	Seals between the Injector Nozzle (93221) and Injector Cap (93222). The gasket must be free of defects, such as tears or cuts, and be free of debris.
93222 Injector Cap	Holds the injector assembly together and seals the assembly to the Main Valve Body. The four machine screws should be tightened evenly and be "snug."

Assembly and Parts, Cont.

Bypass Assembly

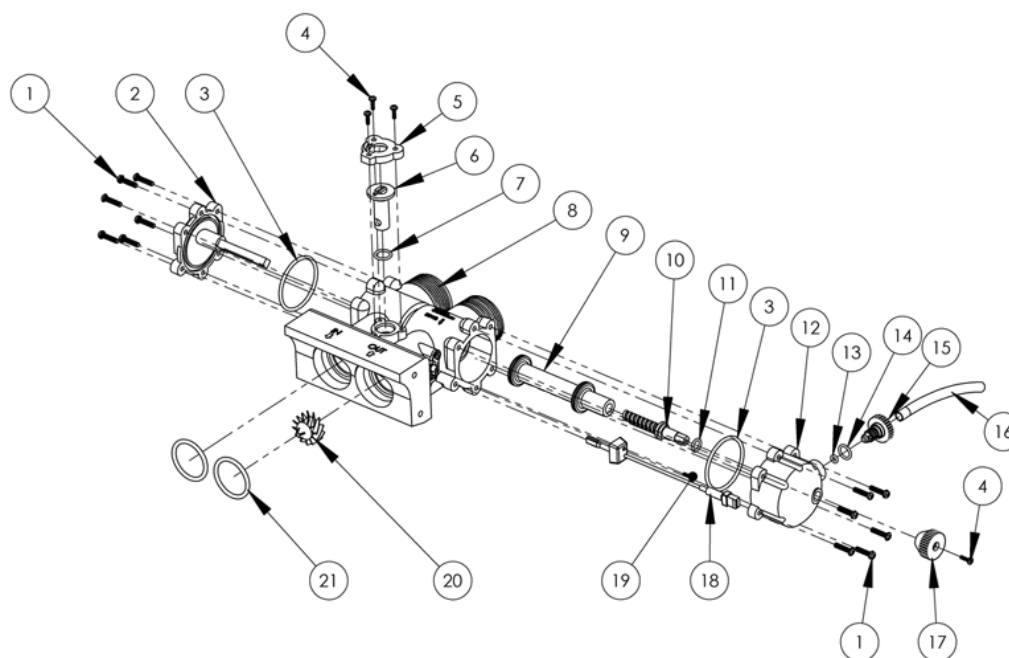


Figure 13: Bypass Assembly

	Part #	Description	Quantity
1	90807	Screw	12
2	90262	Bypass End cap-Left	1
3	93808	O-Ring	2
4	90802	Screw	4
5	90252	Cap-Blending Dial	1
6	90222	Blending Dial	1
7	90827	O-Ring	1
8	90246	Bypass Housing	1
9	90616	Bypass Piston Assembly	1
10	90218	Bypass Piston Drive Shaft	1
11	90803	O-Ring	1
12	90263	Bypass End cap-Right	1
13	90264	O-Ring	1
14	90828	O-Ring	1
15	90226	Test Port Valve	1
16	90812	Tubing 4.0"	1
17	90221	Bypass Piston Knob, blue	1
18	93860	Turbine Sensor Wire	1
19	90809	Screw	1
20	90522	Turbine Assembly	1
21	93838	O-Ring	2
	90615	Entire Assembly (all of the above parts)	

Assembly and Parts, Cont.

Bypass Assembly Cont.

<p>90262 Bypass End Cap—Left; 90263 Bypass End Cap—Right</p>	<p>Seals the left/right Piston opening on the Housing (90246). The opening is sealed with an O-Ring used as an axial or “face” seal. The O-Ring sits in a groove in the End Cap. This groove must be free of defects such as pits or scratches and also free of debris. When assembling the End Cap to the Housing, care should be taken to make sure that the O-Ring stays in the groove in the End Cap. If misaligned, the O-Ring can become pinched and leak. On the Left End Cap is the Piston Axle, a 1/4” square shaft that acts as a guide/slide and anti-turning mechanism for the Bypass Piston. On the Right End Cap is the guide/bushing for the Bypass Piston Drive Shaft (90218). There is an O-Ring seal at the opening for the Drive Shaft. This seal area must be free of defects such as pits or scratches and also free of debris.</p>
<p>90252 Blending Dial Cap</p>	<p>The Cap should be held in place by the three 1/2” screws and be in the proper orientation.</p>
<p>90222 Blending Dial</p>	<p>The dial permits the addition of “hard water” into the soft water outlet. It is closed when pointing toward the Main Valve Body and open when pointing toward the inlet side.</p>
<p>90246 Bypass Housing</p>	<p>Makes the connection between the plumbing and Main Valve Body. Also, contains the “Hard Water” Blending Valve and Bypass Piston. The recommended seal for the 1-1/4” male inlet-outlet threads is the plastic Hook-up Nut (90251), O-Ring (90837), and Copper Adapter (90254). Make sure the O-Ring is between the Housing and Copper Adapter. The O-Ring seal areas at the Main Valve Body inlet and outlet must be smooth and free of defects and debris, and lubricated with silicone grease before assembling. When attaching to the Main Valve Body, put the O-Rings on the male bosses on the Valve Body and push the Bypass into place; if not, the O-Rings may be “pinched.” If the O-Rings are pinched, replace with new ones. The Bypass is pre-assembled with the Sensor housing and turbine axle. These are not field-serviceable and if damaged, must be replaced with a new assembly. The Bypass Piston bore is to be smooth and, at the recessed areas, have a smooth transition (no sharp corners) to the seat areas.</p>
<p>90616 Bypass Piston Assembly</p>	<p>The white Teflon Hydro-slide O-Ring covers should be free of defects such as indentations and cuts. The Piston should move freely into and out of the Bypass Housing (90246) without damaging the Hydro-slides. If the Hydro-slides catch, tear or crimp, the Housing should be replaced. Note: Some compression will occur when the Hydro-slides pass through the seal areas.</p>
<p>90218 Bypass Piston Drive Shaft</p>	<p>The Drive Shaft has an acme thread which is used to move the Piston from “bypass” to “service” position. When operating the Bypass, to achieve either “service” or “bypass,” it is only necessary to turn the Handle (90221) until the Piston (90616) stops. Additional pressure (torque) will not improve the seal. Once the Piston reaches the stop at either position, it can be backed off up to one half turn of the handle and still achieve a seal.</p>
<p>90226 Test Port Valve</p>	<p>The Test Port Valve is used to draw water samples for testing of treated water. Note: The Bypass must be in the “service” position to get an accurate sample. There are two types of seals on the Test Port. One seal is an O-Ring which seals off the threaded area when the Valve is opened. The other seal is a compression O-Ring seal between the Test Port Valve material and the Right End Cap material. If this seal is “overtightened,” it can damage the O-Ring and cause a permanent leak.</p>
<p>93860 Turbine Sensor Wire</p>	<p>Picks up the magnetic field from the Turbine and relays it to the Controller. Care should be taken when putting the Sensor Wire into the Sensor Housing. The cap is then put in place and the mounting screw is installed. A slot is provided in the cap for the wire to exit. The three-wire socket connector must be properly installed in the controller. Stops on the connector prevent improper (upside down) assembly. Do not force the connector past the stops.</p>
<p>90522 Turbine Assembly</p>	<p>The turbine must have a 1/8” diameter Rare Earth magnet pressed into place adjacent to the axle opening. When assembled to the axle, the Turbine should spin freely. Do not use any lubricants. If the Turbine should become “jammed,” clean and flush the Turbine and Bypass Valve.</p>

