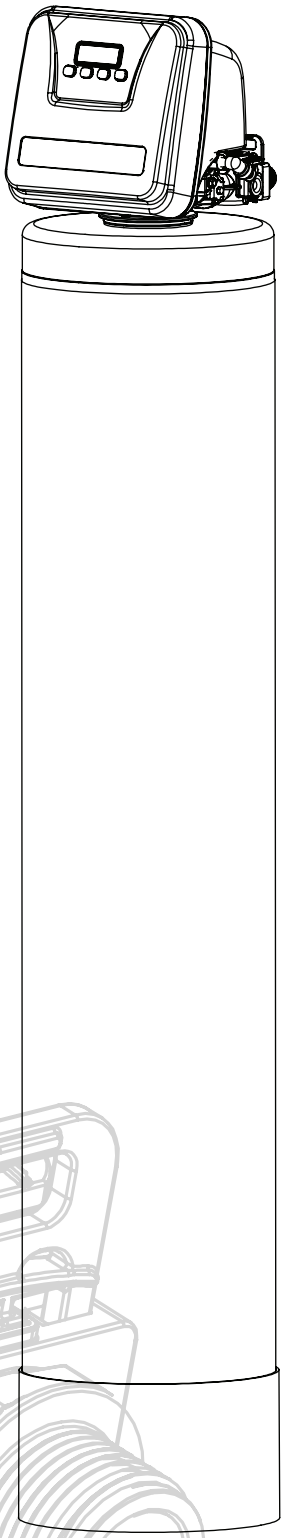
Owners Manual



565 Filter

-Taste and Odor (TO)
- Multimedia (MM)
- nextSand
- Neutralizer (NU)
- Birm (BM)

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

Canada West
855 Park St., Unit 1
Regina, SK S4N 6M1

7503 35th St. SE
Calgary, AB T2C 1V3

Canada East
490 Pinebush Rd., Unit 1
Cambridge, ON N1T 0A5

U.S.A.
7229 University Avenue, NE
Fridley, MN 55432

56 Lightcap Road
Pottstown, PA 19464

9760 Mayflower Park Drive
Suite 110
Carmel, IN 46032

4655 McDowell Rd. W
Phoenix, AZ 85035

Table of Contents

READ THIS MANUAL FIRST

- Read this manual thoroughly to become familiar with the device and its capabilities before installing or operating your Water Filter. Failure to follow instructions in this manual could result in personal injury or property damage. This manual will also help you to get the most out of your filter.
- This system and its installation must comply with state and local regulations. Check with your local public works department for plumbing and sanitation codes. In the event the codes conflict with any content in this manual the local codes should be followed. For installations in Massachusetts, Massachusetts Plumbing Code 248 CMR shall be adhered to. Consult your licensed plumber for installation of this system.
- This water filter is designed to operate on pressures of 30 psi to 125 psi. If the water pressure is higher than the maximum use a pressure reducing valve in the water supply line to the filter.
- This unit is capable of operating at temperatures between 40°F and 110°F (4°C - 43°C). Do not use this water filter on hot water supplies.
- Do not install this unit where it may be exposed to wet weather, direct sunlight, or temperatures outside of the range specified above.
- Avoid pinched o-rings during installation by applying (provided with install kit) NSF certified lubricant to all seals.
- Filters are commonly exposed to high levels of iron, manganese, sulfur, and sediments. Damage to pistons, seals, and or spacers within the control valve are not covered in this warranty due to the harsh environment.
- It is recommended to regularly inspect and service the control valve on an annual basis. Cleaning and or replacement of piston, seals, and or spacers may be necessary depending on how harsh the conditions are. An Annual Maintenance kit (Part # 60010307) is available for this purpose
- Do not use water that is microbiologically unsafe without adequate disinfection before or after this system.
- This publication is based on information available when approved for printing. Continuing design refinement could cause changes that may not be included in this publication. Canature WaterGroup™ reserves the right to change the specifications referred to in this literature at any time, without prior notice.

Safety Messages

Watch for the following safety messages in this manual:

NOTE: used to emphasize installation, operation or maintenance information which is important but does not present a hazard.

Example: NOTE: Check and comply with you state and local codes. You must follow these guidelines.

CAUTION: used when failure to follow directions could result in damage to equipment or property.

Example:

CAUTION! Disassembly while under pressure can result in flooding.

WARNING: used to indicate a hazard which could cause injury or death if ignored.

Example:

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

NOTE: Do not remove or destroy the serial number. It must be referenced on request for warranty repair or replacement

SPECIFICATION

Model	Media Cu Ft	Flow Rate USGPM			Micron Rating	Mineral Tank Size	Pipe Size Inches	Ship Weight Lbs
		Service	Peak	Backwash				
Iron Filters - Birm								
HT 565BM-75	0.75	3.0	4.0	3.5		8 x 44	3/4" and 1"	67
HT 565BM-100	1.0	3.0	5.0	4.0		9 x 48	3/4" and 1"	79
HT 565BM-150	1.5	4.0	8.0	5.0		10 x 54	3/4" and 1"	101
Taste & Odor Filters								
HT 565TO-75	0.75	4.0	5.0	3.5		8 x 44	3/4" and 1"	50
HT 565TO-100	1.0	4.0	6.0	4.0		9 x 48	3/4" and 1"	60
HT 565TO-150	1.5	5.0	7.0	5.0		10 x 54	3/4" and 1"	78
Neutralizing Filters								
HT 565NU-75	0.75	2.0	4.0	3.5		8 x 44	3/4" and 1"	93
HT 565NU-100	1.0	3.0	6.0	4.0		9 x 48	3/4" and 1"	120
HT 565NU-150	1.5	4.0	10.0	5.0		10 x 54	3/4" and 1"	164
Sediment Turbidity Multi-Media Filters								
HT 565MM-75	0.75	4.0	5.0	4.0	15 -20 µ	8 x 44	3/4" and 1"	79
HT 565MM-100	1.0	5.0	7.0	5.0	15 -20 µ	9 x 48	3/4" and 1"	118
HT 565MM-150	1.5	7.0	10.0	7.0	15 -20 µ	10 x 54	3/4" and 1"	144
NextSand Turbidity Filters								
HT 565NEX-75	0.75	4.0	6.0	3.5	3 - 5 µ	8 x 44	1/2" - 1"	90
HT 565NEX-100	1.00	5.0	8.0	4.0	3 - 5 µ	9 x 48	1/2" - 1"	135
HT 565NEX-150	1.50	8.0	10.0	5.0	3 - 5 µ	10 x 54	1/2" - 1"	175

Working Temperature = 34-110°F (1-43°C)
(Do not subject the unit to freezing temperatures)
Working Pressure = 30-125 PSIG (137-861 kPa)
Voltage = 120V / 60 Hz
Pipe Size = 3/4" and 1"

- At the stated service flow rates, the pressure drop through these devices will not exceed 15 psig.
- The manufacturer reserves the right to make product improvements which may deviate from the specifications and descriptions stated herein, without obligation to change previously manufactured products or to note the change.

* Do not use water that is microbiologically unsafe without adequate disinfection before or after the system.

Peak flow rates intended for intermittent use only (10 minutes or less) and are for residential applications only. Do not use peak flow rate for commercial applications or for a continuous rate when treated water supplies are geothermal heat pump, swimming pool, etc.

For satisfactory operation, the pumping rate of the well system must equal or exceed indicated backwash flow rate.

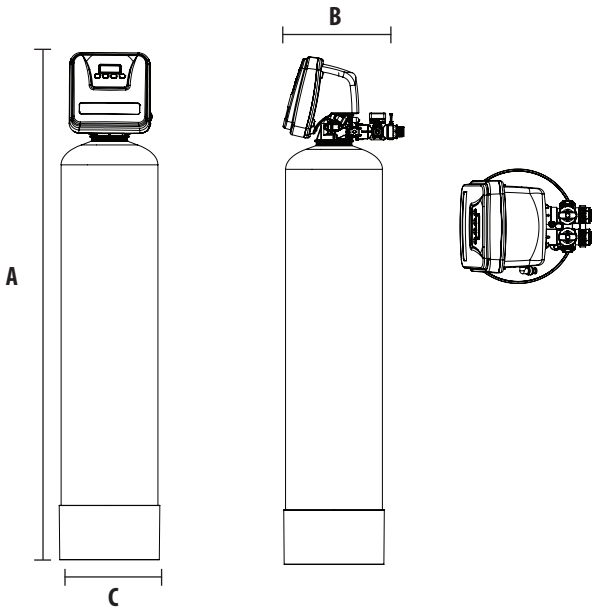
All units come with plastic bypass

Water and Time Consumed During Regeneration

	Backwash Minutes	Rapid Rinse Minutes	Total Time of Regeneration	Total Water Consumed during Regeneration (GAL) (Birm, TO, Neu)	Total Water Consumed during Regeneration (GAL) (MM)	Total Water Consumed during Regeneration (GAL) (nextSand)
75	10	10	20	70	80	100
100	10	10	20	80	100	140
150	10	10	20	100	140	200

SYSTEM DIMENSIONS

Models	A (Inches)	B (Inches)	C (Inches)
75	51.5	13"	8"
100	55.5	15"	9"
150	61.5	16"	10"



BASIC PRINCIPLES

The success of the installation will depend, to a great extent, on advanced planning and preparation. Careful attention to the location of the unit, accessibility to electrical and drain facilities, and the availability of the proper tools will ensure a professional-looking installation.

Of utmost importance is the assurance that the filter has been properly applied and meets all specifications.

Application:

Correct application is directly associated with the performance and life expectancy of any water filter. It is important, therefore, to understand how your WaterGroup Water Filter functions and to know its capabilities and limitations so that a correct application can be made.

By following the guidelines and recommendations set forth in this manual, you can be certain your filter is applied correctly.

MM / nextSand Filter

The Automatic Water Filter is capable of removing particulate matter particle size as small as 30 microns. It will not remove color, organics, colloidal turbidity or dissoved solids. Some applications include:

- Removal of suspended matter in any water system
- Removal of particulate matter, such as clay, mud, etc.
- Prefiltration of oxidized iron prior to an automatic or manual softener
- Removal of light sand

The quality and number of gallons of filtered water between backwashes will depend upon the amount, type, and size of the particulate matter being filtered. If a water sample is sent to a laboratory, where application of a MMF Type unit is contemplated. The laboratory will test for Nephelometric Turbidity Units (NTU) and suspended solids (mg/L). The sample will also be filtered through 10 micron filter paper and NTU run on a filtered sample. If the NTU of the raw water exceeds 150, suspended solids exceed 150 mg/L, or the filter water throught the 10 micron filter paper has unacceptable quality, a MMF filter might not be applicable. As a guide, the U.S. Public Health Drinking Water standards states the turbidity should not exceed 1 NTU. The exact number of gallons filtered between backwashes can not be given because of many variables.

TO Filter

Automatic Water Filter with Activated Media will control chlorine taste and odor, and it will also remove most objectional organic colors. It will not remove hydrogen sulfide. It is important to note that whenever the cause of an objectional taste or odor has not been established, Health Authorities should determine if the water is safe to drink. Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system.

NU Filter*

Automatic Water Filter with Neutralizing Media will neutralize slightly acid water (pH 5.2 to >6.8) and thus help to prevent unsightly brown or green stains due to corrosion of household plumbing. If the pH is between 5 and 6, one part of Magnesium Oxide Media should be mixed with five parts of Calcite Media to provide additional neutralizing capability. If the water to be treated has a pH less than 5, a high hardness, or a high carbon dioxide level, NF might not be applicable; a solution feeder should be used. Because NF adds hardness, it should be used prior to a softener.

***NOTE: Under dynamic conditions it might be necessary to mix five parts Calcite with one part Magnesium Oxide to effectively raise the pH. In order to size and apply the equipment correctly, a complete analysis of the water supply should be obtained.**

BM Filter

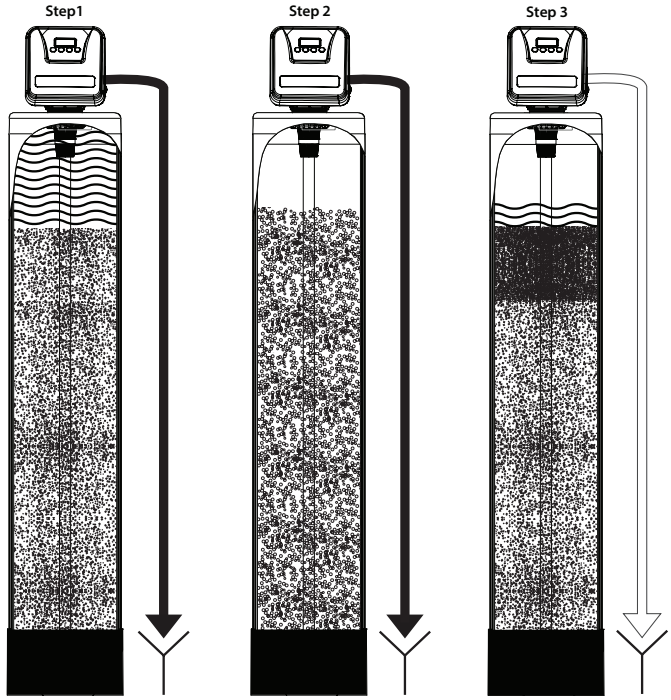
This media acts as a catalyst for the removal of iron and manganese from the water but require pre-oxidation. This media removes the iron and manganese from the water. This is not recommended to remove hydrogen sulfide from the water and requires high pH water. The media is not sacrificial hence no replenishment is required.

CAUTION! Do not use where the water is microbiologically unsafe or with water of unknown quality without adequate disinfection before or after the unit.

Control Valve Regeneration Sequence

The regeneration cycle goes through 3 steps.

1. **Backwash (minimum 30 psi inlet pressure required):** During the backwash cycle, water flows upwards through the bed, expanding the media and carrying any contaminants trapped within it to the drain.
2. **Rapid Rinse:** During the rapid rinse cycle, water flows downwards through the bed, settling the media and carrying any precipitated contaminants trapped within it to the drain.
3. **In-Service Position:** The unit then returns to the In-Service position. While this happens water continues to enter the tank.



UNPACKING / INSPECTION

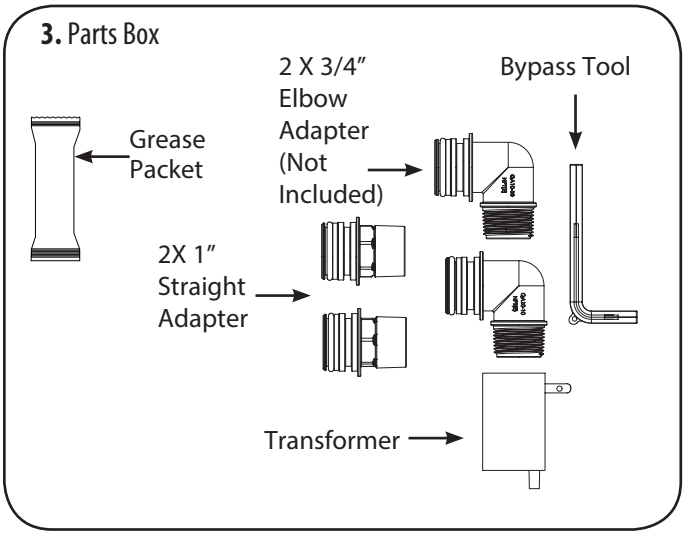
Be sure to check the entire unit for any shipping damage or parts loss. Also note damage to the shipping cartons. Contact the transportation company for all damage and loss claims. The manufacturer is not responsible for damages in transit.

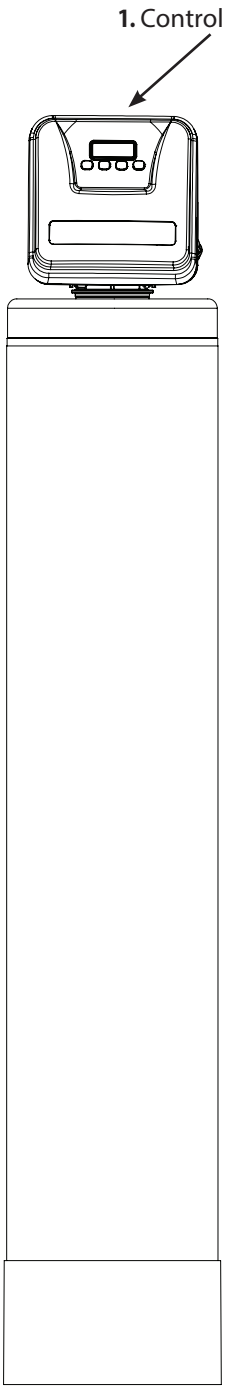
Small parts, needed to install the filter, are in a parts box. To avoid loss of the small parts, keep them in the parts bag until you are ready to use them.

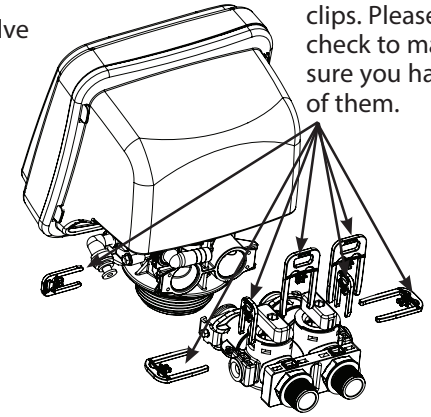
What is included in the box?

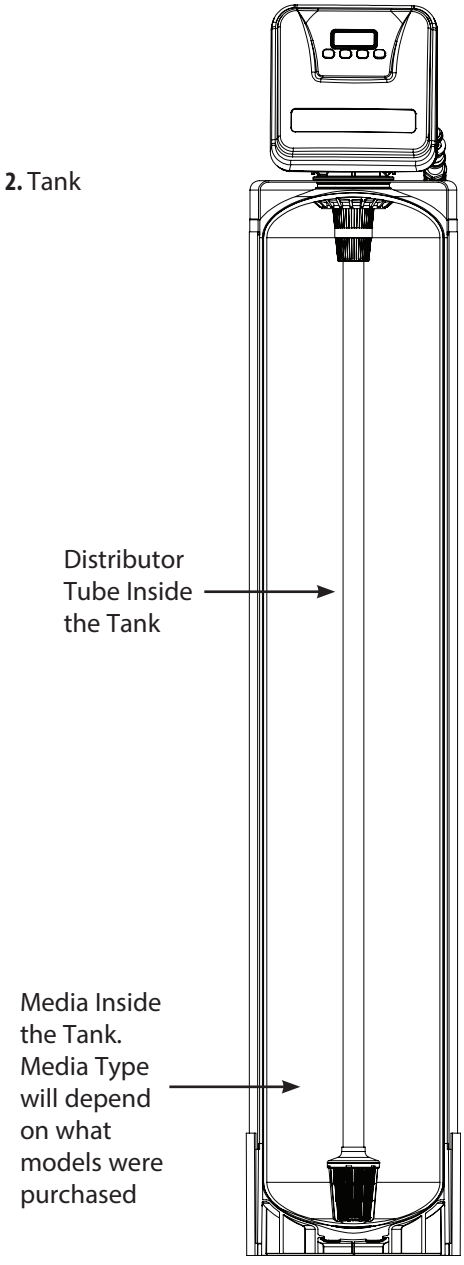
For Models 75,100,150 and 200 (TO and Birm Filter Only) you will expect the following.
Shipping Carton Quantity – 1:

1. Control Valve
2. Tank
3. Parts Box
4. Owners Manual
5. Drain Hose & Clamp (Not included in some brands)









For Models2 0,30, the media and Control Valve is packaged separately in carton and bags

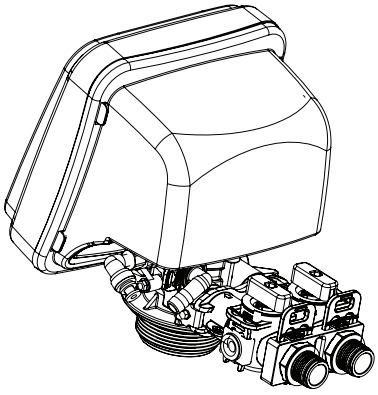
What is included with 20,30 models?