Assembly and Parts, Cont.

Drive End Cap Assembly

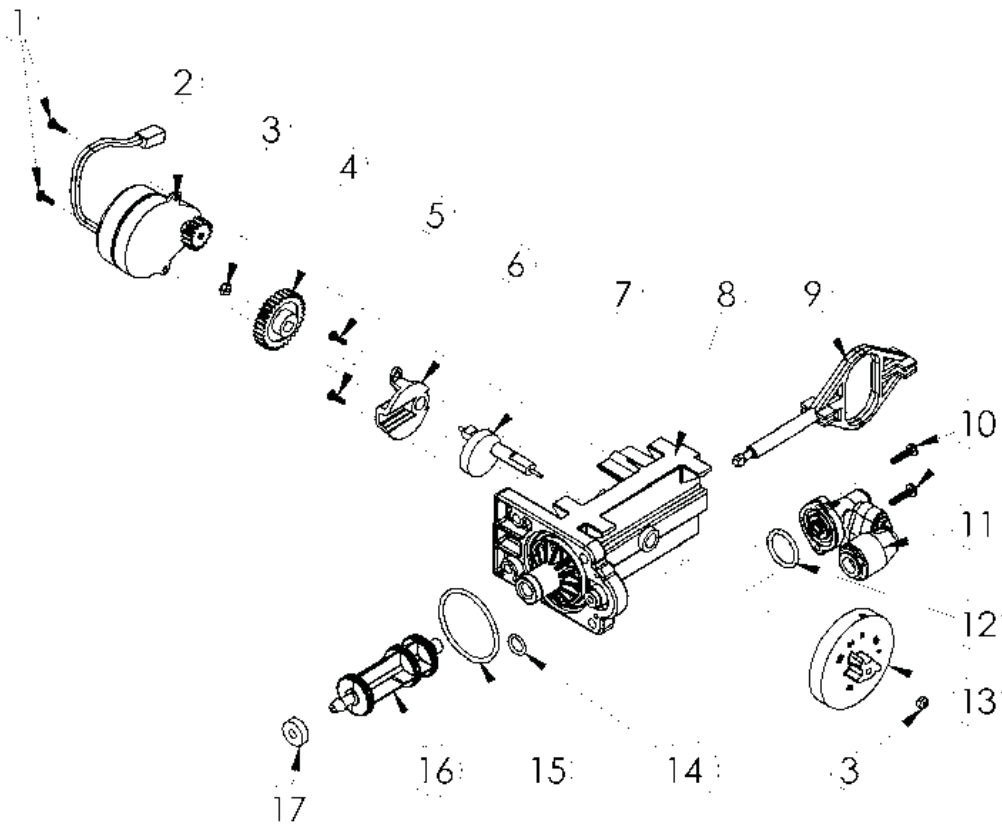


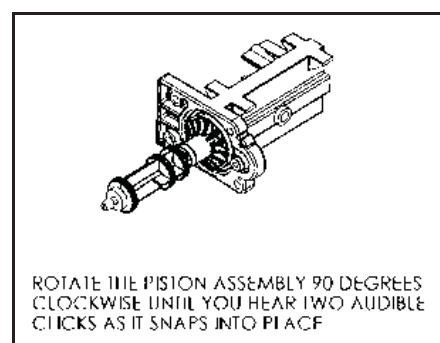
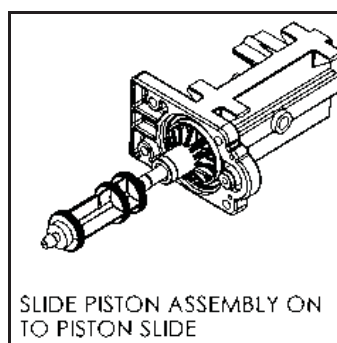
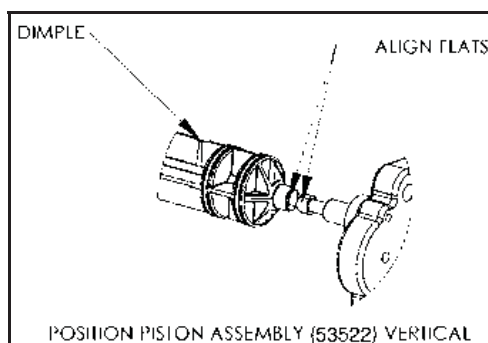
Figure 14: Drive End Cap Assembly

	Part #	Description	Quantity
1	90802	Screw	2
2	90217	Drive Motor	1
3	93891	1/4" Hex Nut	2
4	93238	Drive Gear	1
5	90809	Screw	2
6	93219	Piston Slide Cam Cover	1
7	93217	Piston Slide Cam	1
8	93583	Drive End Cap	1
9	54202	Piston Slide	1
10	90818	Screw	2
11	93601-JG	Brine Valve Housing Assembly	1
12	90821	O-Ring	1
13	54502	Magnet Disk Assembly	1
14	90828	O-Ring	1
15	93808	O-Ring	1
16	53522	Drive Piston Assembly (includes 93839 Drain Gasket)	1
17	93839	Drain Gasket	1
	95301T-JG	Drive End Cap Assembly (all of the above parts except 1, 2, and 13)	

Assembly and Parts, Cont.