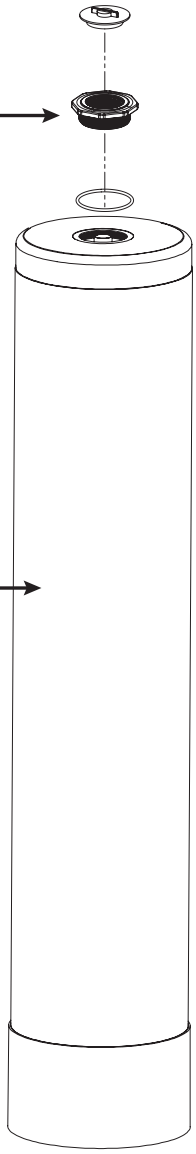
1. Tank (Model 30 will get an Adapter and Oring attached to the tank)
2. Control Valve with Parts Box
3. Media Boxes (Qty 2 for 20, Qty 3 for 30
4. Drain Line and Hose Clamp (Not Included) with some models

Model 30 will get Adaptor and Oring Shown

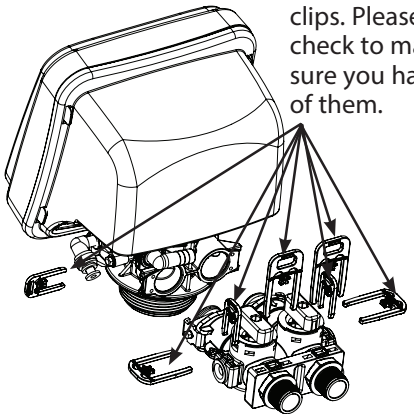
There are 7 Red clips. Please check to make sure you have all of them.

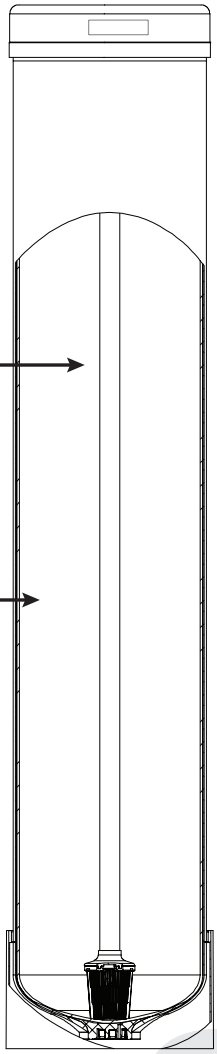
2. Control Valve





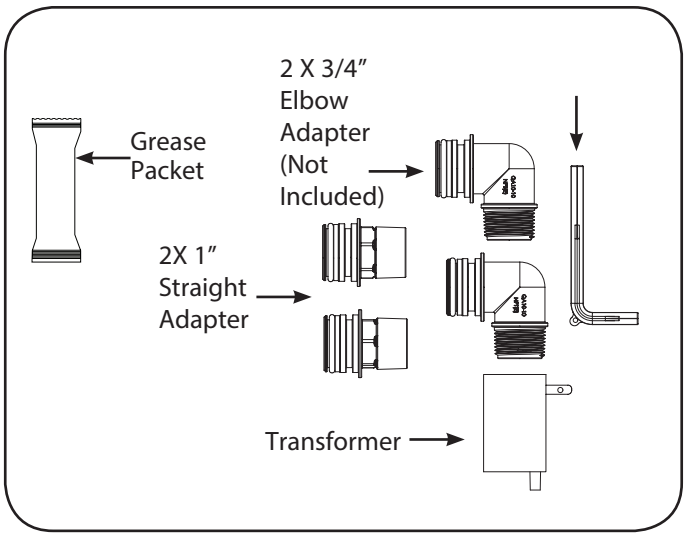
1. Tank



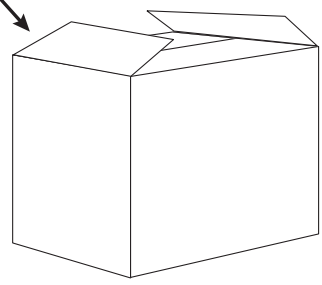


Distributor Tube Inside the Tank

Media Inside the Tank. Media Type will depend on what models were purchased

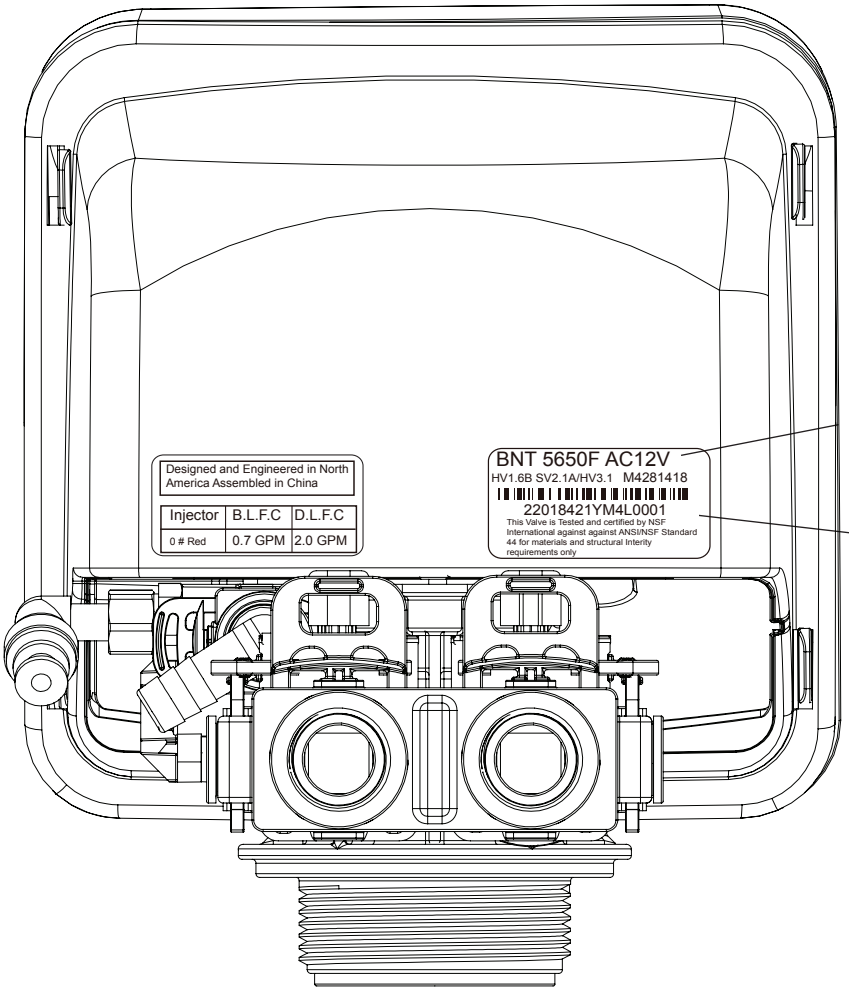


3. Media Box (Qty depends on Models)

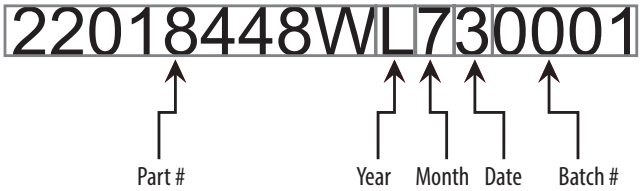


Check Valve Type and Valve Serial

Check to make sure Valve Type if Downflow (DF) (left Sticker shown below). The right Sticker shows the serial # of the control valve. The middle Sticker is dataplate which provides information of Serial # and Date of Manufacture of complete system. Both Serial # labels are important for troubleshooting.



Valve Serial #:



(22018448W): Part #

(L)Year : '' M'' stand for 2016 year,'' L'' stand for 2015, ''K'' stand for 2014, ''J'' stand for 2013

(7)Month: 1 (Jan) 2(Feb) 3(Mar) 4(April) 5(May) 6(June) 7(July) 8(Aug) 9(Sep) A(Oct) B(Nov) C(Dec)

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

(0001): Batch code

BEFORE INSTALLATION

Contact your local distributor to use Canature WaterGroup™ laboratory for complete water analysis free of cost and no obligation to you.

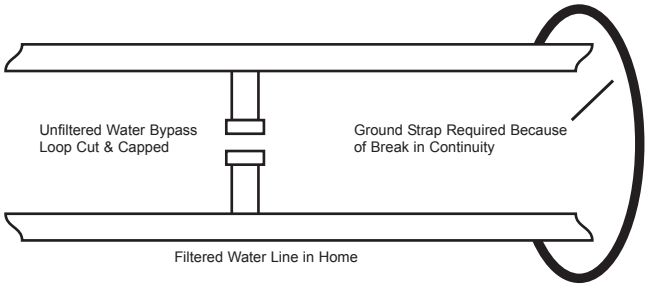
The laboratory addresses can be found on the front page of the manual.

All government codes and regulations governing the installation of these devices must be observed.

If the ground from the electrical panel or breaker box to the water meter or underground copper pipe is tied to the copper water lines and these lines are cut during installation of the Noryl bypass valve and/or poly pipe, an approved grounding strap must be used between the two lines that have been cut in order to maintain continuity. The length of the grounding strap will depend upon the number of units being installed and/or the amount of copper pipe being replaced with plastic pipe. See below.

In all cases where metal pipe was originally used and is later interrupted by poly pipe or the Noryl bypass valve or by physical separation, an approved ground clamp with no less than #6 copper conductor must be used for continuity, to maintain proper metallic pipe bonding.

NOTE: Check your local electrical code for the correct clamp.



Inspecting and Handling Your Filter

Inspect the equipment for any shipping damage. If damaged, notify the transportation company and request a damage inspection. Damage to cartons should also be noted.

Handle the filter unit with care. Damage can result if it is dropped or set on sharp, uneven projections on the floor.

Do not turn the filter unit upside down.

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

Check Your Water Pressure and Pumping Rate

Two water system conditions must be checked carefully to avoid unsatisfactory operation or equipment damage:

1. Minimum water pressure required at the filter tank inlet is 30 psi.
2. The pumping rate of your well pump must at least equal the required backwash flow rate of your model (see Specifications on Page 5 for backwash flow rates).

To measure the pumping rate of your pump, follow these instructions:

- **a.** Make certain no water is being drawn. Open spigot nearest pressure tank. When pump starts, close spigot and measure time (in seconds) to refill pressure tank (when pump shuts off). This figure represents cycle time.
- **b.** With the pressure tank full, draw water into a container of known volume and measure the number of gallons drawn until the pump starts again. This is draw-down. Divide this figure by cycle time and multiply the result by 60 to arrive at the pumping rate in gallons per minute (gpm).

To aid in your calculation, insert the data in the following formula:

DRAWDOWN_____÷ CYCLE TIME_____x 60
(gals) (seconds)
= PUMPING RATE_____
(gpm)

EXAMPLE: DRAWDOWN is 6 gals; CYCLE TIME is 53 secs; then, PUMPING RATE equals:
6 gals ÷ 53 secs x 60 = 6.8 gpm

See Specifications on page 5 for minimum flow rates.

NOTE: If your pumping rate is inadequate, do not install your filter until the problem is solved.

Tools Required for Installation:

- Two adjustable wrenches
- Additional tools may be required if modification to home plumbing is required.
- Plastic inlet and outlet fittings are included with the filter. To maintain full valve flow, 3/4" or 1" pipes to and from the filter fittings are recommended. You should maintain the same, or larger, pipe size as the water supply pipe, up to the filter inlet and outlet.
- Use copper, brass, or PEX pipe and fittings.
- Some codes may also allow PVC plastic pipe.
- ALWAYS install the included bypass valve, or 3 shut-off valves. Bypass valves let you turn off water to the filter for repairs if needed, but still have water in the house pipes.
- 5/8" OD drain line is needed for the valve drain. A 10' length of hose is not included with some brands.

Locate Water Conditioning Equipment Correctly

Select the location of your filter tank with care. Various conditions which contribute to proper location are as follows:

1. Locate as close as possible to the water supply source.
2. Locate as close as possible to a floor or laundry tub drain.
3. Locate in correct relationship to other water conditioning equipment (see Fig. 1, 2 or 3, Page 14).
4. Filters and filters should be located in the supply line before the water heater. Temperatures above 120°F damage filters and filters
5. Do not install a filter or filter in a location where freezing temperatures occur. Freezing may cause permanent damage to this type of equipment and will void the factory warranty.
6. Allow sufficient space around the unit for easy servicing.
7. If your water source is a community water supply, a public water supply or you wish to bypass water used for a geothermal heat pump, lawn sprinkling, out-buildings or other high demand applications, refer to Fig. 2 or 3 on Page 14 for additional equipment required.
8. Keep the filter out of direct sunlight. The sun''s heat may soften and distort plastic parts.

Facts to Remember When Planning Your Installation

1. All installation procedures must conform to local and state plumbing codes.
2. If lawn sprinkling, a swimming pool, geothermal heating/cooling or water for other devices/activities is to be treated by the filter, a larger model filter must be selected to accommodate the higher flow rate demands of these items. The pumping rate of the well pump must be sufficient to accommodate these items plus the backwash requirement of the filter. Consult your dealer for alternative instructions if the pumping rate is insufficient.
3. Remember that the filter inlet is attached to the pipe that supplies water (i.e., runs to the pump) and the outlet is the line that runs toward the water heater.
4. Before commencing installation, it is advisable to study the existing piping system and determine the size, number and type of fittings required. Typical system schematics shown in these instructions (Fig. 1, 2, or 3, Page 14), will be of assistance.

NOTE: If the plumbing system is used as the ground leg of the electric supply, continuity should be maintained by installing ground straps around any nonconductive plastic piping used in installation.

INSTALLATION

Proper installation sequence of water conditioning equipment is very important. Refer to the diagrams following for your particular water supply.

All government codes and regulations governing the installation of these devices must be observed.

CAUTION! If the ground from the electrical panel or breaker box to the water meter or underground copper pipe is tied to the copper water lines and these lines are cut during installation of the Noryl bypass valve and/or poly pipe, an approved grounding strap must be used between the two lines that have been cut in order to maintain continuity. The length of the grounding strap will depend upon the number of units being installed and/or the amount of copper pipe being replaced with plastic pipe. See Figure 1.

In all cases where metal pipe was originally used and is later interrupted by poly pipe or the Noryl bypass valve as in Figure 1 or by physical separation as in Figure 2, an approved ground clamp with no less than #6 copper conductor must be used for continuity, to maintain proper metallic pipe bonding.

NOTE: Check your local electrical code for the correct clamp.

Figure 1a: Taste and Odor Filter (TO) Typical Installation:

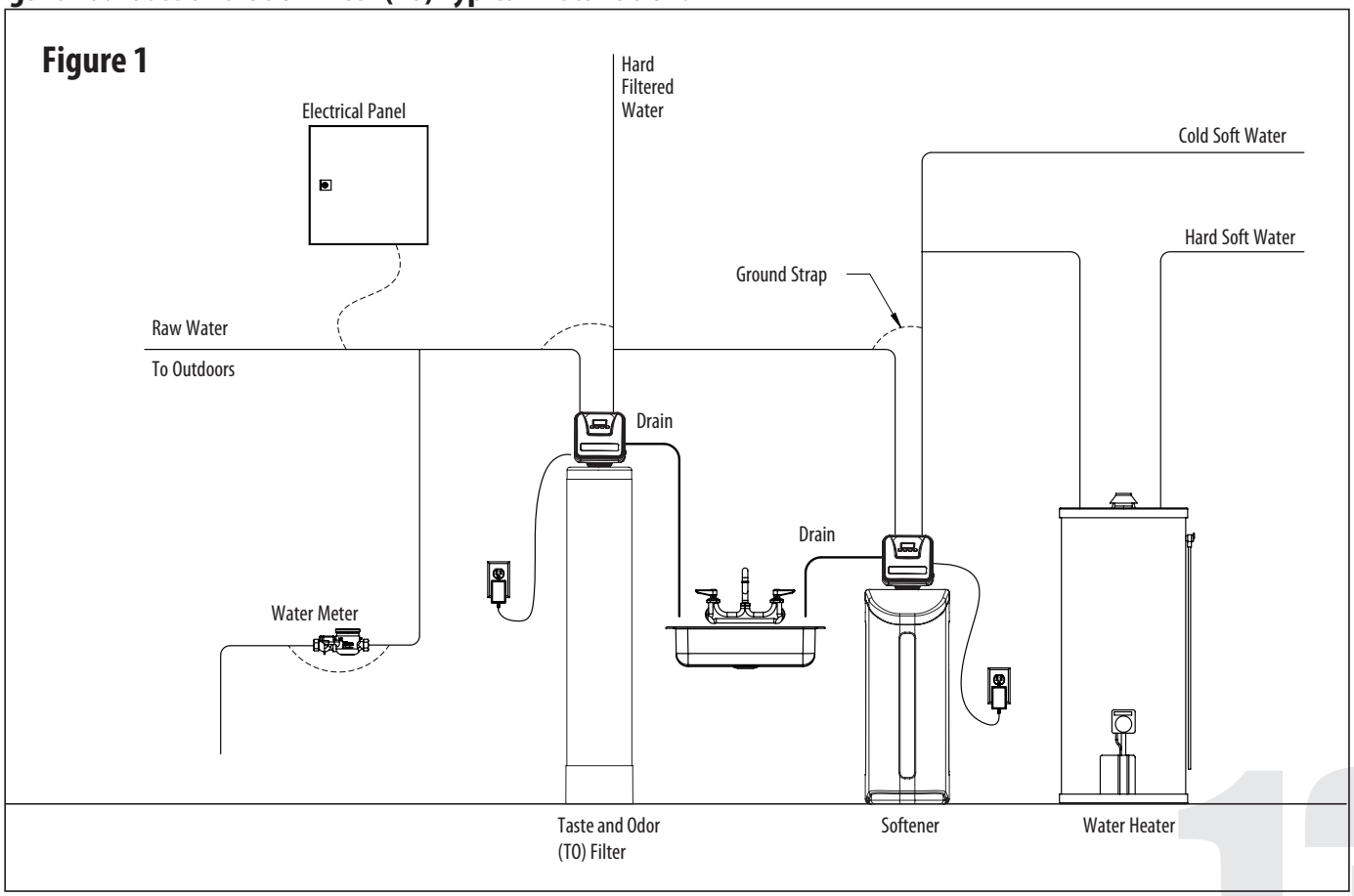


Figure 1b: Birm (BM) Typical Installation:

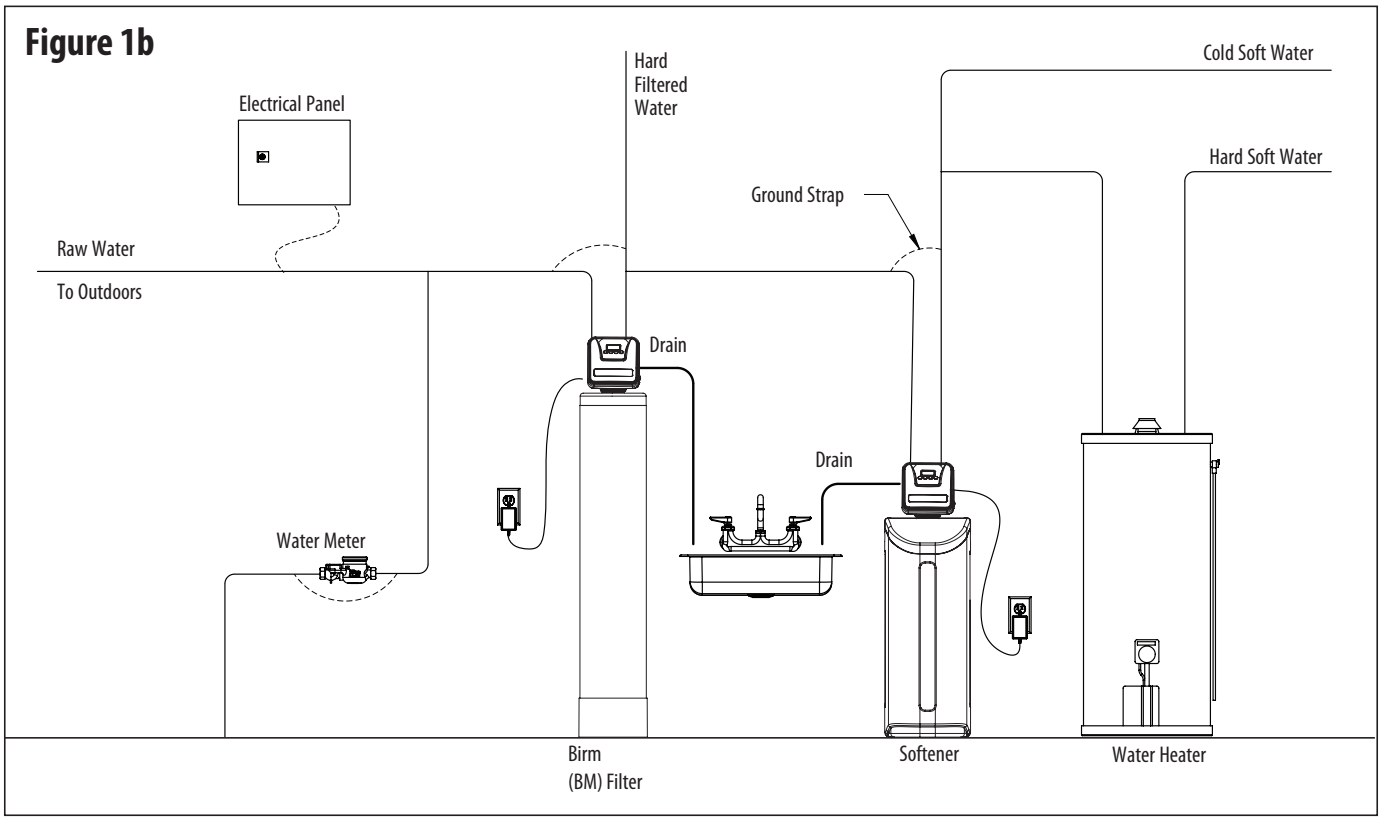


Figure 1c: Multi Media Filter (MM or nextSand) Typical Installation:

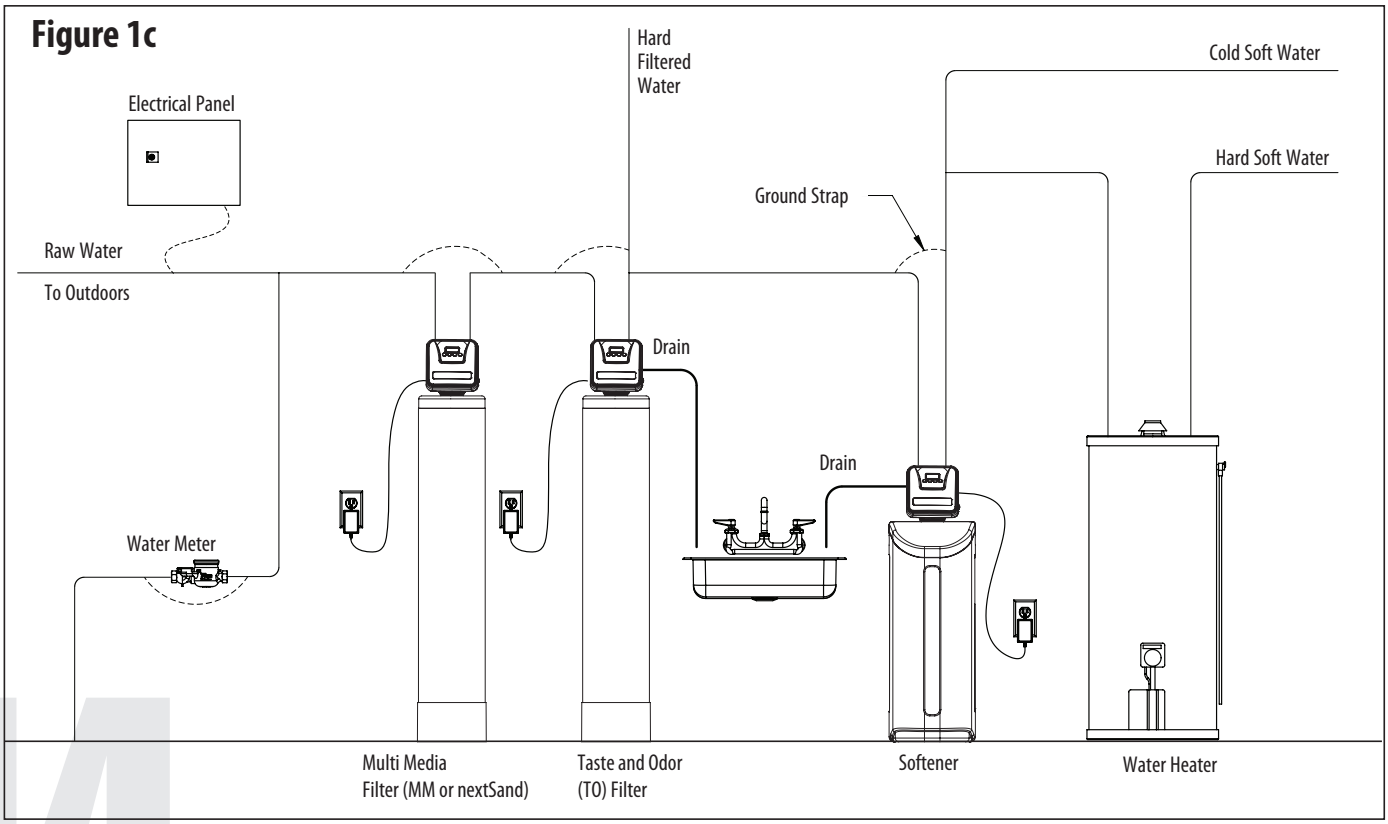
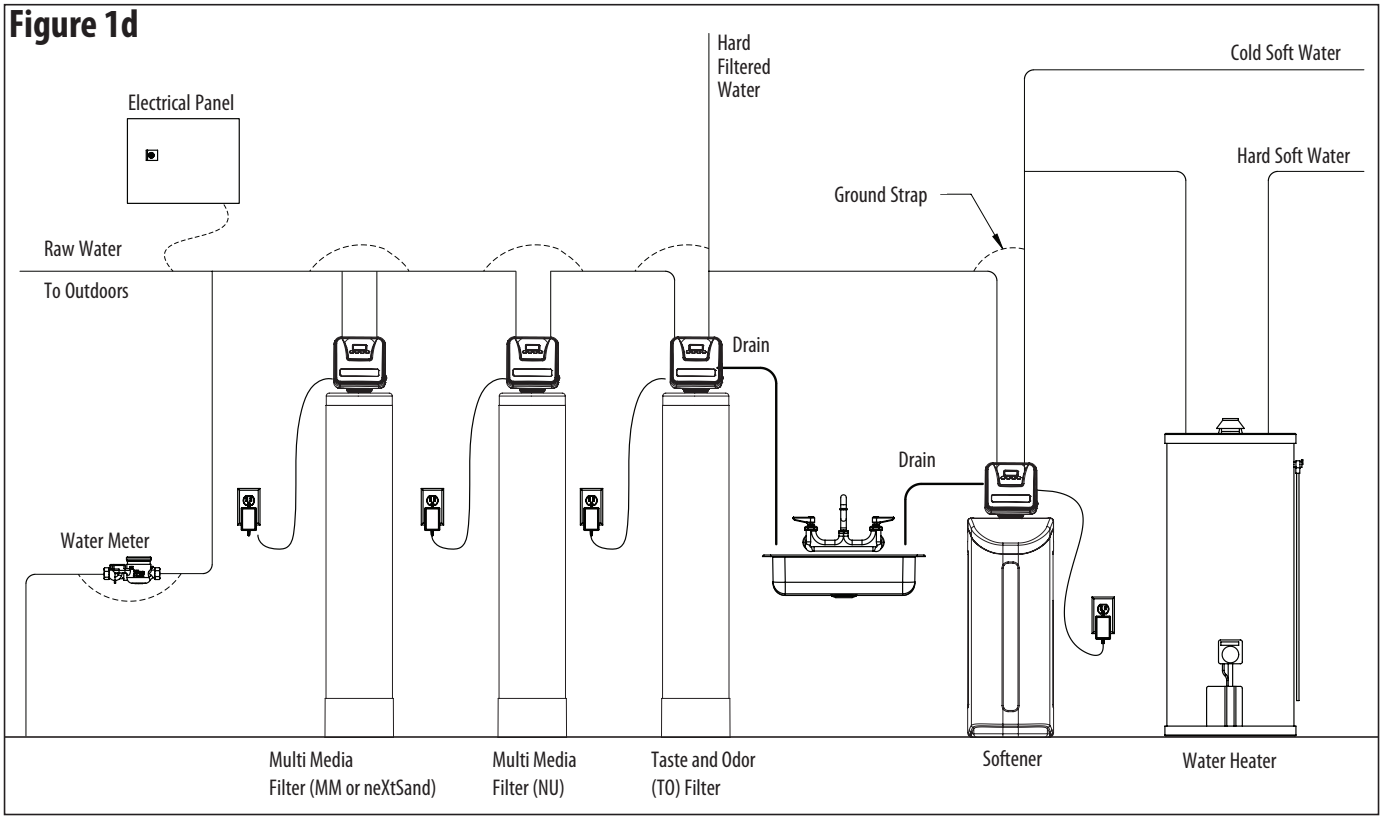


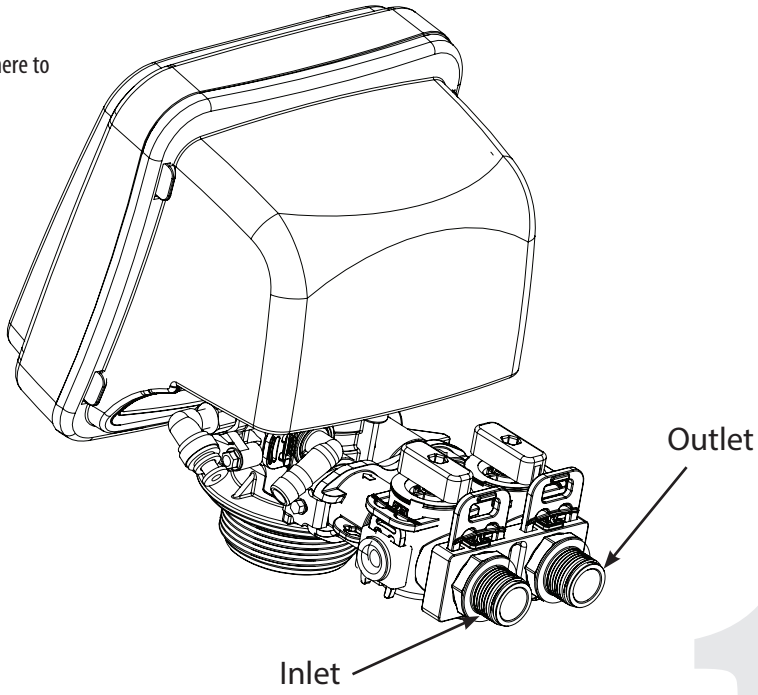
Figure 1d: Neutralizing Filter (NF) Typical Installation:



INSTALLATION STEPS

Determine the best location for your water filter, bearing in mind the location of your water supply lines, drain line and 120 volt AC electrical outlet. Subjecting the filter to freezing or temperatures above 43°C (110°F) will void the warranty.

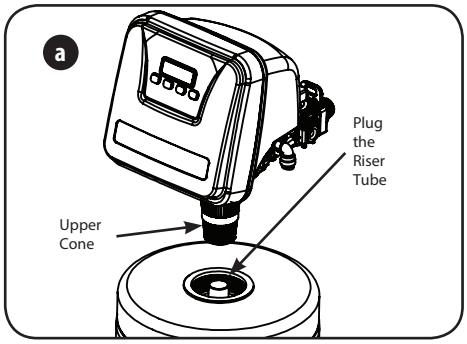
Please notice the inlet and outlet labels on the valve as shown here to determine the position of the equipment:



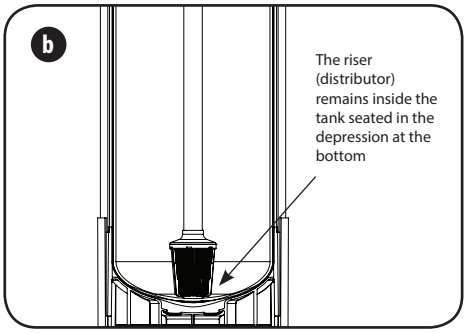
PREPARATIONS

Media Installation (When Necessary). Models including and higher than (Models 20,30,) of media are shipped with separate media in pails or boxes. Models lower than 1.5 CF of media come loaded with media and this step can be skipped for new installation.

CAUTION! The unit should be de-pressurized before installing or replacing media

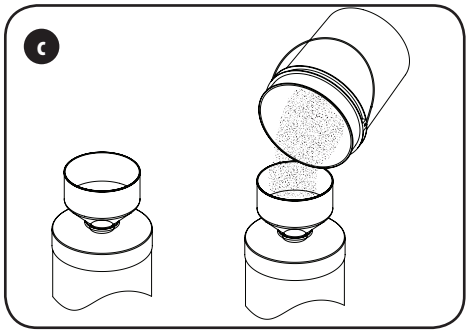


a) Remove the valve from the mineral tank. Add bottom cone only in TO Models



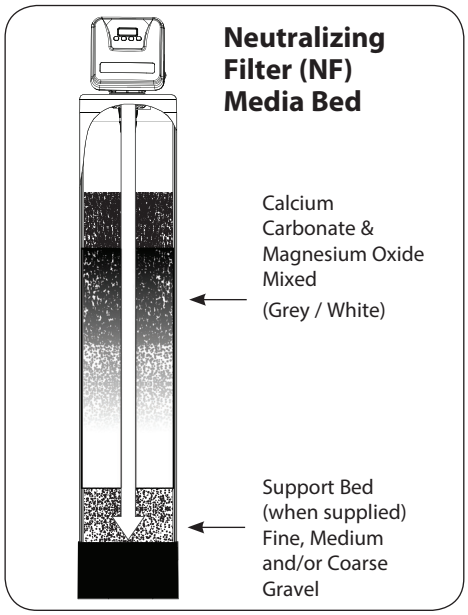
b) Temporarily plug the open end of the riser tube to ensure that no resin or gravel falls down into the distribution. The riser (distributor) remains inside the tank seated in the depression at the bottom.

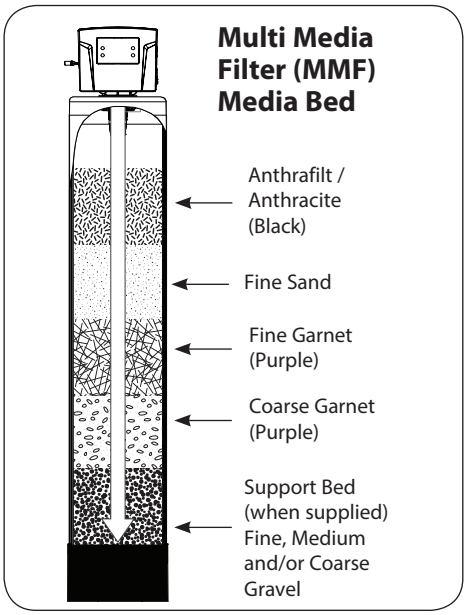
Plug tube with a tape. Remove after media is loaded.

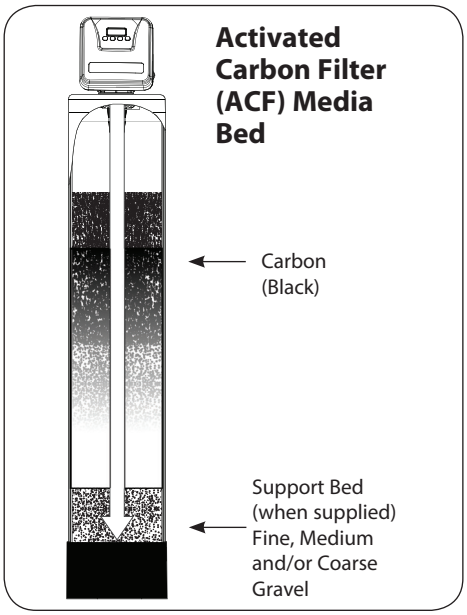


c) Fill support bed first.
The media will not always spill down inside the tank and may need to be swept inside.

The large funnel (sold separately makes filling the tank easier and neater. (Or an empty 1 gallon or 4 liter container with the bottom cut out makes a good funnel.)