Drive End Cap Assembly Cont.

90217 Drive Motor	The Motor is held in place by two 1/2" screws. The screws should be "snug." The brass pinion gear on the Motor should engage the plastic Drive Gear. The wires should be securely fastened to the Control.
93238 Drive Gear	The Drive Gear is assembled to the Slide Cam by means of a "keyed" opening which transfers the "torque" generated by the Motor to the rest of the drive system. If the drive system becomes jammed, this opening can become "rounded" causing the gear to turn, but not the Piston Slide Cam. If this occurs, clear the jam and replace the Drive Gear and Piston Slide Cam (93217).
93219 Piston Slide Cam Cover	The cover secures the Piston Slide Cam (93217) in place and acts as a bushing for the Cam Shaft.
93217 Piston Slide Cam	This is the "heart" of the drive system. There is a threaded stainless steel shaft that runs through the main drive axle. The Drive Gear is attached at the short end and the Magnet Disc at the other end. The Slide Cam is assembled inside of the Piston Slide (54202). This Cam Shaft should turn freely before the Motor is assembled.
93583 Drive End Cap	Seals the two openings on the Main Valve Body. The larger diameter opening is sealed with an O-Ring used as an axial or "face" seal. The O-Ring sits in a groove in the End Cap. This groove must be free of defects such as pits or scratches and also free of debris. The smaller diameter seal is accomplished with an O-Ring used as a radial seal. The O-Ring should be placed on the male boss on the End Cap. When assembling the End Cap to the Valve Body, care should be taken to make sure the small O-Ring is aligned with the opening in the Valve Body and that the large O-Ring stays in the groove in the End Cap. If misaligned, the O-Rings can become pinched and leak.
54202 Piston Slide	The Slide should move freely inside the End Cap Housing.
93601-JG Brine Valve Housing Assembly	Attaches to the Drive End Cap with two 3/4" thread cutting screws and has one O-Ring seal. The O-Ring is used as a axial or face seal. The O-Ring sits in a groove in the Brine Valve Housing. The groove and the face seal must be free of defects such as pits and scratches or debris.
53522 Drive Piston Assembly	The Drive Piston attaches to the Piston Slide (54202) by placing the "slot" of the Piston onto the matching flat of the Slide. To remove Piston, rotate Piston 90° counterclockwise. To replace Piston, rotate 90° clockwise until you hear an audible "click." See reference drawings below.



Assembly and Parts, Cont.

Brine Valve Housing Assembly

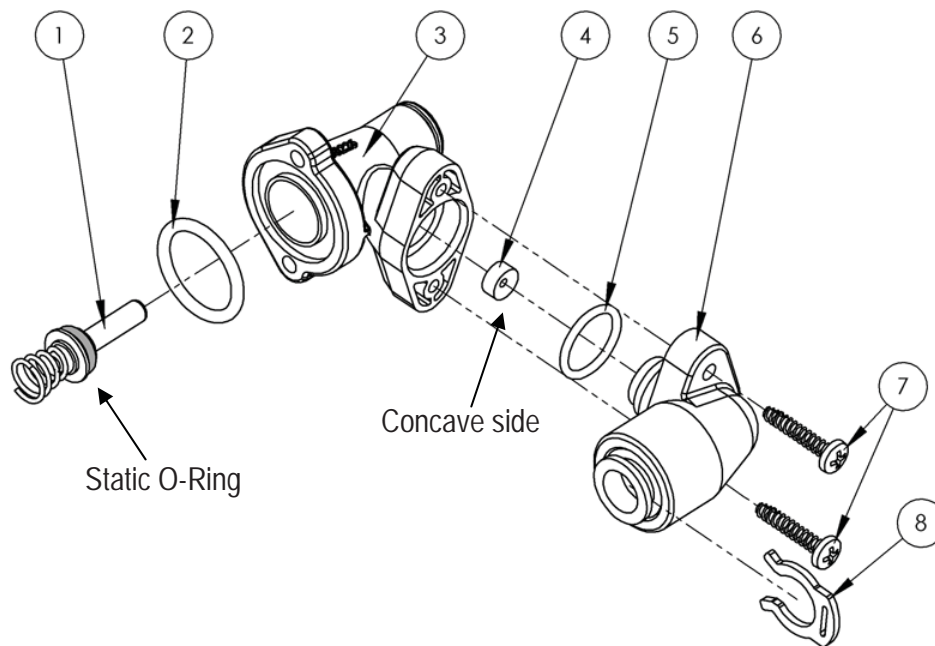


Figure 15: Brine Valve Housing Assembly

	Part #	Description	Quantity
1	53511	Piston Assembly (includes O-Ring & Spring)	1
2	90821	O-Ring	1
3	53510	Housing	1
4	90843	0.5 gpm Flow Control	1
5	93805	O-Ring	1
6	93247	Housing End Cap	1
7	90818	Screw	2
8	200199	3/8" Locking Clip	1
	93601-JG	Entire Assembly (all of the above parts)	

Assembly and Parts, Cont.

Brine Valve Housing Assembly Cont.

53511 Brine Piston	The Piston should have an O-Ring on the shaft side of the flange and a spring pressed onto a boss on the other side. The O-Ring should be free of defects such as cuts or debris on the shaft side.
53510 Housing	Just inside the entrance hole for the Brine Piston (53511) is a concave seat area that must be free of defects such as nicks, indentations, or debris. This seat area ensures a leak-free seal for the static O-Ring on the Brine Piston. If any defects are detected by visual inspection, repair or replace as needed.
90843 0.5 gpm Flow Control	The Flow Button has two distinct and different sides. One is "flat"; the other is "concave." The button should be centered in the housing opening with the four locator "ribs" with the concave side facing the Housing End Cap (93247).
93247 Housing End Cap	The Cap is held in place by two 3/4" thread cutting screws that engage the Housing flange. An O-Ring seals the Cap and Housing. Place the O-Ring into the housing opening, lubricate with silicone grease and then using a twisting action, pressure insert the Cap. Caution: The 3/8" locking clip (200199) must be installed to prevent air from being drawn into the appliance during brine rinse.