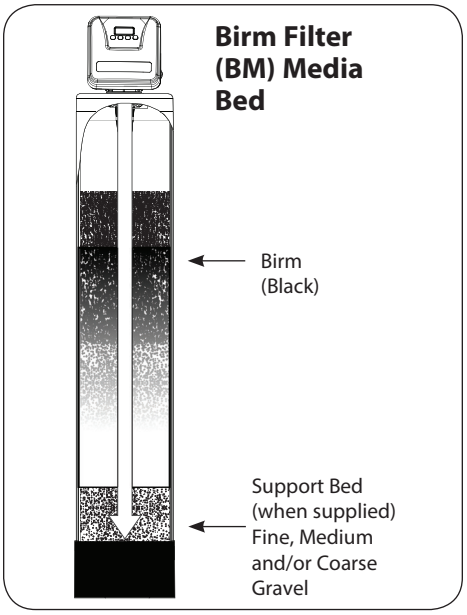


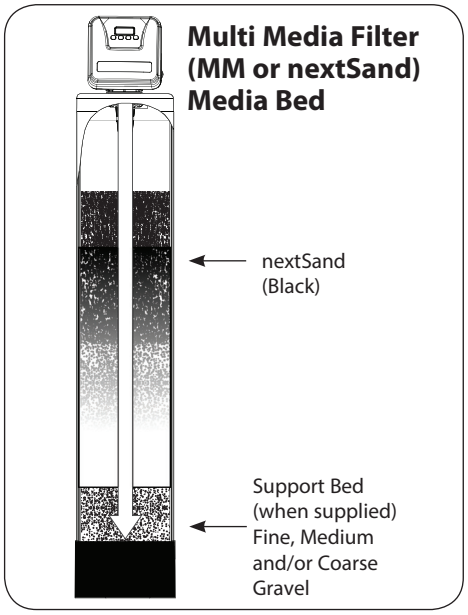


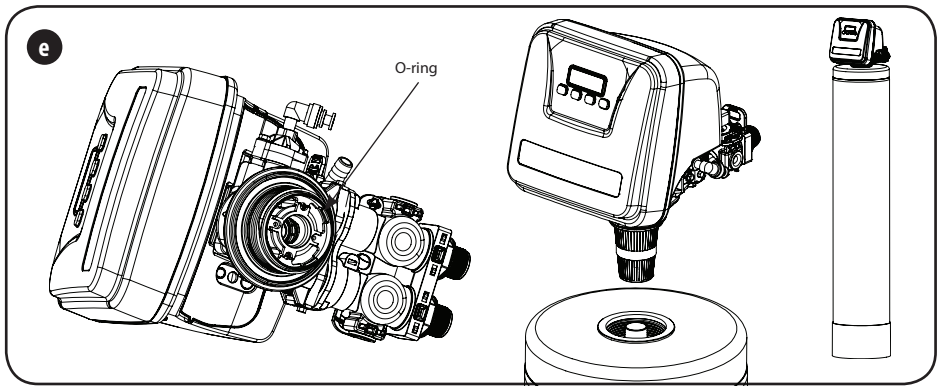
d) Fill tank one quarter full of water to protect distribution during gravel installation.

Place the media into the tank in the order indicated above. Slowly and carefully add the gravel support bed and the filtration media leveling each layer as it is placed into the tank.

Fill support bed (if supplied) first. During the filling process, ensure the distributor tube stays on the bottom of the tank, reasonably centered. Remove the tape from the distributor once media is loaded. Whenever possible, fill the tank outdoors to avoid problems with dust. If filling indoors, a dust mask should be worn.







e) Unplug the riser tube, carefully position the valve over it and turn the valve into the threads in the fiberglass tank, tightening securely into tank. **Note:** Ensure that the internal O-ring in the valve fits securely over the riser tube. Silicone grease (part # 92360) or other food grade lubricant may be applied to the O-ring to ease installation of the riser tube.

NOTE: Some medias like those used in NU Models are sacrificial and deplete faster depending on inlet water conditions and usage. The media replenishment is more frequent in high water usage and more acidic water cases. The dome hole models are available and supplied in which the dome hole is available for a quick addition or replenishment of media in the tank.

CAUTION: Make sure that the unit is de-pressurized before conducting this task.

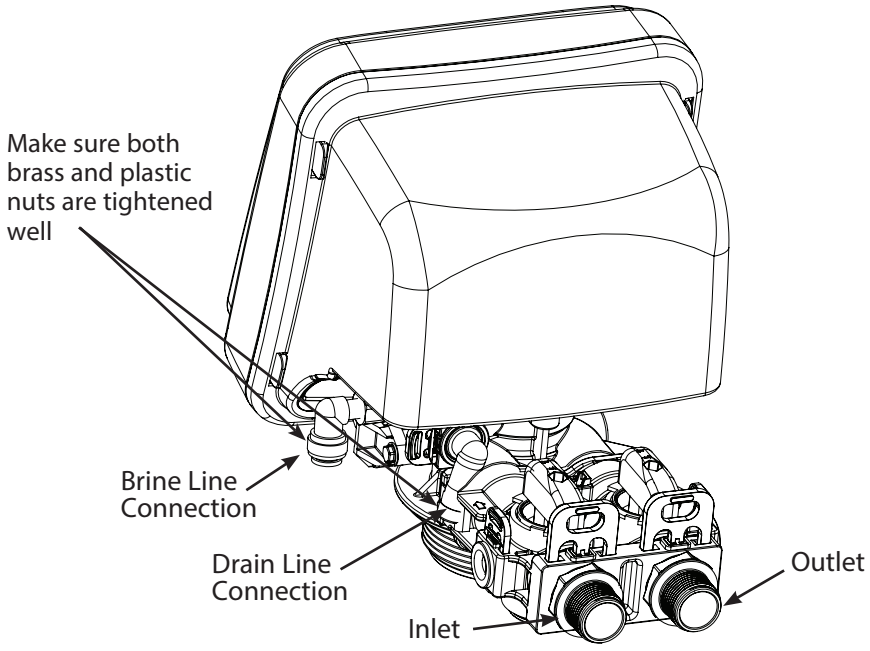
DO NOT use petroleum based lubricants as they will cause swelling of O-ring seals.

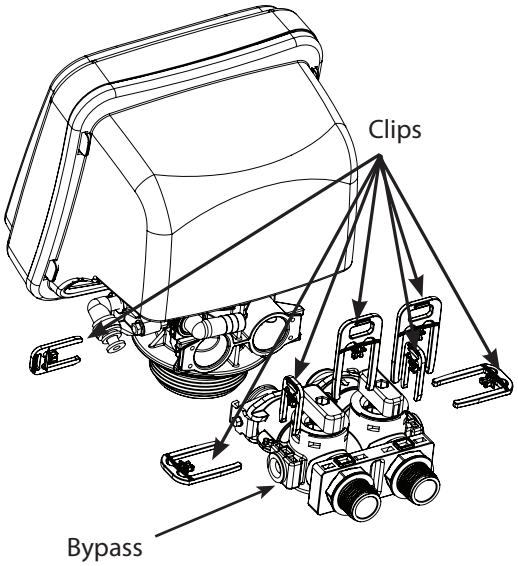
3. Outside faucets used to water lawns and gardens should not supply untreated water. A new water line is often required to be connected to supply untreated water to the inlet of the water filter and to the outside faucets.

Cut the water line between where it enters the house and before any lines that branch off to feed the hot water heater or other fixtures in the house and as near the desired location of the water filter as possible. Install a tee fitting on the feed end of the cut pipe, and an elbow fitting on the other end. Install piping from the tee to the inlet of the water filter and from the elbow to the outlet of the filter. To sever the water lines which branch off to feed any outside faucets, cut the branch lines approximately two inches from the fitting on the main water line. Install an elbow on the end of the pipe nearest the outside faucet and a cap on the end connected to the existing water line. Install piping from the tee installed on the inlet line to the water filter to the elbow installed on the pipe to the outside faucet. Following this procedure will result in all lines in the house, with the exception of the outside faucets, but including the water heater and therefore the hot water lines, being supplied with treated water.

NOTICE:
Inspect and check that the brine line plug is connected to the valve.

NOTICE:
Ensure that the brass and plastic nut connected to the air check assembly is tight.



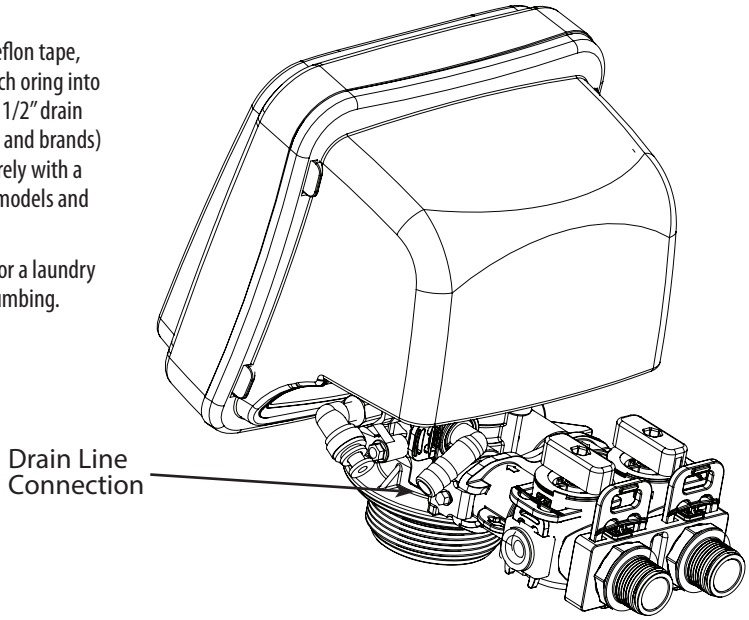


4. Make sure the bypass is attached well to the control valve. Connect the straight or elbow connectors to the bypass with red clips. Connect the inlet and outlet of the water filter to the plumbing of the house. The control valve must not be submitted to temperatures above 43°C (110°F). When sweat fittings are used, to avoid damaging the control valve, solder the threaded copper adapters to the copper pipe and then, using Teflon tape, screw the assembly into the bypass valve.

Do not use pipe thread compound as it may attack the material in the valve body.

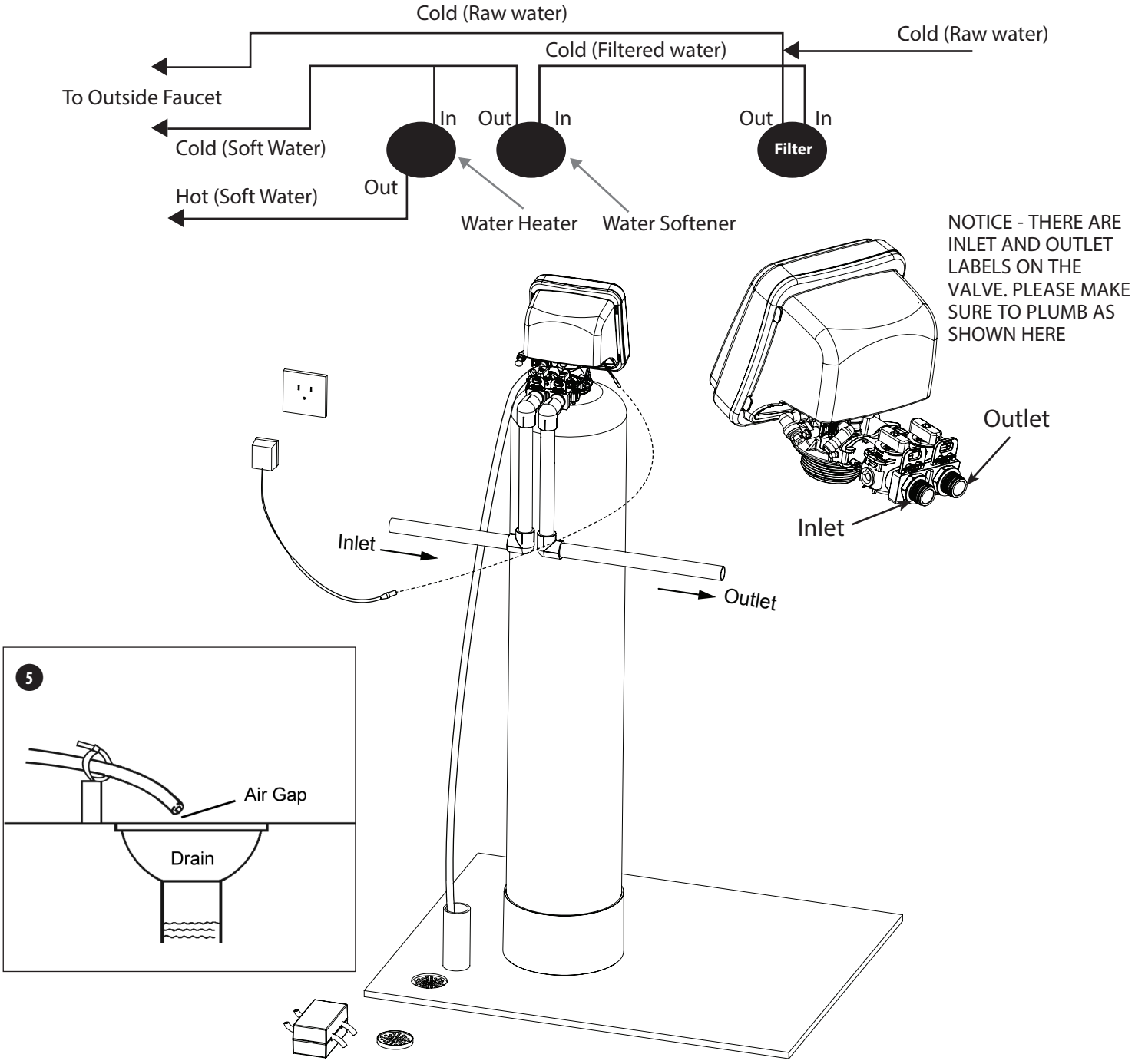
5. Drain Line connection: Using Teflon tape, screw the 1/2" hose barb and attach oring into the drain port in the valve. Attach 1/2" drain hose (Supplied with some models and brands) to the hose barb and tighten securely with a hose clamp (Supplied with some models and brands).

Run the drain line to a floor drain or a laundry drain. Complete any necessary plumbing.



6. Connect Filter to the house plumbing. Any solder joints near the valve must be done before connecting any piping to the valve. Always leave at least 6" (152 mm) between the valve and joints when soldering pipes that are connected to the valve. Failure to do this could cause damage to the valve.

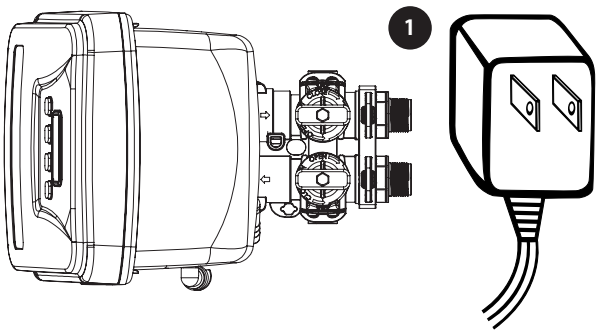
Correct Installation of the Check Valve: Install 1" check valve on inlet of bypass valve. *The check valve needs to be installed at the highest possible level of the plumbing line to avoid air trap. Please see an example below:*



!	**Waste connections or drain outlet shall be designed and constructed to provide for connection to the sanitary waste system through an air-gap of 2 pipe diameters or 1 inch (22 mm) whichever is larger.**

!	**Never insert drain line directly into a drain, sewer line, or trap. Always allow an air gap between the drain line and the wastewater to prevent the possibility of sewage being back-siphoned into the conditioner.**

STARTUP INSTRUCTIONS



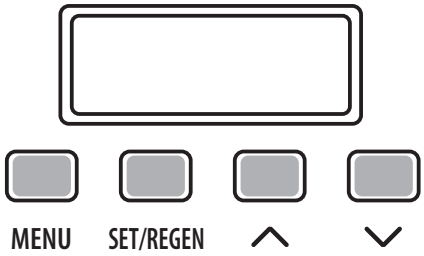
1. Connect the transformer to the valve. Plug the 12-volt transformer into a 120 VAC 60 Hz outlet.

1. Plug the valve into an approved power source.
2. When power is supplied to the control, the screen will display "WAITING PLEASE" while it finds the service position.
3. Start an Immediate Manual Regeneration. The valve will immediately start moving to the BACKWASH position.
4. Open the inlet on the bypass valve slightly and very slowly allow water to enter the unit. (If the water enters too quickly it will push the carbon up into the control valve and get plugged).
5. Once the unit has filled sufficiently that water is at least equal to the height of the top of the media shut down the water for 15 – 20 minutes for the carbon to soak. Unplug the power cable. After the carbon has soaked for the recommended time continue by plugging the power cable back in.
6. Turn the water back on slowly to backwash until water runs clear to drain.
7. Press any button to advance to the RINSE position. Check the drain line flow. Allow the water to run for 3-4 minutes or until the water is clear.
8. The valve will automatically advance to the SERVICE position after the RINSE cycle is complete. Open the outlet valve on the bypass, then open the nearest treated water faucet and allow the water to run until clear, close the tap and replace the faucet screen.
9. Program time, date, and number of days between regenerations into controller using Programming Instructions

Note : Carbon filters only:

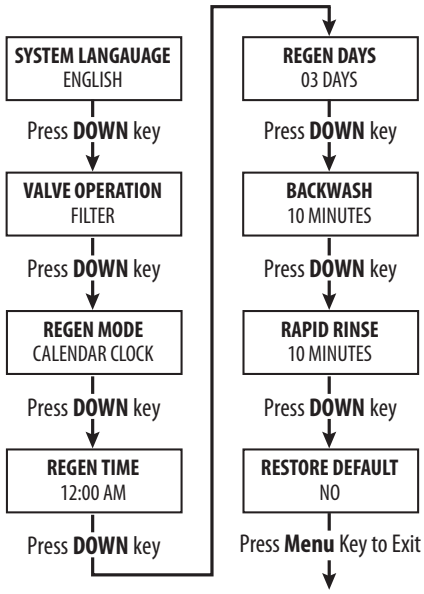
Once the unit has filled sufficiently that water is at least equal to the height of the media shut down the water for 15 – 20 minutes for the carbon to soak. After the carbon has soaked for the recommended time continue with installation instructions.

Key Pad Configuration:



Power the Valve and Configure to Filter

Hold **Up** and **Down** Key for 3 Seconds.
Press **Set/Regen** to Select the **Value** and **Up/Down** Arrow to Change it. Refer to the values on the blocks that need to be set. Press **Down** Key to move to the next screen.



Program Valve

1. If screen is locked, press **"MENU"** for 3 seconds to unlock. Press **"MENU"** again to enter level one programming mode and adjust **CURRENT TIME.**
2. Press **"SET/REGEN"** to adjust hours. When you have entered the change value mode, the curser will blink. Press **"UP** or **DOWN"** arrows to change the hour values. Press **"SET/REGEN"** gain to accept the hour value and advance to change the minutes value. Press **"UP** or **DOWN"** arrows to change the minute values. Press **"SET/REGEN"** again to accept the minute values and advance to adjust the AM/PM values. Press " or **"UP** or **DOWN"** to change the **AM/PM** value. Press "**SET/REGEN"** again to accept the **AM/PM** value and exit. When you have exited the change value mode, the curser will stop flashing.

Setting Current Date

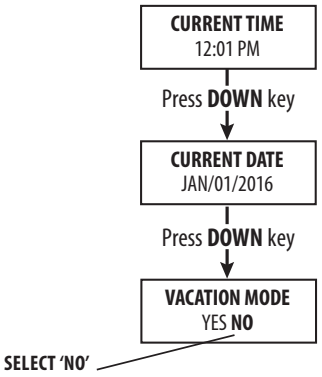
1. Press **"DOWN"** to advance to CURRENT DATE.
2. Press the **"SET/REGEN"** to change the value. Press **"UP** or **DOWN"** to change the values.

Setting Vacation Mode

1. Press **"DOWN"** to advance to **VACATION MODE**.
2. Press the **"SET/REGEN"** to change the value. Press **"UP** or **DOWN"** arrows to change the values.

Programming Flow Chart

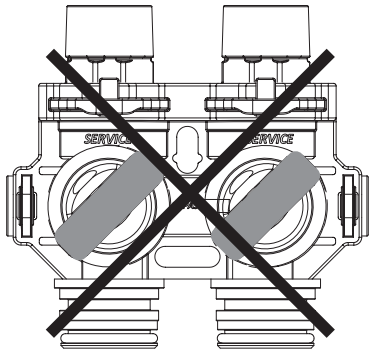
Press **SET/REGEN** Key and change the values using **UP** and **DOWN** Key



VACATION MODE: This function may be activated by the user during a prolonged absence such as vacation. The system will perform a brief backwash and rinse based on the advanced setting. The purpose is to keep the water fresh in the softener tank and plumbing system.

Automatic Raw Water Bypass During Regeneration

The regeneration cycle can last 80 minutes after which filtered water service will be restored. During regeneration, un-filtered water is automatically bypassed for use in the household. Hot water should be used as little as possible during this time to prevent un-filtered water from filling the water heater. This is why automatic regeneration is set for sometime during the night and manual regenerations should be performed when little or no water will be used in the household.



BYPASS

Manual Bypass

In the case of emergency you can isolate your water filter from the water supply using the bypass valve located at the back of the control. In normal operation the bypass is open with the on/off knobs in line with the inlet and outlet pipes.

To isolate the filter, simply rotate the knobs clockwise (as indicated by the word BYPASS and arrow) until they lock. You can use your water related fixtures and appliances as the water supply is bypassing the filter. However, the water you use will be untreated. To resume water service, open bypass valve by rotating the knobs counterclockwise. **Please make sure bypass knobs are completely open otherwise the unfiltered water could bypass through the valve.**

SYSTEM CHECK LIST

More than 90% of problems affecting the efficiency of a chemical iron free filter system can be identified in 9 minutes or less by following this diagnostic schedule. Start with Step 1, then follow each step in sequence to ensure proper diagnostic procedures.

1. Check for Proper Installation

- **a.** Is the pipe from the pressure tank to the filter unit attached to the inlet port of the control valve? Is the pipe from the filter unit to the water heater attached to the outlet port of the control valve?
- **b.** Is the drain line of adequate diameter? Drain line must be sized to prevent back pressure from reducing backwash flow rate below minimum for the model installed.

Typical examples of minimum drain line diameters are:

- **i)** 5/8" ID when drain is up to 15 ft from unit and backwash water discharge point is slightly higher than the control valve
- **ii)** 3/4" ID when drain is 25 ft away and/or drain is installed overhead

- **c.** Has the drain line been "kinked"? A kinked drain line must be replaced.
- **d.** Is the drain line installed in a way that it will freeze in cold weather?
- **e.** If the system incorporates a standard air-to-water pressure tank, does it have the required deep well air volume control (air release valve) and is it functioning? (Proper installation of this type of pressure tank should have inlet from pump higher than outlet to service.)

2. Check pH, Iron and Manganese Content of Treated Water

Is the treated water pH reading less than 6.7 (8.2 when manganese is present)? If yes, replenish the media with MpH adder and check the bed for "channelling".

3. Check Pumping Rate

Do not refer to a pumping rate curve for this data. Follow the instructions found on Page 7. Is the measured pumping rate less than the backwash rate of the filter? If yes, increase the pumping rate by first reducing the system operating pressure. If the pumping rate is still too low, replace the pump.

4. Manually Stage Filter Control to Backwash Cycle

Does a "rush" of air precede the backwash water out of the drain line? (If no, proceed to Step 6). If yes, the system is "air-logged". Disconnect power from the pump and allow the system pressure to drop to zero through the filter drain line. Restore power and rebuild system pressure. Continue backwashing unit until the pump has completed two or three pressure cycles. Stage control valve to the service position and check the hydrocharger draw time. Adjust draw for 1/3 of pump cycle time.

5. Determine Other Uses of Water in Addition to Normal Domestic Purposes

(e.g. geothermal heating or cooling, swimming pool fill, lawn irrigation, farm animal watering, etc.) Have any high demand water uses been added subsequent to the installation of the filter system or overlooked when originally sizing the system? (If a high demand situation exists, resize the system using continuous service flow rate data.)

DURING REGENERATION

Automatic Bypass

The regeneration cycle lasts approximately 60 minutes, after which treated water service will be restored. During regeneration, untreated water is automatically bypassed for use in the household. Hot water should be used as little as possible during this time to prevent hard water from filling the water heater.

IMPORTANT: This is why the automatic regeneration is set for sometime during the night and manual regenerations should be performed when little or no water will be used in the household.

New Sounds

You may notice new sounds as your water softener operates. The regeneration cycle lasts approximately 2-1/2 hours. During this time, you may hear water running intermittently to the drain.

PLUMBING SYSTEM CLEAN-UP

The following procedures are guidelines only but have proven successful in most instances. Under no circumstances should any procedure outlined below be followed if contrary to the appliance manufacturer's instructions. Should there by any questions concerning the advisability of performing a procedure, it is strongly recommended the manufacturer's authorized service outlet be consulted prior to performing the procedure.

The plumbing system and water using appliances that have been exposed, even for a short time, to iron-fouled water need to be cleaned of the precipitated iron that has collected in them or iron bleed (staining) will continue to be a problem.

Depending on the amount of iron in the water and the length of time the water system has been exposed to iron fouling, select from the following procedures those that apply to the type of system and appliances that need to be cleaned to assure iron-free water at the point of use.

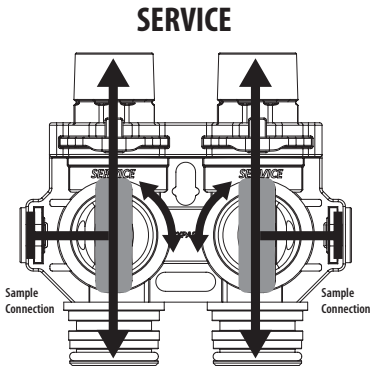
Softener

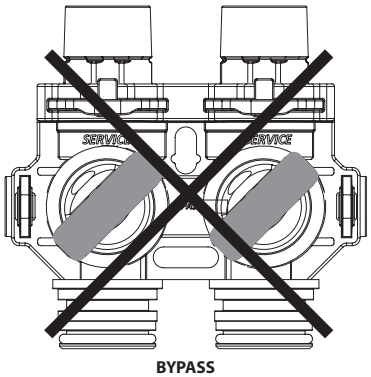
1. Disconnect brine draw line from the brine cabinet and place the loose end into a five gallon plastic pail filled with a solution of warm water and 4 oz. of resin mineral cleaner.
2. Manually advance control timer to brine draw position (refer to instructions provided with your softener). Allow all the warm mineral cleaner solution to be drawn into mineral bed. Then immediately:
3. Close main water supply valve or turn power off to pump and proceed with filter installation. During time required to install filter system, iron- fouled softener resin will be chemically cleaned.
3. After filter installation is completed and final adjustments are made with the water turned on and brine draw tube reconnected, manually reposition timer on softener to backwash position. Allow timer to perform an automatic regeneration cycle. During backwash of softener, all iron cleaned from the resin will be washed down the drain. It is advisable, after chemically cleaning softener, to regenerate system twice to fully restore capacity lost due to iron fouling.

WATER BYPASS

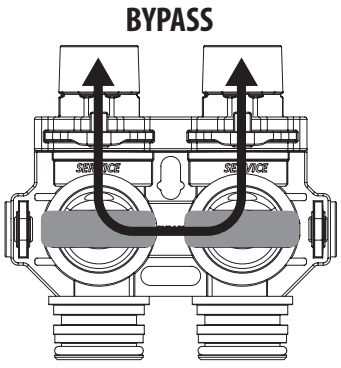
Manual Bypass

In case of an emergency such as filter maintenance, you can isolate your water filter from the water supply using the bypass valve located at the back of the control. In normal operation the bypass is open with the ON/OFF knobs in line with the INLET and OUTLET pipes. To isolate the filter, simply rotate the knobs clockwise (as indicated by the word BYPASS and arrow) until they lock. You can use your water related fixtures and appliances as the watersupply is bypassing the softener. However, the water you use will be hard. To resume treated service, open the bypass valve by rotating the knobs counterclockwise. **Please make sure bypass knobs are completely open otherwise the unfiltered water could bypass through the valve.**





BYPASS



OPERATING CONDITIONS

Water Heater

If the water heater has been exposed to both iron and hardness for a long period of time, replacement of the heater tank maybe the only practical solution to prevent continued staining originating from this source. After completing the installation of the chemical free iron filter system, clean the water heater by following these instructions:

1. Shut off energy supply to water heater and close heater inlet water valve.
2. Drain hot water tank completely. Open inlet water valve allowing heater tank to be refilled with iron-free water. Continue flushing until water runs clear to drain.
3. If, after approximately 30 minutes flushing, water does NOT clear, terminate flushing operation. Refill hot water heater with water and pour approximately 1/2 gallon of household bleach into top of heater tank. Allow bleach solution to stand in tank for 20 to 30 minutes. Flush tank again until water is clear at drain. Turn energy supply on.

NOTE: If water does not clear in approximately 10 minutes, water heater should probably be replaced.

Dishwasher

Consult owners' handbook and follow manufacturer's instructions.

Toilet Flush Tanks

Prior to commencing installation of the filter system, pour 4 to 6 ounces of resin mineral cleaner Pro-Rust Out or inhibited muriatic acid into flush tanks and bowls and let stand. When installation is completed, flush toilets several times with iron-free water. If iron deposits or stains remain, repeat procedure until clear.

MAINTENANCE INSTRUCTIONS

Your chem free iron filter requires some minor maintenance to ensure optimum performance and years of trouble-free clean water. The following steps should be performed once or twice a year (more often under harsh conditions):

1. Verify the pumping rate of the system - do not refer to a pumping curve for this data. Follow the instructions found on page 7. If the measured pumping rate is less than the backwash rate of the filter, see page 39, Trouble Shooting.
2. Have your water tested - for pH, iron and manganese on both the treated and raw water to ensure your water conditions haven't changed.
3. Inspect the Control Valve and the piping between the iron filter and the pressure tank to ensure they are not plugged with raw iron. If the line becomes plugged, the flow of water to the home will be reduced. This will result in a reduction of water available for backwashing the unit which will inhibit operation of the system.
4. Air-to-water pressure tank - periodically drain and flush your tank to prevent a build-up of precipitated iron from forming in the bottom of the tank.
5. Bladder tank - periodically check that the bladder air pressure remains at 2 psi lower than the cut-in pressure of your pump.
6. For applications with low pH, manganese or hydrogen sulfide, consult your local dealer for specific instructions to maintain the efficiency and operation of your filter.
7. Periodic cleaning of the air vent assembly with mild acid or vinegar will ensure that it continues to vent excess air properly.
8. The filter tank can be cleaned with a mild soap solution.
9. Never subject the unit to freezing

Care of Your Filter

To retain the attractive appearance of your new water filter, clean occasionally with a mild soap solution. Do not use abrasive cleaners, ammonia or solvents. Never subject your filter to freezing or to temperatures above 43°C (110°F).

Servicing Components

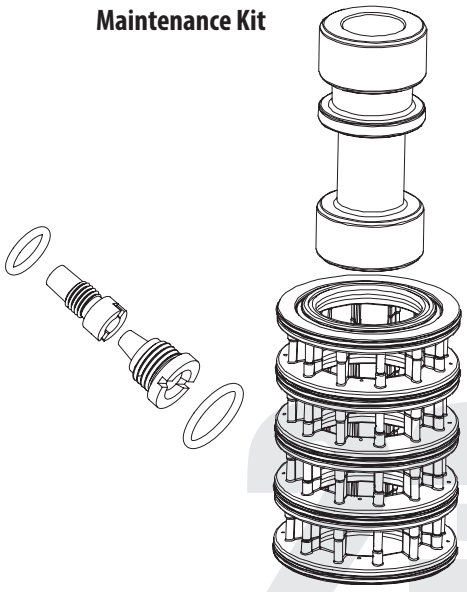
- The seals and cartridge should be inspected/cleaned or replaced every year depending on the inlet water quality and water usage.
- The media should be replenished or replaced depending of inlet water quality and water consumption. Check with your water treatment expert on the media bed change frequency. Below are some guidelines:
- Maintenance Kit should be used for servicing control on an annual basis. The maintenance kit consists of piston assembly, seals and spacers, injectors.

Please refer to the servicing section of this manual for step by step procedure.

Not following the above will void all warranty on the control valve.

Maintenance of your new water filter requires very little time or effort but it is essential. Regular maintenance will ensure many years of efficient and trouble free operation.

Maintenance Kit



Replacing Media Bed

The media bed in a neutralizing Model NU filter is slowly dissolved and has to be replaced. The frequency of replacement varies, depending on water quality - consult your dealer to determine the expected life of your media bed.

NU - the media bed in a neutralizing filter is slowly dissolved and has to be replaced. The frequency of replacement varies, depending on water quality - consult your dealer to determine the expected life of your media bed.

TO - under normal operating conditions the effective life of the filter media is approximately one to three years depending on the water quality, after which, taste and odor problems may return. When this happens contact your dealer for a replacement media bed.

MM / nextSand - under normal operating conditions, the media should never need to be replaced. If you experience pressure loss and cannot correct it with a manual regeneration, your media bed may need replacing - contact your dealer.

BM- Depending on the raw water iron content.

BACKWASHING INSTRUCTIONS

To Calculate Backwash Frequency - Normal Applications

Backwash frequency for households with average water use can be determined using the following guide. The guide cannot be used if the filtered water supplies a swimming pool, geothermal pump, outside spigots or other high water demand devices or activities. If your application includes any of the foregoing refer to the paragraph on "Special Applications" below:

PEOPLE IN FAMILY	IRON CONTENT (PPM)									
	2	4	6	8	10	12	14	16	18	20
1	1	1	1	1	1	1	1	1	1	1
2	1	1	1	1	1	2	2	2	2	2
3	1	1	1	2	2	2	3	3	3	3
4	1	1	2	2	2	3	3	4	4	4
5	1	1	2	2	3	3	4	4	6	6
6	1	2	2	3	3	4	6	6	6	6

1. Locate the box intersected by the number of people in your family and the parts per million (ppm) of iron in your water (if your ppm is between two numbers on the guide, use the higher number).
2. The number in the box represents how many times your filter has to backwash in a twelve day schedule.

To Calculate Backwash Frequency - Special Applications

To ensure adequate reserve capacity and prevent loss of water pressure between backwashes the figure of 15,000 (not the full 30,000 ppm capacity) is used to calculate backwash frequency. Determine your backwash frequency as follows:

1. Estimate daily iron removal requirements using the following calculation:
   No. of people in family
   x 75 gallons of water per person
   + No. of gallons of water for special use
   = No. of gallons of water required per day
   x Iron concentration (ppm)
   = Daily iron removal requirements (ppm)

2. Establish backwash frequency using daily iron removal requirements to complete the following calculation:
   15,000 iron removal capacity (ppm)
   ÷ Daily iron removal requirements (ppm)
   = No. of backwashes required in 12 day schedule
   Example: You have four in the family, 8 ppm of iron and a swimming pool requiring 46 gallons of water per day.
   4 People in the family
   x 75 Gallons of water per person
   300 Gallons of water for family
   + 46 Gallons of water for the pool
   346 Gallons of water required per day
   x 8 Iron concentration
   2,768 Daily iron removal requirements (ppm)
1 5,000 Iron removal capacity (ppm)
   ÷ 2,768 Daily iron removal requirements (ppm)
   5.4 Backwash frequency (days)

The calculation indicates the need to backwash every 5.4 days. The control can only be programmed to backwash at intervals of two, three, four, six and twelve days. The control would be programmed to the closest more frequent setting i.e. every four days.

SERVICING 565 VALVE

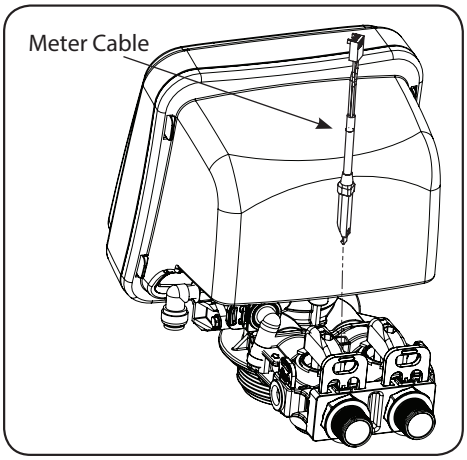
Before Servicing

1. Turn off water supply to conditioner :
   - **a.** If the conditioner installation has a 3 valve bypass system first open the valve in the bypass line, then close the valves at the conditioner inlet & outlet.
   - b. If the conditioner has an integral bypass valve, put it in the bypass position.
   - c. If there is only a shut-off valve near the conditioner inlet, close it.
2. Relieve water pressure in the conditioner by stepping the control into the backwash position momentarily. Return the control to the In Service position.
3. Unplug Electrical Cord from outlet.
4. Disconnect drain line connection.

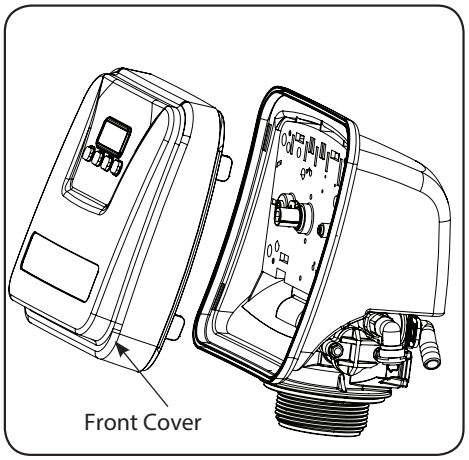
WARNING! ELECTRICAL SHOCK HAZARD! UNPLUG THE UNIT BEFORE REMOVING THE COVER OR ACCESSING ANY INTERNAL CONTROL PARTS.