Assembly and Parts, Cont.

Drain End Cap Assembly

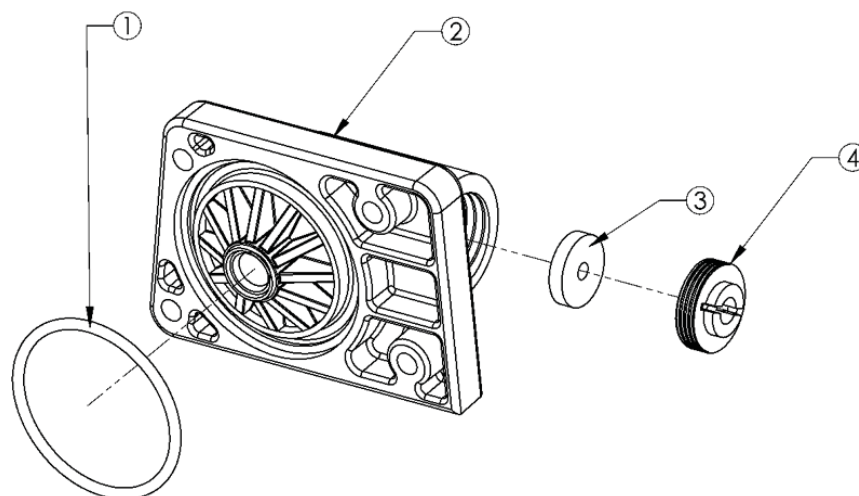


Figure 16: Drain End Cap Assembly

	Part #	Description	Quantity
1	93808	O-Ring	1
2	90268	Drain End Cap	1
3	H2086-XX*	Drain Line Flow Control	1
4	90267	Retainer	1
	90614-XX*	Entire Assembly (all the above parts)	1

90268 Drain End Cap	The Drain End Cap (90268) seals the left opening on the Main Valve Body. The opening is sealed with an O-Ring used as axial or "face" seal. The O-Ring sits in a groove in the End Cap. This groove must be free of defects such as pits or scratches and also free of debris. When assembling the End Cap to the Valve Body, care should be taken to make sure that the O-Ring stays in the groove in the End Cap. If misaligned, the O-Ring can become pinched and leak.
H2086 Drain Line Flow Control	The Drain Line Flow Control (DLFC) maintains a constant (plus or minus 10%) backwash flow rate at varying pressures. Care should be taken when replacing DLFCs to ensure that the correct rate is being used for a particular model. Refer to Specifications. When assembling the flow control, ensure that the rounded (radiused) side of the hole faces in toward the water flow. <ul style="list-style-type: none"> • H2086 - 2.4* • H2086 - 3.0* • H2086 - 5.0* • H2086 - 7.0*
90267 Retainer	The Retainer (90267) holds the backwash Flow Control (H2086) in place. One side is smooth and the other has a groove for a screwdriver. When assembling the retainer to the Drain End Cap (90268), the retainer should be screwed in until it stops. If the retainer is not fully engaged, the Flow Control may not function properly.

*Must specify drain line flow control size. XX Indicates the back wash flow rate in gpm. Example: 90614-2.4

Assembly and Parts, Cont.

Safety Shutoff Assembly

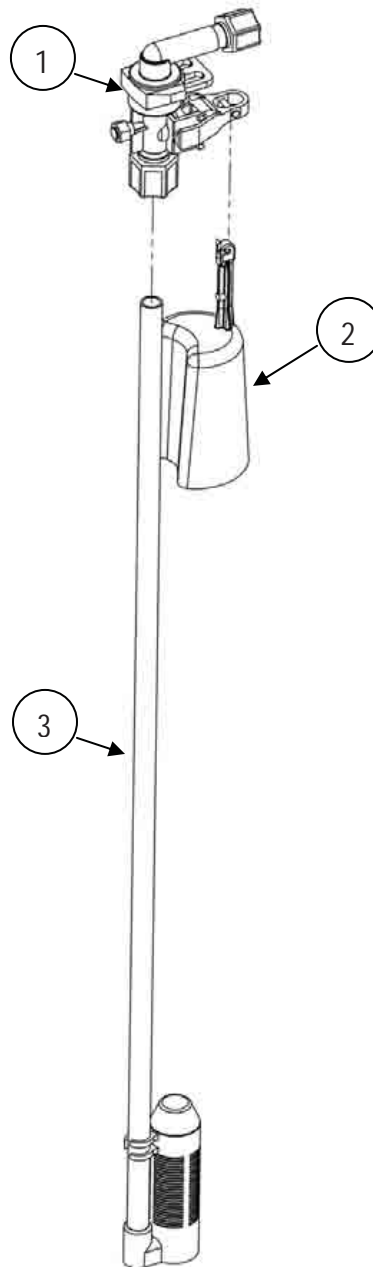


Figure 17: Safety Shutoff Assembly

	Part #	Description	Quantity
1	54226	Safety Shutoff (See Figure 18)	1
2	56018	Float	1
3	54225	Air Check/Draw Tube	1
	54525	Entire Assembly (all of the above parts)	

Assembly and Parts, Cont.