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

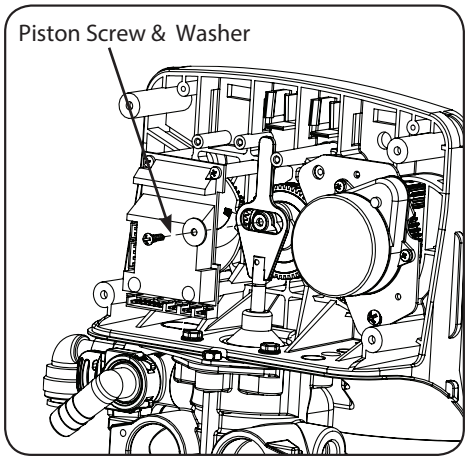
TIMER REPLACEMENT



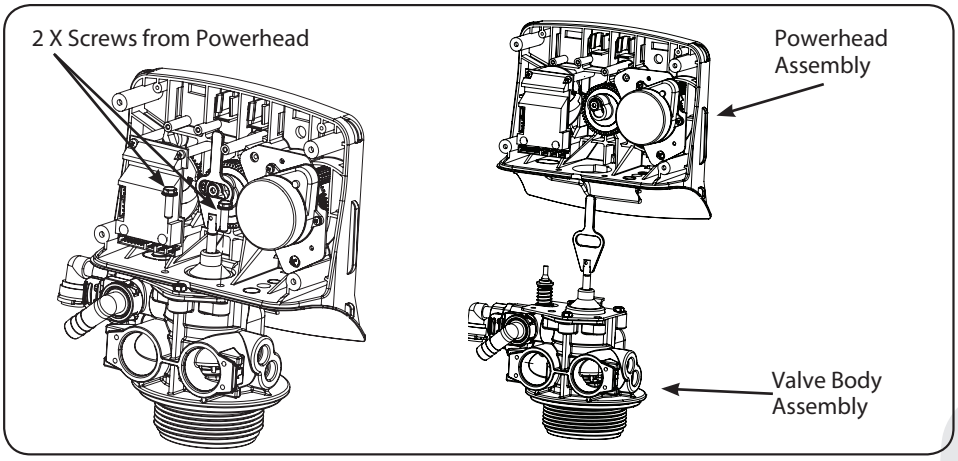
1. Disconnect the meter cable from the meter. (If flow meter is attached)



2. Remove the front cover of the valve.

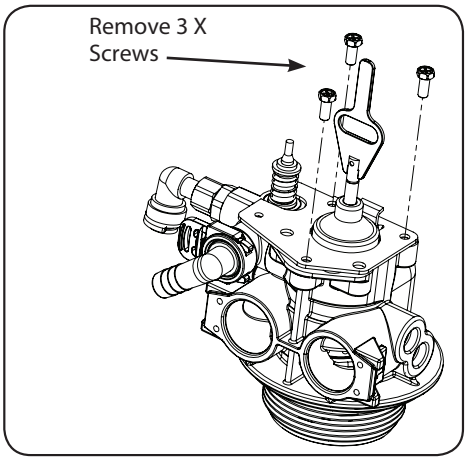


3. Remove the piston screw and washer from the piston rod.

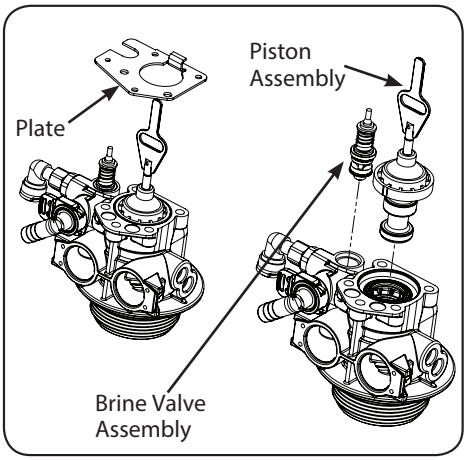


4. Remove the two screws from the powerhead as shown
5. Life the powerhead from the valve body assembly
6. Replace the powerhead by reverse following the steps in this section

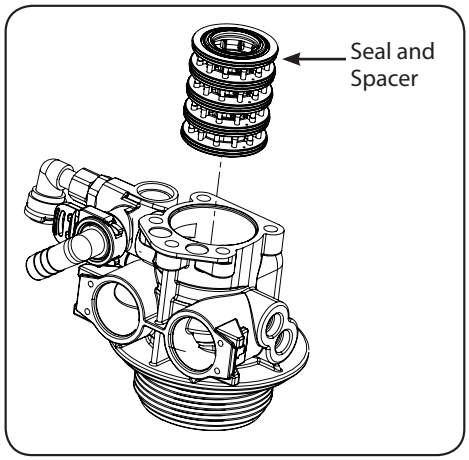
PISTON AND/OR BRINE VALVE ASSEMBLY REPLACEMENT



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

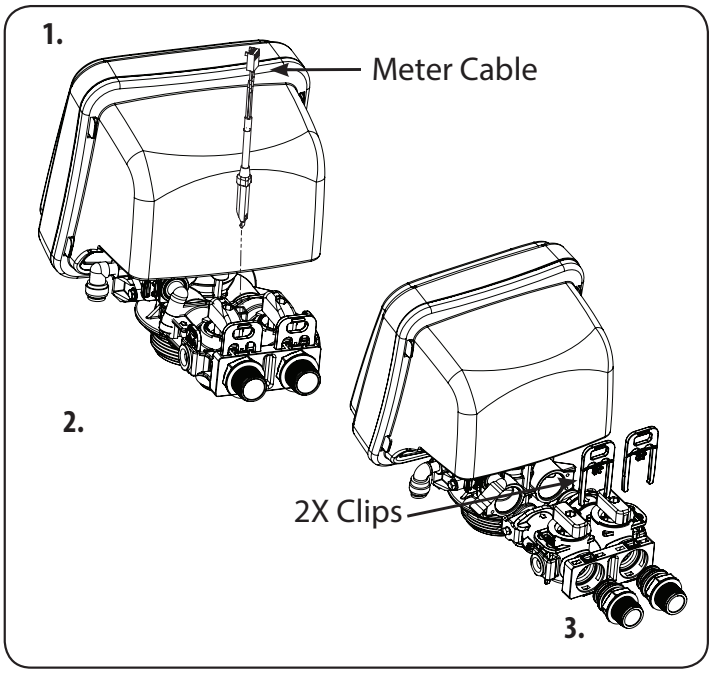


3. Remove the plate from the valve body and pull the Piston Assembly from the valve. The brine valve assembly can also be removed in this stage.
4. Remove the seal spacer assembly, grease it with silicone lubricant and put back in.



5. Replace piston assembly followed by timer assembly.
6. Replace the piston assembly and reverse following steps in this section

METER ASSEMBLY REPLACEMENT

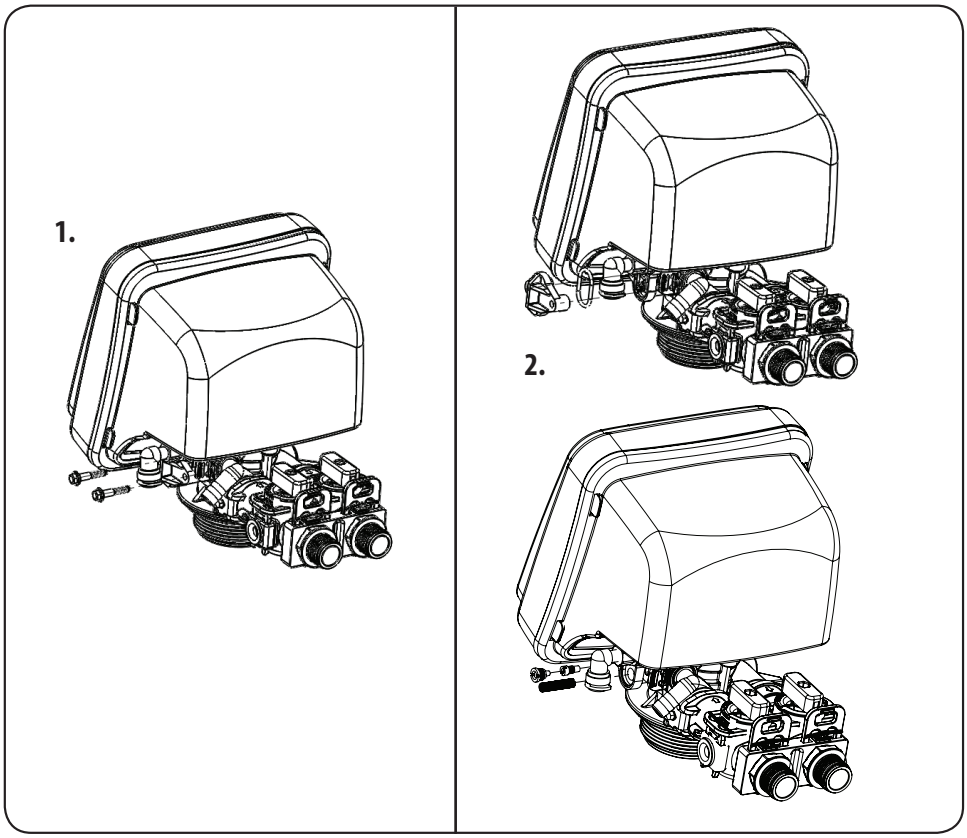


1. Disconnect the meter cable from the meter.
2. Disconnect the valve from bypass by removing clips
3. Remove the coupling adapter from the valve

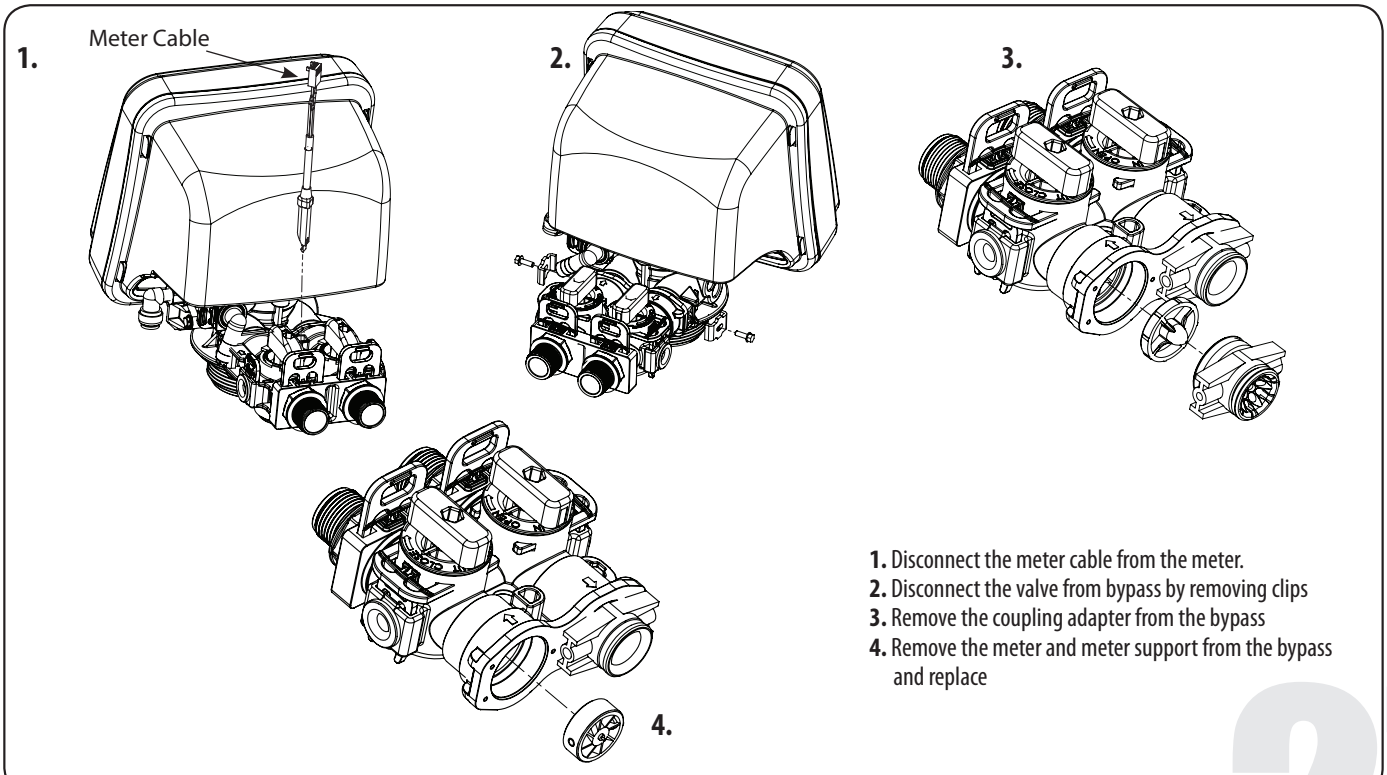
4. Remove the meter support and then the impeller out from the coupling and clean it
5. Replace meter with the help of special tool and re-assemble the removed components back in the section

CLEAN INJECTOR ASSEMBLY

1. Remove two screws of the injector cap.
2. Pull the Injector Cap Out, Remove the injector assembly, oring and screen, Clean the injectors and replace cap

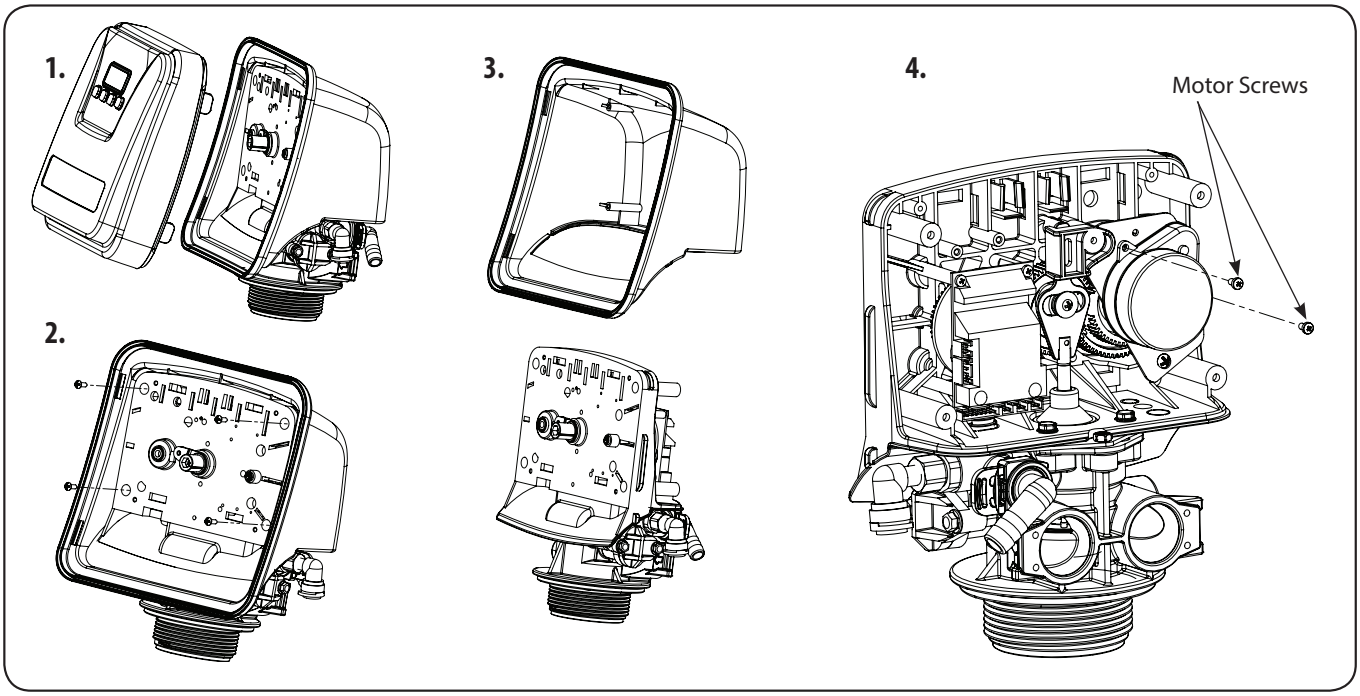


REPLACE METER ASSEMBLY



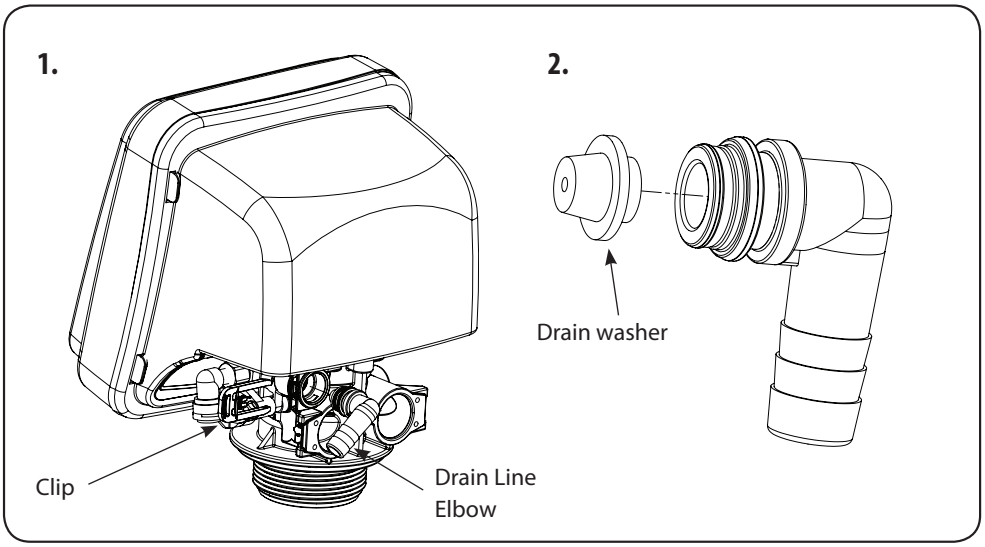
1. Disconnect the meter cable from the meter.
2. Disconnect the valve from bypass by removing clips
3. Remove the coupling adapter from the bypass
4. Remove the meter and meter support from the bypass and replace

REPLACE MOTOR



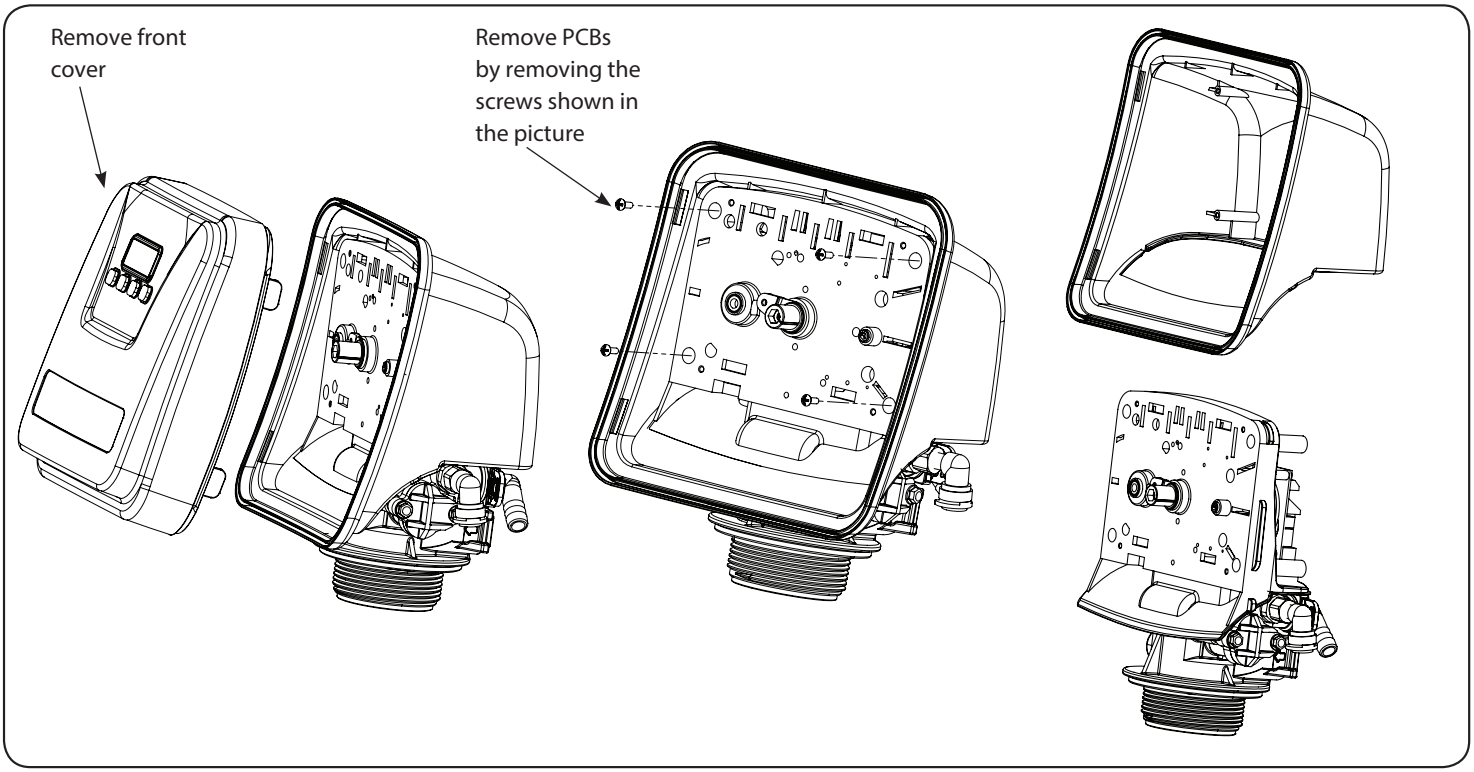
1. Remove the powerhead front cover
2. Remove all connections from the circuit board
3. Remove the cover from the powerhead
4. Remove the motor screws and pull the motor out from powerhead