Safety Shutoff Valve Elbow Installation

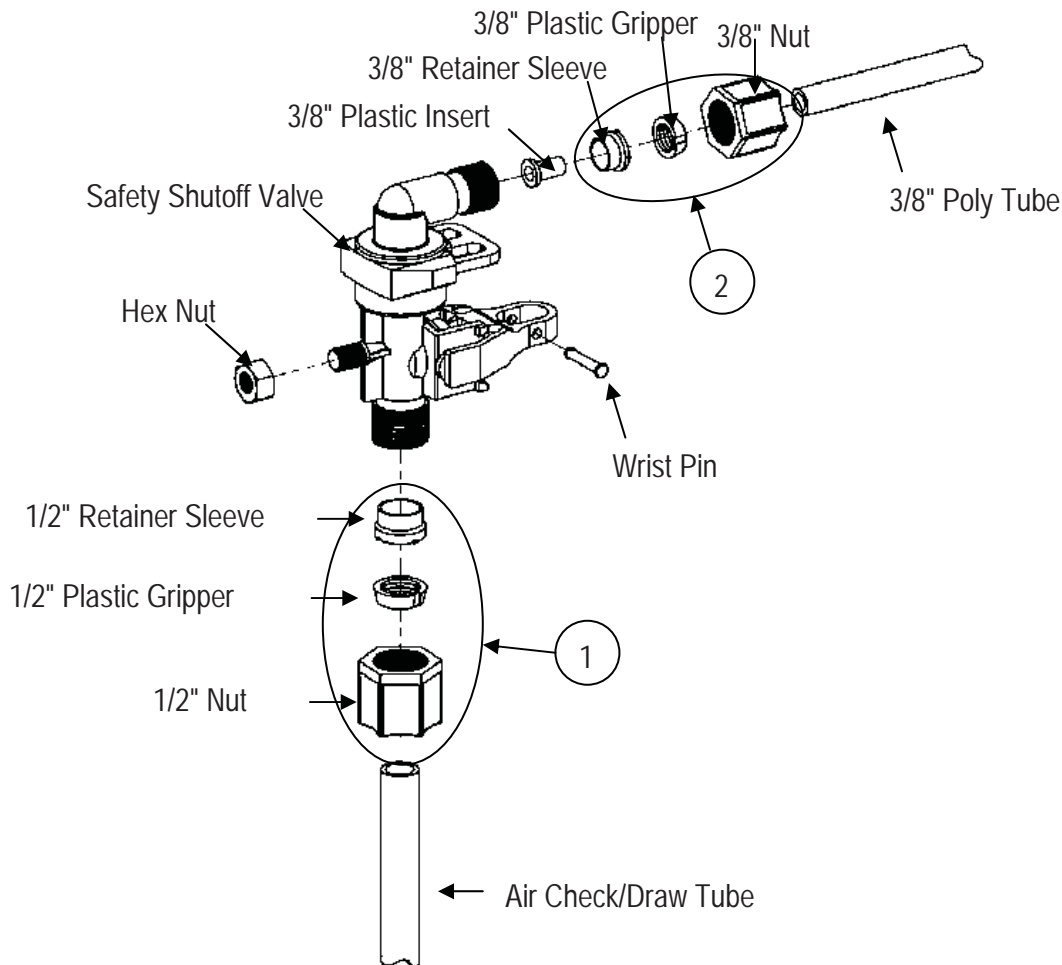


Figure 18: Safety Shutoff Valve Elbow Installation

	Part #	Description	Quantity
1	54112	1/2" Compression Assembly	1
2	54138	3/8" Compression Assembly	1

The nut, gripper, and retainer sleeve are a three-piece assembly that can come apart if removed from the elbow body. Parts must be reassembled exactly as shown to function properly.

When connecting the 3/8" poly tube, first assemble the nut, gripper, and retainer sleeve on the tubing. Then insert the plastic insert. Screw the nut on the elbow body. With a wrench, tighten the nut securely to create a water-tight connection.

Assembly and Parts, Cont.

Fill Plug Assembly

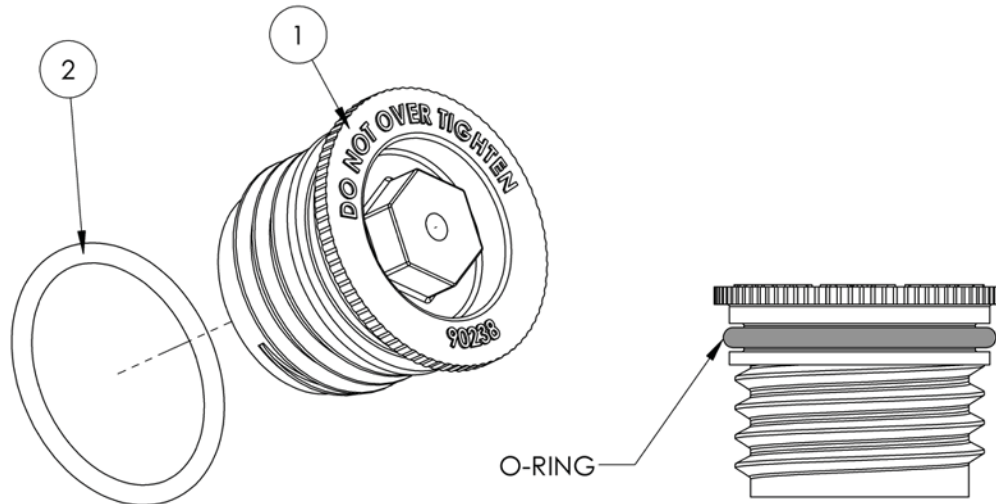


Figure 19: Fill Plug Assembly

	Part #	Description	Quantity
1	90238	Fill Plug	1
2	90829	Fill Plug O-Ring Seal	1
	90618	Fill Plug Assembly (all of the above parts)	

90238 Fill Plug	The Fill Plug (90238) seals the media access ports in the Media Tank. Care should be taken that the O-Ring seal (90829) area is kept clean and free of debris. Also, the O-Ring should be in the proper location in the groove. Do not overtighten the Fill Plug when assembling. When the flange comes into contact with the Media Tank, stop tightening. A 3/4" socket is recommended for assembly.
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Troubleshooting

Problem	Possible Cause	Solution
No soft water after regeneration	<p>No salt in brine cabinet</p> <p>Sediment in brine tank has plugged the brine line and air check/draw tube</p> <p>Flow control is plugged</p> <p>Drain line is pinched, frozen, or restricted</p> <p>Clogged injector assembly</p> <p>Salt bridge has formed due to high humidity or the wrong kind of salt</p>	<p>Add salt</p> <p>Remove air check/draw tube and flush with clean water. Clean injector assembly. Clean any sediment from brine cabinet</p> <p>Remove brine piston housing and clear debris from the flow control</p> <p>Straighten, thaw, or unclog the drain line</p> <p>Remove injector cap and clean nozzle and throat with a wooden toothpick. Replace throat if removed</p> <p>Test with a blunt object like a broom handle. Push the handle into the salt to dislodge the salt bridge</p>
No soft water	<p>The bypass valve is in the bypass position</p> <p>Appliance is plumbed backwards</p> <p>Extended power outage</p> <p>Water hardness has increased</p> <p>Not metering water</p> <p>Blending dial is open</p>	<p>Place the bypass valve in the service position</p> <p>Check that appliance is plumbed correctly</p> <p>Reset the time of day</p> <p>Re-test the water and re-enter a new setting number</p> <p>Flow should be indicated with water usage. If no flow, see below</p> <p>Make sure blending dial is closed</p>
No flow is indicated when water is flowing	<p>The bypass valve is in the bypass position</p> <p>Appliance is plumbed backwards</p> <p>Sensor not receiving signal from magnet on turbine</p>	<p>Place the bypass valve in the service position</p> <p>Check that appliance is plumbed correctly</p> <p>Remove sensor from bypass housing. Test with magnet on either flat side of sensor. If flow is indicated, check turbine. If no flow, replace sensor</p>
Flow indicated when water is not being used	<p>The household plumbing system has a leak</p>	<p>Repair the leak</p>
No read-out in display	<p>Electric cord is unplugged</p> <p>No electric power at outlet</p> <p>Defective transformer</p> <p>Defective circuit board</p> <p>High ambient room temperature. If the temperature exceeds 120°F, the display will blank out. This does not affect the operation of the controller</p>	<p>Plug in the transformer</p> <p>Check power source. Make sure outlet is not controlled by a switch</p> <p>Test with volt meter for 12 VAC at control. If less than 10 VAC or greater than 14 VAC, replace the transformer</p> <p>With 12 VAC present at controller, replace the controller</p> <p>No action necessary</p>

Troubleshooting, Cont.

Problem	Possible Cause	Solution
Appliance stays in regeneration	Controller not attached properly Defective magnet disk Foreign object in valve body Broken valve assembly. Motor running	Make sure the controller is pushed all the way onto the drive end cap Replace magnet disk Remove foreign object(s) from the valve body Repair the drive end cap
Excess water in brine tank	Restricted, frozen, or pinched drain line Plugged brine line, brine line flow control, or air check/draw tube Plugged injector assembly	Remove restriction, thaw, or straighten drain line Clean flow control, air check/draw tube, and brine line. Clean any sediment from the brine cabinet Clean or replace injector. Replace throat if removed
Not regenerating in proper sequence	Magnet disk defective Defective controller	Replace magnet disk Replace controller
Salty water (pink water from 61AAN iron filter)	Plugged injector Low water pressure Drain line or flow control is restricted Brine line restricted or crimped Excessive amount of water in brine cabinet Insufficient rinse time Intermittent pressure drop from feed source Brine valve drips water back to brine tank	Clean injector screen, nozzle, and throat Maintain minimum pressure of 30 psi Remove restriction Remove restriction, replace if crimped Verify correct water level relative to salt setting. Check brine line and fittings for loose connections Check mode setting chart for proper brine rinse time. Adjust time, if necessary Install check valve on the inlet water line to the appliance (Check local plumbing codes first) Clean brine valve housing, replace piston assembly



Reading Model Numbers

Hague appliance model numbers typically consist of two numerals followed by three letters, such as the WaterMax® 63BEQ.

Number or Letter	6	3	B	E	Q
Explanation	Number of buttons on controller	Number of compartments in appliance	Type of Media in Compartment 1	Type of Media in Compartment 2	Type of Media in Compartment 3

Refer to the following table as a key for the letters and corresponding media types.

Letter	Media Type	Letter	Media Type
A	Empty	K	BIRM and 6 lb Ultra-fil
B	Chlorostat	M	Ultra-fil
C	A554 Nitrate Resin	N	Manganese Greensand
D	Tannin Resin	P	SulfurStat and 6 lb. Ultra-fil
E	PC Carbon (Activated Carbon)	Q	Fine Mesh Resin and 2 lb. Bacteriostat
F	Multi-Grade	R	Filter Ag
G	SR7 Nitrate Resin	S	Calcite/Corosex
J	Calcite and 6 lb. Ultra-fil	X	Fine Mesh Resin

The letters BWO added to the end of a filter model number stand for Back Wash Only.

Note: The iron filter (61AAN) does not have a BWO designation because it uses the regenerant potassium permanganate.

Efficiency Statements

63MAQ, 63BEQ, 63MXQ, 62AMQ, 62APQ are efficiency rated according to NSF/ANSI 44. The stated efficiencies are valid only at the specified salt dosage and 8 gpm:

Model	Rated Efficiency	Salt Dosage	Capacity at That Dosage
63MAQ	5,600 grains/lb	1.1 lb	5,900 grains
63BEQ	5,600 grains/lb	1.1 lb	5,900 grains
63MXQ	5,270 grains/lb	1.6 lb	8,400 grains
62AMQ	5,220 grains/lb	1.0 lb	5,200 grains
62APQ	3,730 grains/lb	6.2 lb	23,100 grains