REPLACE DRAIN LINE FLOW CONTROL

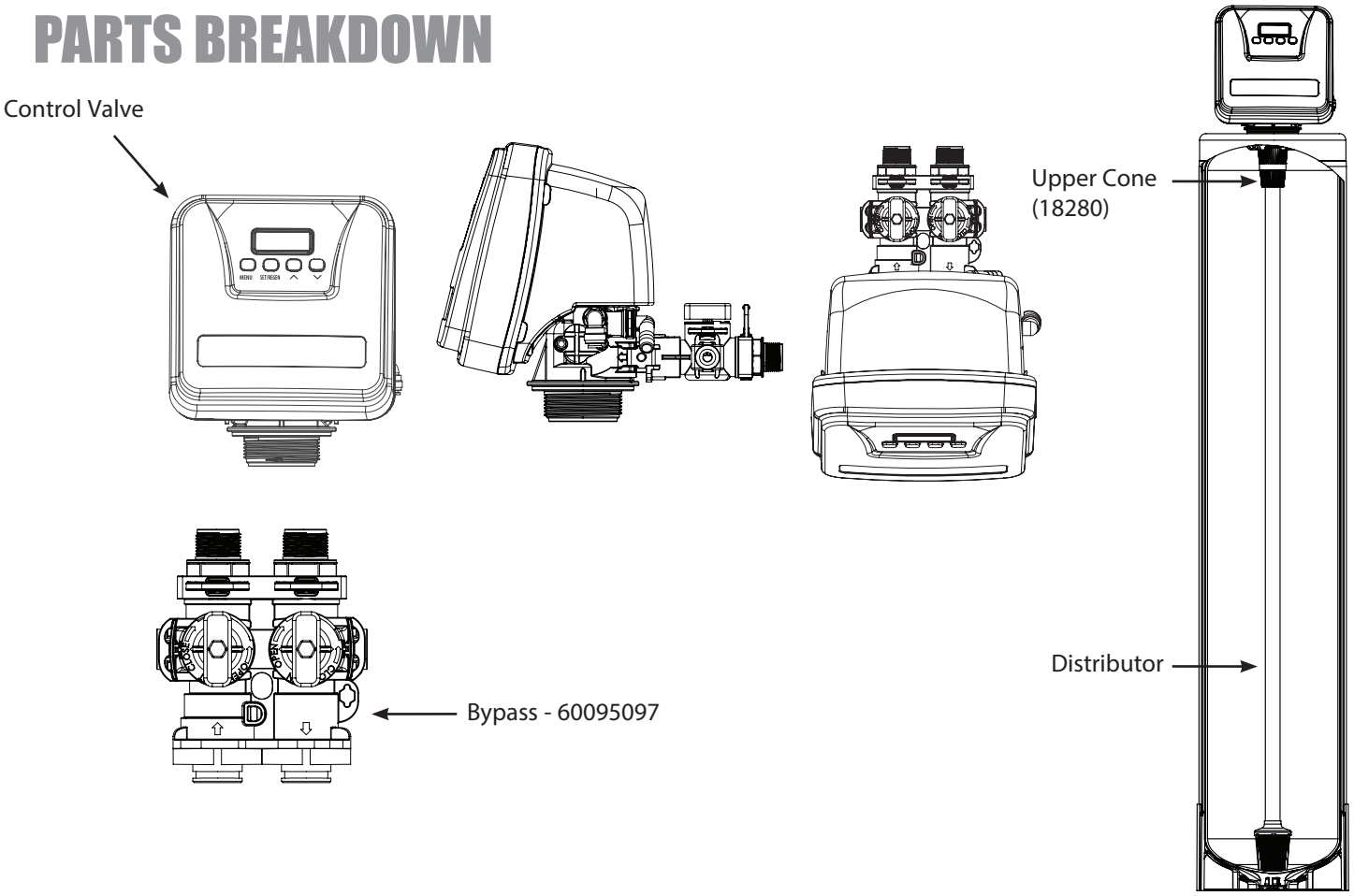


1. Pull the drain line clip and remove the drain line elbow and washer
2. Clean/replace drain line washer

REPLACING PCBS

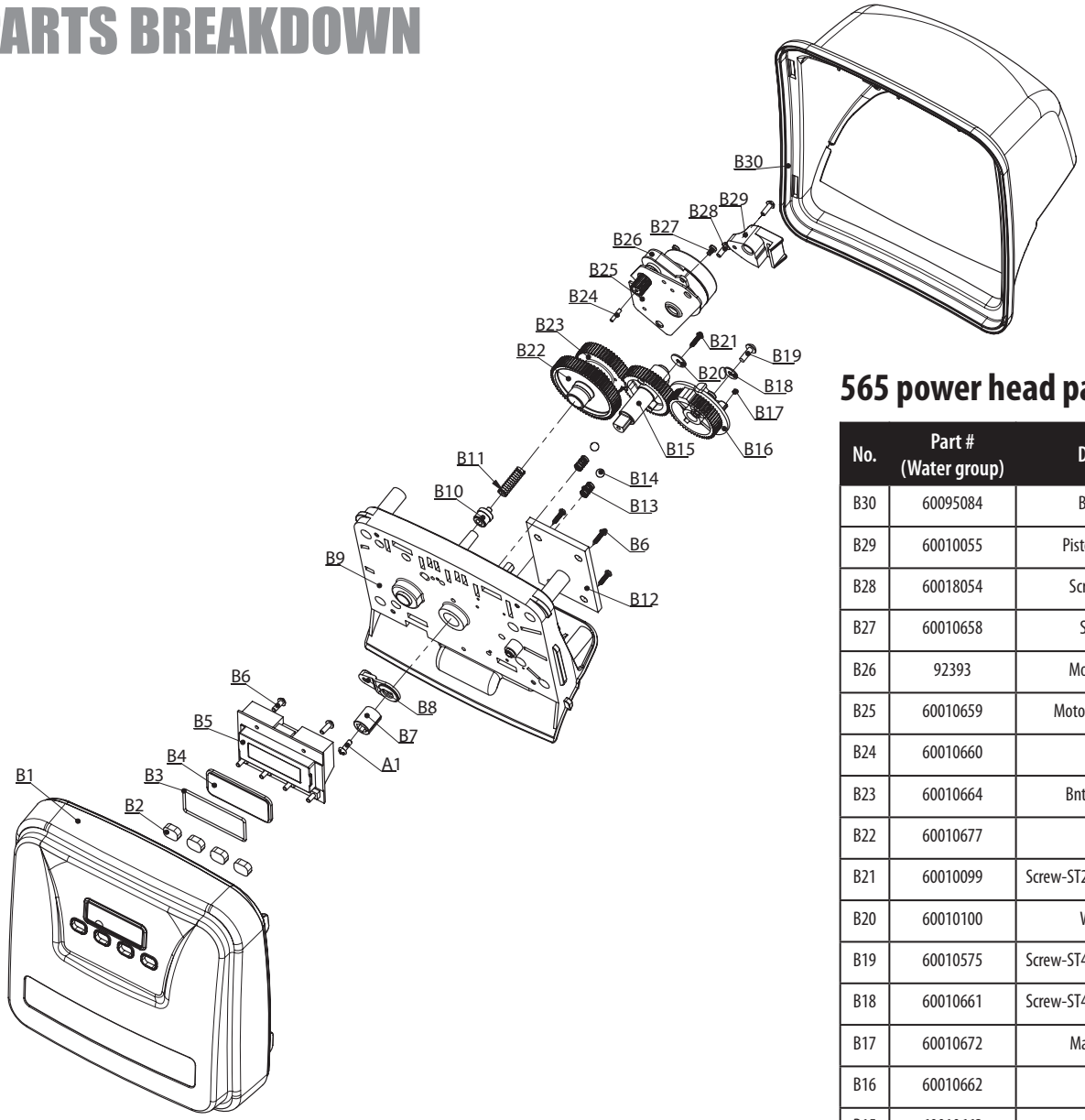


PARTS BREAKDOWN



Model	Mineral Tank Size	Tank # (Natural Color)	Tank # (Black Color)	Tank # (Blue Color)	Distrubutor#	Valve #	Media Bed #
TP-75	8 x 44	25010025	25010027	25010026	50010005	10010043	95401
TO-100	9 x 48	25010034	25010036	25010035	50010005	10010043	95402
TO-150	10 x 54	25010049	25010051	25010050	50010005	10010043	95403
TO-200	12 x 52	25010058	25010060	25010059	50010005	10010043	95404
TO-300	14 x 65	25030001 and 50040039	Not Available	Not Available	50010010	10010043	XXXXx
TO-400	16 x 65	25030002 ad 50040039	Not Available	Not Available	50010010	10010043	XXXXX
NU-75	8 x 44	25010025	25010027	25010026	50010005	10010043	93500
NU-100	9 x 48	25010034	25010036	25010035	50010005	10010043	93501
NU-150	10 x 54	25010049	25010051	25010050	50010005	10010043	93502
NU-200	12 x 52	25010058	25010060	25010059	50010005	10010043	93503
NU-300	14 x 65	25030001 and 50040039	Not Available	Not Available	50010010	10010043	xxxxx
NU-400	16 x 65	25030002 and 50040039	Not Available	Not Available	50010010	10010043	xxxxx
MM-75	8 x 44	25010025	25010027	25010026	50010005	10010043	95418
MM-100	9 x 48	25010034	25010036	25010035	50010005	10010043	95415
MM-150	10 x 54	25010049	25010051	25010050	50010005	10010043	95416
MM-200	12 x 52	25010058	25010060	25010059	50010005	10010043	95417
MM-300	14 x 65	25030001 and 50040039	Not Available	Not Available	50010010	10010043	XXXXX
MM-400	16 x 65	25030002 and 50040039	Not Available	Not Available	50010010	10010043	XXXXX
BM-75	8 x 44	25010025	25010027	25010026	50010005	10010043	95435
BM-100	9 x 48	25010034	25010036	25010035	50010005	10010043	95449
BM-150	10 x 54	25010049	25010051	25010050	50010005	10010043	95436
BM-200	12 x 52	25010058	25010060	25010059	50010005	10010043	95437
BM-300	14 x 65	25030001 and 50040039	Not Available	Not Available	50010010	10010043	95438
BM-400	16 x 65	25030002 and 50040039	Not Available	Not Available	50010010	10010043	XXXXX
Nexsand-75	8 x 44	25010025	25010027	25010026	50010005	10010043	95632
Nexsand-100	9 x 48	25010034	25010036	25010035	50010005	10010043	95633
Nexsand-150	10 x 54	25010049	25010051	25010050	50010005	10010043	95644
Nexsand-200	12 x 52	25010058	25010060	25010059	50010005	10010043	95645
Nexsand-300	14 x 65	25030001 and 50040039	Not Available	Not Available	50010010	10010043	XXXXX
Nexsand-400	16 x 65	25030002 and 50040039	Not Available	Not Available	50010010	10010043	XXXXX

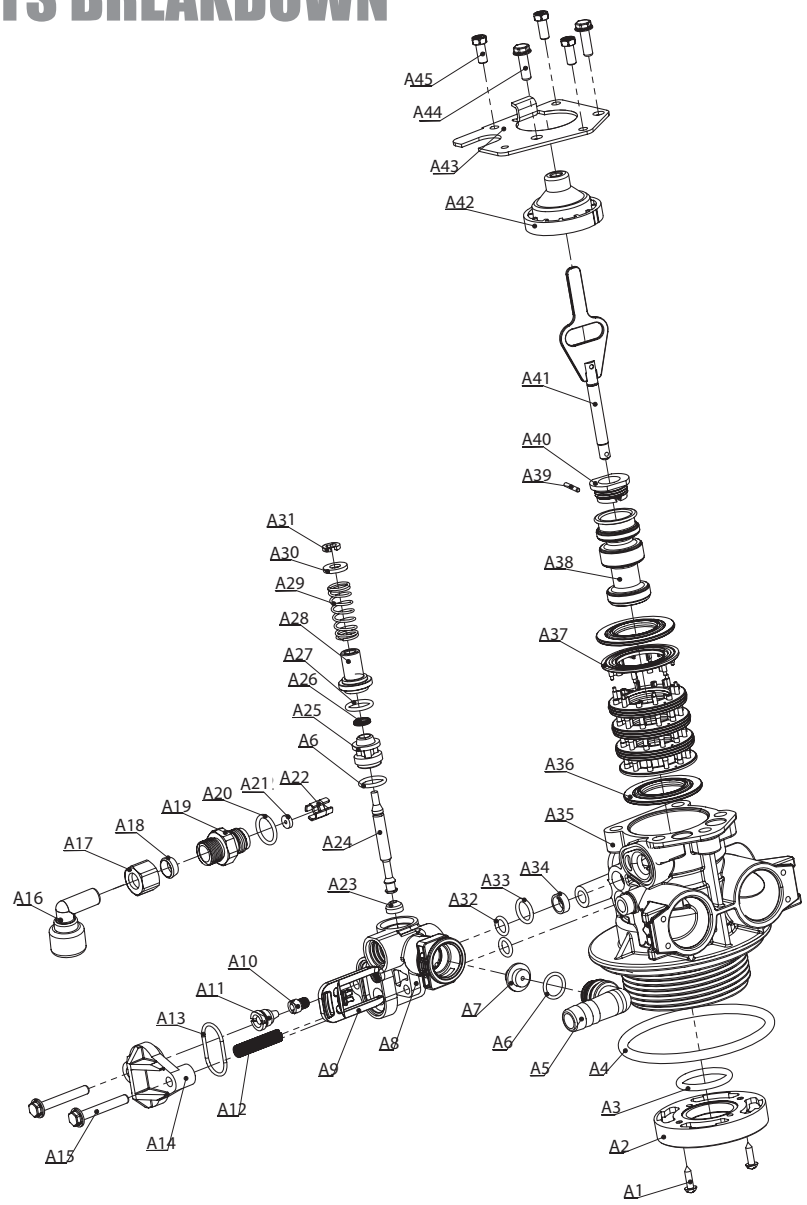
PARTS BREAKDOWN



565 power head parts list

No.	Part # (Water group)	Description	Qty
B30	60095084	BNT365 Cover	1
B29	60010055	Piston Stem Holder	1
B28	60018054	Screw-ST3.5×13	2
B27	60010658	Screw-M3×5	2
B26	92393	Motor-12v/2rpm	1
B25	60010659	Motor Mounting Plate	1
B24	60010660	Motor Pin	1
B23	60010664	Bnt165 Drive Gear	1
B22	60010677	Idler Gear	1
B21	60010099	Screw-ST2.9×13(Large Wafer)	1
B20	60010100	Washer-3x13	1
B19	60010575	Screw-ST4.2×12(Large Wafer)	1
B18	60010661	Screw-ST4.2×12(Large Wafer)	1
B17	60010672	Magnet-φ3×2.7	1
B16	60010662	Brine Gear	1
B15	60010663	Main Gear	1
B14	60010667	Ball-1/4inch	2
B13	60010668	Spring Detent	2
B12	60010113	BNT85 Main PCB	1
B11	60010103	Spring Idler	1
B10	60010666	Spring Retainer	1
B9	60095085	BNT365 Base	1
B8	60010671	Magnet Holder	1
B7	60010059	Locking Knob	1
B6	60010673	Screw-ST2.9×10	8
B5	60010051	BNT 85 Main PCB	1
B4	60095086	Display Protective Cover	1
B3	60095612	O-ring 40×1.8	1
B2	60010615	BNT465 Button	4
B1	60010056	BNT565 Front Cover	1

PARTS BREAKDOWN



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

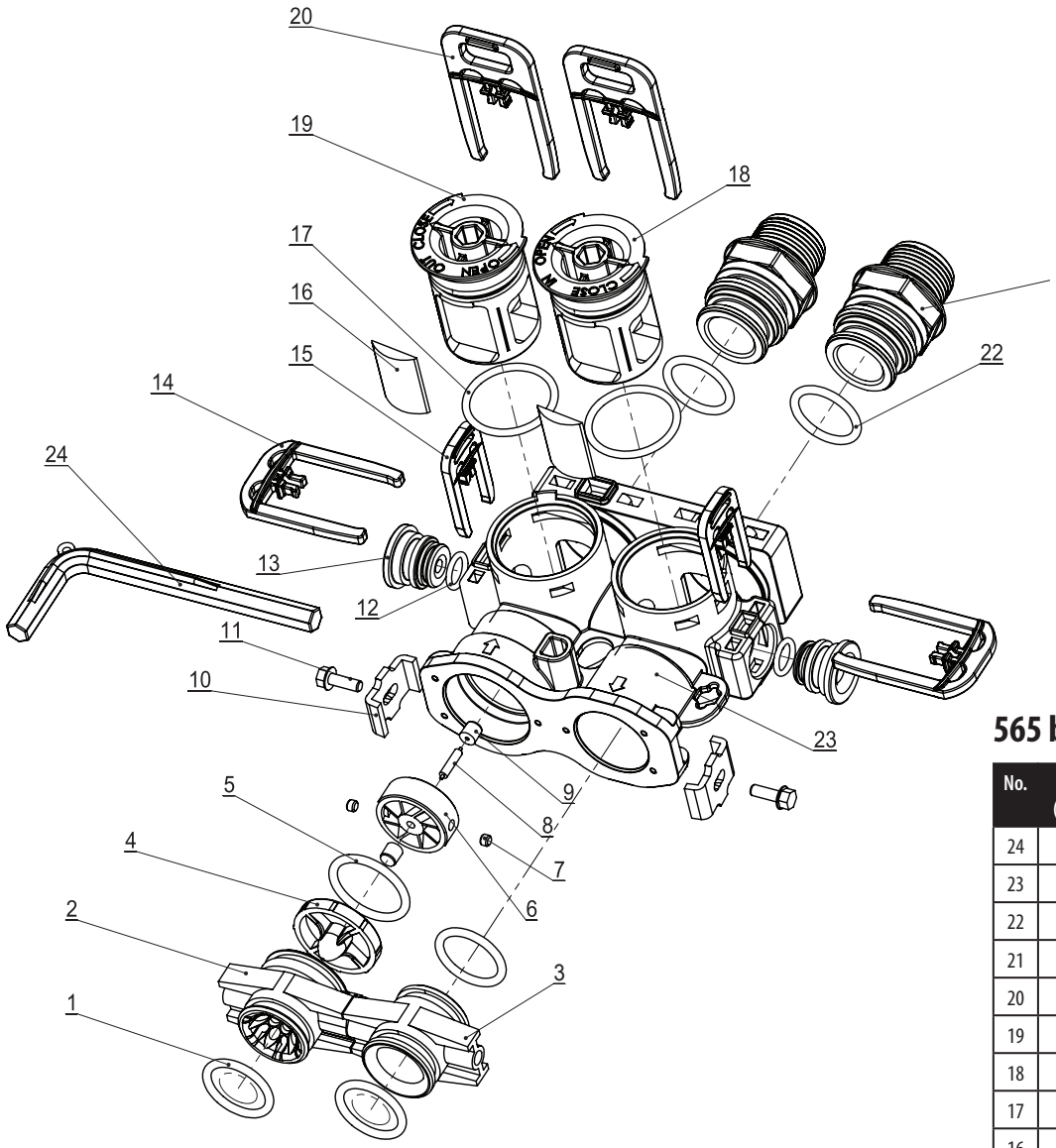
No.	Part #	Part Description
60010110		BLFC BUTTON #2 0.3GPM A32
60010082		BLFC BUTTON #2 0.7GPM A32
60010128		BLFC BUTTON 0.2GPM
60010127	60010601	INJECTOR SET #0000 BLACK THROAT
	60010602	NOZZLE #0000 BLACK THROAT
60010126	60010603	INJECTOR SET #000 GREY THROAT
	60010604	NOZZLE #000 GREY THROAT
60010035	60010605	INJECTOR SET #00 VIOLET THROAT
	60010606	NOZZLE #00 VIOLET THROAT
60010034	60010607	INJECTOR SET #0 RED THROAT
	60010608	NOZZLE #0 RED THROAT
60010033	60010609	INJECTOR SET #1 WHITE THROAT
	60010610	NOZZLE #1 WHITE THROAT
60010032	60010611	INJECTOR SET #2 BLUE THROAT
	60010612	NOZZLE #2 BLUE THROAT

No.	Part #	Part Description
60010031	60010613	INJECTOR SET #3 YELLOW THROAT
	60010614	NOZZLE #3 YELLOW THROAT
60010685		INJECTOR SET #4 GREEN THROAT
60010686		NOZZLE #4 GREEN THROAT
60010131		DLFC #1 1.5GPM
60010132		DLFC #2 2.0GPM
60010133		DLFC #3 2.4GPM
60010135		DLFC #5 3.5GPM
60010134		DLFC #4 3.0GPM
60010041		DLFC #6 4GPM
60010169		DLFC #7 5GPM
60010136		DLFC #A 5.0GPM
60010137		DLFC #B 7.0GPM
60010138		DLFC #C 11.0GPM
60010167		DLFC#5(3.5 GPM)

Valve Body Parts List

No.	Part #	Part Description	Qty
A45	60010076	SCREW M5×16	2
A44	60010075	SCREW M5×12	3
A43	60010645	END PLUG RETAINER	1
A42	13446	END PLUG	1
A41	13001	65 PISTON ROD	1
A40	60010646	PISTON RETAINER	1
A39	60010647	PIN	1
A38	60010648	PISTON	1
A37	14241	SPACER	8
A36	13242-02	SEAL	5
A35	13755-1	BNT 65 VALVE BODY	1
A34	60010095	AIR DISPENSER	1
A33	12638	O-RING(11×2)	1
A32	60010094	O-RING(7.8×1.9)	2
A31	60010649	RETAINER RING	1
A30	60010650	INJECTOR WASHER	1
A29	60010651	INJECTOR SPRING	1
A28	60010652	INJECTOR CAP	1
A27	60010185	O-RING(12.5×1.8)	1
A26	60095735	QUAD RING	1
A25	60010653	INJECTOR SPACER	1
A24	60010654	INJECTOR STEM	1
A23	60010655	INJECTOR RUBBER SEAT	1
A22	60010081	BLFC BUTTON RETAINER	1
A21	60010110	BLFC(0.3GPM)	1
A20	60010083	O-RING(14×1.8)	1
A19	13244	COPPER FITTING	1
A18	60010087	BLFC FERRULE	1
A17	60010088	BLFC FITTING NUT	1
A16	60010656	QC BRINE ELBOW	1
A15	60010089	SCREWS M5×30	2
A14	60010090	INJECTOR PLUG	1
A13	60010091	O-RING(23.9×1.8)	1
A12	10227	INJECTOR SCREEN	
A11	60010033	INJECTOR NOZZLE(WHITE)	1
A10		INJECTOR THROAT(WHITE)	1
A9	60010069	SECURE CLIP-S	1
A8	60010093	INJECTOR BODY	1
A7	60010657	DLFC 3.0GPM	1
A6	60010044	O-RING(12×2)	1
A5	60010229	QC DRAIN LINE ELBOW	1
A4	60010077	O-RING(78.74×5.33)	1
A3	60010080	O-RING(25×3.55)	1
A2	60010599	VALVE BOTTOM CONNECTOR	1
A1	60010574	SCREWS ST3.5×13	2

PARTS BREAKDOWN



565 bypass parts list

No.	Part # (WaterGroup)	Description	Qty
24	60010006	Bypass Tool	1
23		063 Bypass Body	1
22	60010026	O-ring(22.4×3.55)	2
21	60010020	Connector 3/4"NPT	2
20		Connector Clip	2
19		Bypass Shaft(Outlet)	1
18		Bypass Shaft(Inlet)	1
17		O-ring(30×2.65)	2
16		Shaft Seal	2
15	92846	Plug Clip	2
14		Shaft Clip	2
13	60010209	Bypass Plug	2
12	60010044	O-ring(12×2)	2
11	60010126	Screw M4×12	2
10	60010046	SS Clip	2
9		Bush	2
8		Impeller Pin	1
7		Magnet	2
6	60010238	Impeller	1
5	60010102	O-ring(27×3)	1
4		Impeller Support	1
3	60010079	Valve-Bypass Connector(Inlet)	1
2	60010101	Valve-Bypass Connector(Outlet)	1
1	60010562	O-ring(23×3)	3

TROUBLE SHOOTING GUIDE

Problem	Cause	Correction
1. Filter bleeds taste and odor or sediment	A. Bypass valve is open B. Electrical service to unit has been interrupted C. Defective or stripped media bed D. Quality of water has worsened E. Filter capacity too small F. Filter not backwashing enough G. Excessive water usage - calendar clock models	A. Close bypass valve B. Assure permanent electrical service (check fuse, plug or switch) C. Replace media D. Have water sample analyzed to determine any change E. Replace with larger unit or add another filter F. Be sure flow control is not clogged or drain line restricted. Be sure water pressure has not dropped and that pump has sufficient capacity G. Increase frequency of regeneration. Make sure there are no leaks in toilets or sinks
2. Filter fails to regenerate	A. Electrical service to unit has been interrupted B. Timer is defective C. Power failure D. Timer motor does not run	A. Assure permanent electrical service (check fuse, plug or switch) B. Replace timer C. Reset time of day D. Replace defective motor
3. Filter regenerates every day	A. Faulty gear train	A. Check the mechanical linkage on the timer control to eliminate possible binding in the gear train
4. Loss of water pressure	A. Iron or turbidity build-up in filter B. Filter not regenerating often enough C. Not enough water volume or pressure to backwash properly	A. Clean control and treat bed with Iron Out. Increase frequency of regeneration B. Increase frequency of regeneration C. Correct water supply problem
5. Loss of media through drain line	A. Air in water system B. Backwash rate too fast	A. Assure that well system has proper air eliminator control. Check for dry well condition B. Check drain flow control for proper flow rates
6. Drain flows continuously	A. Foreign material in control B. Timer motor stopped or jammed	A. Remove piston assembly and inspect bore. Remove foreign material and check control in various regeneration positions B. Replace timer motor

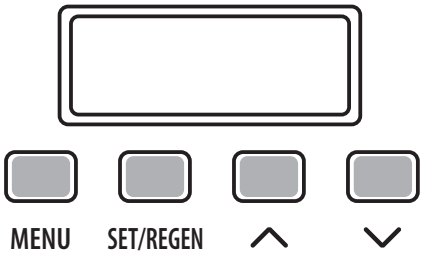
MASTER PROGRAMMING GUIDE

Below is how the settings are set at factory:

Press '^' and 'v' for 8 seconds		PRESS '^' AND 'V'												VALVE SETTINGS						
MODEL	SYSTEM LANGUAGE	VALVE OPERATION	REGEN MODE	REGEN TIME	CAP CALC	REGEN DAYS	GAL	SALT SET	Refill	BACK WASH	BRINE RINSE	RINSE	REFILL	Injector	Injector Color	BLFC Washer	DLFC Washer	DLFC Code	BT Grid LEGs	Upper Cone
BM-75	ENGLISH	FILTER	METER OVERIDE	12:00AM	MANUAL	3DAYS	1000		0	10	0	10	0	#1	White	0.7	3.5	#5		NO
BM-100	ENGLISH	FILTER	METER OVERIDE	12:00AM	MANUAL	3DAYS	1000		0	10	0	10	0	#1	White	0.7	4	#6		NO
BM-150	ENGLISH	FILTER	METER OVERIDE	12:00AM	MANUAL	3DAYS	1000		0	10	0	10	0	#1	White	0.7	5	#A		NO
MM-75	ENGLISH	FILTER	METER OVERIDE	12:00AM	MANUAL	3DAYS	1000		0	10	0	10	0	#1	White	0.7	4	#6		NO
MM-100	ENGLISH	FILTER	METER OVERIDE	12:00AM	MANUAL	3DAYS	1000		0	10	0	10	0	#1	White	0.7	5	#A		NO
MM-150	ENGLISH	FILTER	METER OVERIDE	12:00AM	MANUAL	3DAYS	1000		0	10	0	10	0	#1	White	0.7	7	#B		NO
NU-75	ENGLISH	FILTER	METER OVERIDE	12:00AM	MANUAL	3DAYS	1000		0	10	0	10	0	#1	White	0.7	3.5	#5		NO
NU-100	ENGLISH	FILTER	METER OVERIDE	12:00AM	MANUAL	3DAYS	1000		0	10	0	10	0	#1	White	0.7	4	#6		NO
NU-150	ENGLISH	FILTER	METER OVERIDE	12:00AM	MANUAL	3DAYS	1000		0	10	0	10	0	#1	White	0.7	5	#A		NO
TO-75	ENGLISH	FILTER	METER OVERIDE	12:00AM	MANUAL	3DAYS	1000		0	10	0	10	0	#1	White	0.7	3.5	#5		YES
TO-100	ENGLISH	FILTER	METER OVERIDE	12:00AM	MANUAL	3DAYS	1000		0	10	0	10	0	#1	White	0.7	4	#6		YES
TO-150	ENGLISH	FILTER	METER OVERIDE	12:00AM	MANUAL	3DAYS	1000		0	10	0	10	0	#1	White	0.7	5	#A		YES
NEX-75	ENGLISH	FILTER	METER OVERIDE	12:00AM	MANUAL	3DAYS	1000		0	10	0	10	0	#1	White	0.7	5	#A		NO
NEX-100	ENGLISH	FILTER	METER OVERIDE	12:00AM	MANUAL	3DAYS	1000		0	10	0	10	0	#1	White	0.7	7	#B		NO
NEX-150	ENGLISH	FILTER	METER OVERIDE	12:00AM	MANUAL	3DAYS	1000		0	10	0	10	0	#1	White	0.7	Blank	Blank		NO

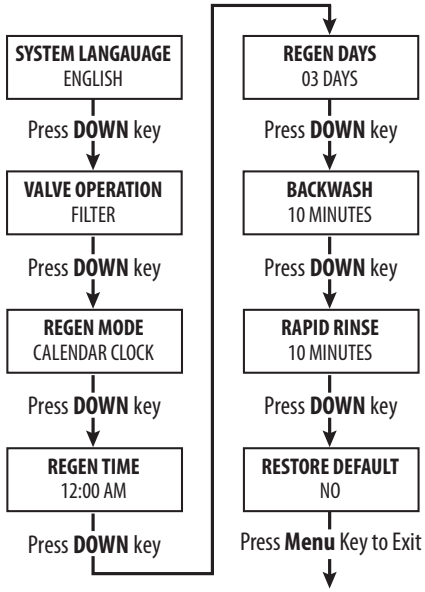
MASTER PROGRAMMING GUIDE

Key Pad Configuration:



Power the Valve and Configure to Filter

Hold **Up** and **Down** Key for 3 Seconds.
Press **Set/Regen** to Select the **Value** and **Up/Down** Arrow to Change it. Refer to the values on the blocks that need to be set. Press **Down** Key to move to the next screen.



Program Valve

1. If screen is locked, press **"MENU"** for 3 seconds to unlock. Press **"MENU"** again to enter level one programming mode and adjust **CURRENT TIME.**

2. Press **"SET/REGEN"** to adjust hours. When you have entered the change value mode, the curser will blink. Press **"UP** or **DOWN"** arrows to change the hour values. Press **"SET/REGEN"** gain to accept the hour value and advance to change the minutes value. Press **"UP** or **DOWN"** arrows to change the minute values. Press **"SET/REGEN"** again to accept the minute values and advance to adjust the AM/PM values. Press " or **"UP** or **DOWN"** to change the **AM/PM** value. Press "**SET/REGEN"** again to accept the **AM/PM** value and exit. When you have exited the change value mode, the curser will stop flashing.

Setting Current Date

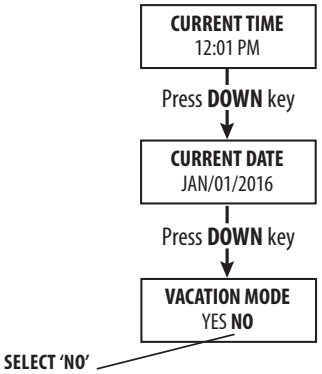
1. Press **"DOWN"** to advance to CURRENT DATE.
2. Press the **"SET/REGEN"** to change the value. Press **"UP** or **DOWN"** to change the values.

Setting Vacation Mode

1. Press **"DOWN"** to advance to **VACATION MODE**.
2. Press the **"SET/REGEN"** to change the value. Press **"UP** or **DOWN"** arrows to change the values.

Programming Flow Chart

Press **SET/REGEN** Key and change the values using **UP** and **DOWN** Key



VACATION MODE: This function may be activated by the user during a prolonged absence such as vacation. The system will perform a brief backwash and rinse based on the advanced setting. The purpose is to keep the water fresh in the softener tank and plumbing system.

Canature WaterGroup™ warrants that your new water conditioner is built of quality material and workmanship. When properly installed and maintained, it will give years of trouble free service.

Seven Year Complete Parts Warranty

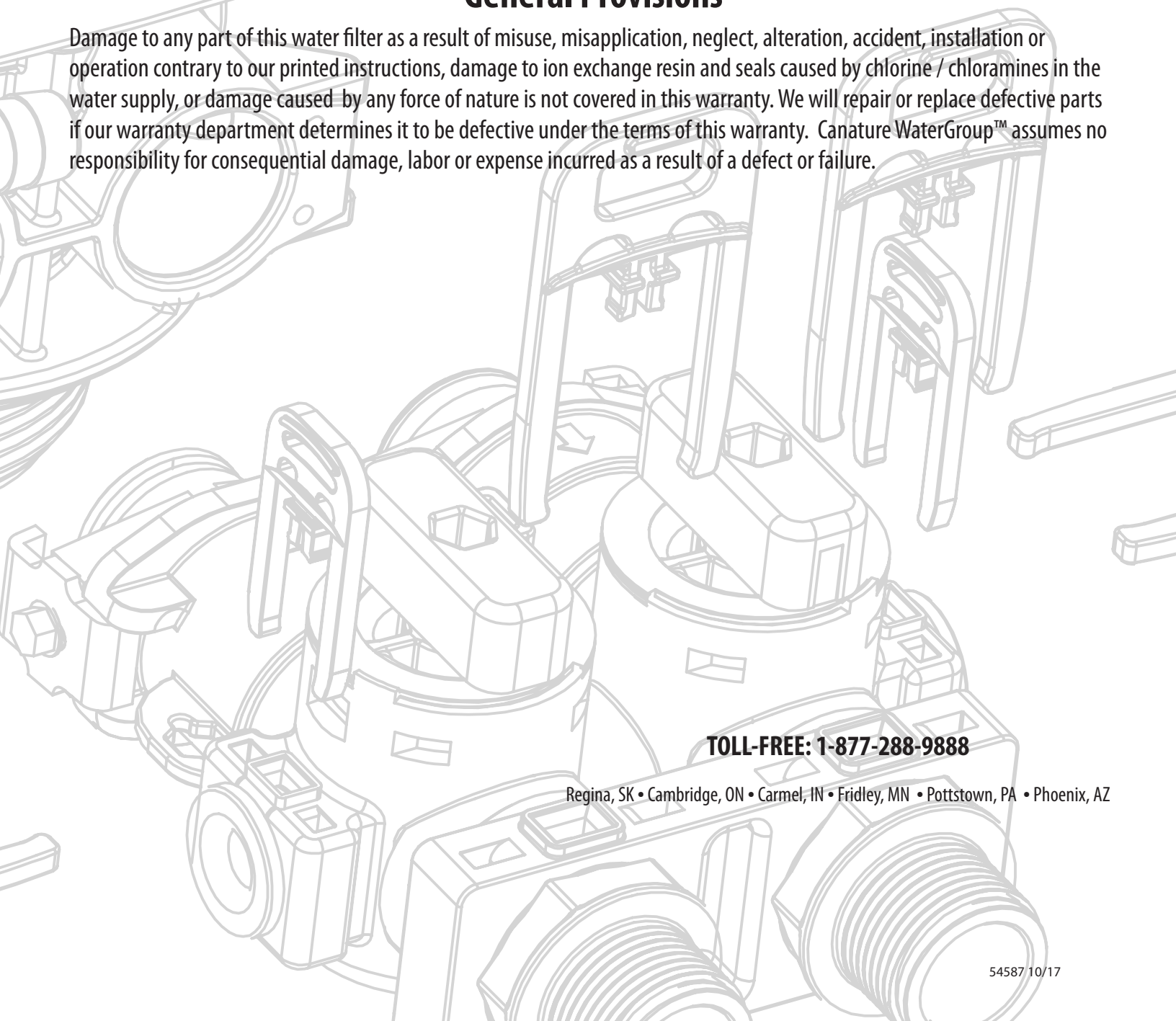
Canature WaterGroup™ will replace any part which fails within 84 months from date of manufacture, as indicated by the serial number, provided the failure is due to a defect in material or workmanship. The only exception shall be when proof of purchase or installation is provided and then the warranty period shall be from the date thereof.

Ten Year Warranty on Mineral Tanks and Brine Tanks

Canature WaterGroup™ will provide a replacement mineral tank or brine tank to any original equipment purchaser in possession of a tank that fails within 120 months, provided that the water conditioner is at all times operated in accordance with specifications and not subject to freezing.

General Provisions

Damage to any part of this water filter as a result of misuse, misapplication, neglect, alteration, accident, installation or operation contrary to our printed instructions, damage to ion exchange resin and seals caused by chlorine / chloramines in the water supply, or damage caused by any force of nature is not covered in this warranty. We will repair or replace defective parts if our warranty department determines it to be defective under the terms of this warranty. Canature WaterGroup™ assumes no responsibility for consequential damage, labor or expense incurred as a result of a defect or failure.



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