WaterMax[®] Water Conditioner Specifications

60 Series	63MAQ ¹	63BEQ ^{1,2}	63MXQ ¹	63MDQ	62AMQ ¹	62APQ ¹	62AKQ	62AJQ ³
Max Compensated Hardness (gpg)	90	90	110	90 ⁴	90	90	90	60
Iron (ppm) ⁵ ferrous-clear water Maximum ferrous iron reduction ⁶	0	0	12 ⁵	0	12 ⁵	2-12 ^{5,7}	15	5
Minimum pH (standard units)	7	7	7	7	7	7	7	6.3
Tannin (ppm)	0	0	0	0-2	0	0	0	0
Sulfur (ppm)-SulfurStat	0	0	0	0	0	0-5 ⁷	0	0
Maximum Chlorine (ppm)	0	3	0	0	0	0	0	0
Filtration-nominal rating (microns)	20	25	20	20	20	20	20	20
Media Amount Compartment #1 ⁸	1.5 lb	2.0 lb	1.5 lb	1.5 lb	Empty	Empty	Empty	Empty
Media Amount Compartment #2 ⁸	Empty	0.4 cu.ft.	0.6 cu.ft.	0.3 cu.ft.	6 lb	27 lb	0.4 cu.ft.	0.4 cu.ft.
Media Amount Compartment #3 Fine Mesh Cation Resin	1.06 cu.ft.	1.06 cu.ft.	1.06 cu.ft.	1.06 cu.ft.	1.06 cu.ft.	1.06 cu.ft.	1.06 cu.ft.	1.06 cu.ft.
Backwash Rate @ min. water pressure maximum flow to drain	2.4 ⁹	3 ⁹	2.4 ⁹	2.4 ⁹	5 ⁹	Empty ^{9,10}	7 ⁹	7 ⁹
Brine Line Flow Control Refill (gpm)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Water Pressure (min-max psi)	20-120	20-120	20-120	20-120	20-120	30-120	30-120	30-120
Flow Rate @ 25 psi drop-as tested by Hague	19.5	19.5	17	17	23	19.6	19.6	20.5
Flow Rate @ 15 psi drop-as tested by Hague	11	13	10.5	10.5	11.2	10.6	10.6	12.5
Pressure Drop @ Service Flow Rate of 8 gpm	11 psi	11 psi	12 psi	12 psi	9 psi	10 psi	10 psi	11 psi
#1 Setting—Salt lb/grains removed	1.1/5,900	1.1/5,900	1.6/8,400	NA	1/5,200	NA	NA	NA
#2 Setting—Salt lb/grains removed	3.2/16,300	3.2/16,300	4.2/20,000	NA	2.7/11,900	NA	NA	2.7/11,900
#3 Setting—Salt lb/grains removed	6.2/26,700	6.2/26,700	9.6/38,700	8.5/23,100	6.2/23,100	6.2/23,100	6.2/23,100	6.2/23,100
#4 Setting—Salt lb/grains removed	9.5/32,500	9.5/32,500	14.4/49,300	10.7/30,300	9.3/30,000	9.3/29,800	9.3/30,300	9.3/30,300
#1 Salt Setting—Total length of reg. Min/gal	12/13.5	12/16	12/13.5	NA	12/24	NA	NA	NA
#2 Salt Setting—Total length of reg. Min/gal	18/16.5	18/19	26/20.5	NA	18/27	NA	NA	23/70
#3 Salt Setting—Total length of reg. Min/gal	38/26.5	38/29.5	58/36.5	47/31	38/37	44/80	44/80	44/80
#4 Salt Setting—Total length of reg. Min/gal	56/35.5	56/38	74/44.5	64/39.5	58/56	61/89	61/89	61/89
Shipping weight (lb)	135	152	168	152	140	167	160	180
Bacteriostatic-KDF [®] Process Media*	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

For All Models:

Use clean white pellet or solar salt.
 Drain Line (Minimum I.D.) 1/2"
 Height (inches) 38 1/4"
 Salt storage capacity: 200 lb, 90 kg
 Electrical rating: 115V, 60 cycle
 Valve Inlet/Outlet 1"
 Water Temperature (Min-Max) 40-120 F
 Floor Space (inches) 15" x 30"
 Brine & Rinse total: 0.65 gpm
 Brine Draw: 0.25 gpm
 Rinse: 0.4 gpm
 Iron reduction to 0.3 ppm or less.
 (Not certified by WQA.)
 *Listed with the U.S. EPA as a Bacteriostatic
 Device U.S. EPA
 # 54369-OH-001. Not certified by WQA.

- ¹ Models 63MAQ, 63BEQ, 63MXQ, 62AMQ and 62APQ are certified by WQA for barium and radium reduction as verified and substantiated by test data. All other models are not certified by WQA and make no health claims.
 - ² Municipally supplied chlorinated water only.
 - ³ Calcite will add additional hardness to water before softening.
 - ⁴ Any hardness over 10 gpg will increase the chance of calcium carbonate precipitation. As the hardness increases so does the chance of this precipitation. Must use citric acid to regenerate along with salt.
 - ⁵ Regeneration every 96 hours is required when iron is present in the raw water supply unless noted otherwise. Use Salt Setting #3 or #4.
 - ⁶ Iron reduction claims limited to 5 ppm in the state of Wisconsin.
 - ⁷ Must have a minimum of 2 ppm iron and a minimum of 200 ppm TDS.
 - ⁸ When adding media in the field, check for proper settings. (See Specifications, above.)
 - ⁹ Rate of flow must be verified at the end of 1/2" I.D. drain line.
 - ¹⁰ This model has no backwash flow control button or retainer. Must have a minimum of 7 gpm @ 30 psi available for proper backwash.
- For the purposes of plumbing appliance sizing, only the rated service flow rate and corresponding pressure loss may be used. Prolonged operation of a water softener at flow rates exceeding the tested service flow rate may compromise performance.



WaterMax® Filter Specifications

The following table describes the available filters.

Filter	Purpose
61AAN	Removes iron and iron algae and bacteria. Reduces manganese. Also removes up to 5 ppm Hydrogen Sulfide with the presence of 2 ppm iron. For regeneration frequency, see 61AAN WaterMax® Filter Sizing Formula for this model.
61AAE-BWO	Removes tastes, odors and will reduce most man-made pollutants. Backwash every 3 days or as needed. Warning: Must not be backwashed for 24 hours after installation.
61AAR-BWO	Removes suspended matter (turbidity) from water down to the 20–40 micron range. Backwash every 3 days or as needed.
61AAS-BWO	Will raise the pH of most low pH water. The mineral media must be replenished periodically to maintain optimum bed depth for effective correction. Backwash every 2 days to prevent solidification of mineral media.
61AAF-BWO	Removes suspended matter (turbidity) from water down to nominal 20 microns. Backwash every 3 days or as needed.

Refer to the following specifications for the WaterMax® water filtration appliances 60 series.

	61AAN	61AAE-BWO	61AAR-BWO	61AAS-BWO	61AAF-BWO
Capacity (ppm)	10,000	N/A	N/A	N/A	N/A
Sulfur H ₂ S	5	N/A	N/A	N/A	N/A
Iron (ppm)	20	N/A	N/A	N/A	N/A
Minimum pH	7	N/A	N/A	5 ¹	N/A
Media type	Manganese Greensand (N)	Activated Carbon (E)	Filter Ag (R)	Calcite/Corosex (S)	Multi-Grade (F)
Media amount (cu. ft.)	1.25	1	1.25	1.25	1
Cont. flow rate (gpm)	6	6	6	6	6
Peak flow rate (gpm)	10	10	10	10	12
Backwash rate (gpm)	7	5	5	7	7
Brine line flow control (gpm)	0.5	N/A	N/A	N/A	N/A
Water Pressure	30–120	30–120	30–120	30–120	30–120
Mode settings	1	1	1	1	1
Backwash #1 (min)	5	7	7	7	7
Brine/rinse (min)	45	0	0	0	0
Backwash #2 (min)	3	0	0	0	0
Salt (lb) 3 lb salt setting=4 oz KMnO ₄ ²	3	0	0	0	0
Regenerant used	4 oz KMnO ₄	N/A	N/A	N/A	N/A
Flow rate at 25 psi drop	16.7 gpm	21.4 gpm	21.5 gpm	20.4 gpm	19.4 gpm
Flow rate at 15 psi drop	10.5 gpm	15.9 gpm	15.9 gpm	15.2 gpm	15.1 gpm
Service flow @ pressure drop ³	4.5 gpm @ 4.7 psi	3.6 gpm @ 1.1 psi	4.5 gpm @ 1.5 psi	4.5 gpm @ 1.8 psi	3.6 gpm @ 1.5 psi

¹ The 61AAS-BWO will raise the pH of most, but not all low pH water. Some water requires chemical injection using a chemical feed pump.

² **Caution:** Follow the instructions on the KMnO₄ container.

³ For optimum water quality, do not exceed recommended service flow rate for filter media type.



Certificates

State of California
Department of Health Services
Water Treatment Device
Certificate Number

05 - 1711

Date Issued: June 22, 2005

Trademark/Model Designation	Replacement Elements
Hague Watermax 52 AMQ	N/A
Hague Watermax 62 AMQ	N/A

Manufacturer: Hague Quality Water, International

The water treatment device(s) listed on this certificate have met the testing requirements pursuant to Section 116830 of the Health and Safety Code for the following health related contaminants:

Microbiological Contaminants and Turbidity	Inorganic/Radiological Contaminants
None	Barium Radium 226/228
Organic Contaminants	
None	

Rated Service Capacity: N/A Rated Service Flow: 8 gpm

Conditions of Certification:

Do not use with water that is microbiologically unsafe or of unknown quality, without adequate disinfection before or after the system.

State of California
Department of Health Services
Water Treatment Device
Certificate Number

05 - 1712

Date Issued: June 22, 2005

Trademark/Model Designation	Replacement Elements
Hague Watermax 52 APQ	N/A
Hague Watermax 62 APQ	N/A

Manufacturer: Hague Quality Water, International

The water treatment device(s) listed on this certificate have met the testing requirements pursuant to Section 116830 of the Health and Safety Code for the following health related contaminants:

Microbiological Contaminants and Turbidity	Inorganic/Radiological Contaminants
None	Barium Radium 226/228
Organic Contaminants	
None	

Rated Service Capacity: N/A Rated Service Flow: 8 gpm

Conditions of Certification:

Do not use with water that is microbiologically unsafe or of unknown quality, without adequate disinfection before or after the system.



Certificates, Cont.

State of California
Department of Health Services
Water Treatment Device
Certificate Number

05 - 1713

Date Issued: June 22, 2005

Trademark/Model Designation	Replacement Elements
Hague Watermax 53 BEQ	N/A
Hague Watermax 63 BEQ	N/A
Manufacturer: Hague Quality Water, International	
The water treatment device(s) listed on this certificate have met the testing requirements pursuant to Section 116830 of the Health and Safety Code for the following health related contaminants:	
<u>Microbiological Contaminants and Turbidity</u>	<u>Inorganic/Radiological Contaminants</u>
None	Barium Radium 226/228
<u>Organic Contaminants</u>	
None	
Rated Service Capacity: N/A	Rated Service Flow: 8 gpm
<u>Conditions of Certification:</u>	
Do not use with water that is microbiologically unsafe or of unknown quality, without adequate disinfection before or after the system.	

State of California
Department of Health Services
Water Treatment Device
Certificate Number

05 - 1714

Date Issued: June 22, 2005

Trademark/Model Designation	Replacement Elements
Hague Watermax 53 MAQ	N/A
Hague Watermax 63 MAQ	N/A
Manufacturer: Hague Quality Water, International	
The water treatment device(s) listed on this certificate have met the testing requirements pursuant to Section 116830 of the Health and Safety Code for the following health related contaminants:	
<u>Microbiological Contaminants and Turbidity</u>	<u>Inorganic/Radiological Contaminants</u>
None	Barium Radium 226/228
<u>Organic Contaminants</u>	
None	
Rated Service Capacity: N/A	Rated Service Flow: 8 gpm
<u>Conditions of Certification:</u>	
Do not use with water that is microbiologically unsafe or of unknown quality, without adequate disinfection before or after the system.	



Certificates, Cont.

State of California
 Department of Health Services
 Water Treatment Device
 Certificate Number

05 - 1715

Date issued: June 22, 2005

Trademark/Model Designation	Replacement Elements
Hague Watermax 53 MXQ	N/A
Hague Watermax 63 MXQ	N/A

Manufacturer: Hague Quality Water, International

The water treatment device(s) listed on this certificate have met the testing requirements pursuant to Section 116830 of the Health and Safety Code for the following health related contaminants:

Microbiological Contaminants and Turbidity	Inorganic/Radiological Contaminants
None	Barium
	Radium 226/228
Organic Contaminants	
None	

Rated Service Capacity: N/A	Rated Service Flow: 8 gpm
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Conditions of Certification:

Do not use with water that is microbiologically unsafe or of unknown quality, without adequate disinfection before or after the system.

Notes

Notes

60 Series

has these third-party listings:



Made In The USA



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The WQA Gold Seal assures that this product has been tested and validated by the Water Quality Association. This validation assures that all electrical components are UL or CSA listed and all components that are in contact with the treated water are FDA or NSF listed. The appliance conforms to NSF/ANSI 44 for softening performance, efficiency, Barium reduction, and Radium 226/228 reduction as verified and substantiated by test data. Barium/Radium reduction occurs as long as the appliance is softening the water. Test product water hardness every 12 months to check for proper functioning.



2008 Hague Quality Water, Int'l
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