Installation, Instruction And Maintenance Manual ROCCS

(Reverse Osmosis Ceramics Conversion System)

ROCCS

Installation, Instruction and Maintenance Manual ROCCS

Serial Number: _____
Model: _____
Purchase Date: _____
Purchased From: _____

Please read carefully before proceeding with installation

• *RECOMMENDATION:*

This ROCCS is designed to operate at:

- **Water pressure in the range of 40 to 60 PSI.**

At pressures lower than 40 PSI the quantity as well as the quality of the water will be reduced. At higher pressure, severe damage to the system may result.
If local water pressure exceeds 60 PSI a pressure regulator must be installed which will reduce the water pressure into the system… (for more information Contact DTF)

- **TDS less than 600PPM**

If your water hardness exceeds 7grains per gallon or the TDS more than 600PPM you may consider purchasing a Large Tornado softener for your house system, or purchasing a different type of the Membrane… (for more information Contact DTF)

• *OPERATING PARAMETERS:*

1. **ROCCS must be connected to a municipal or well water source that is treated and tested on a regular basis to insure bacteriological safe water.**

Note:* At all time the TDS should be less than 600ppm. *(for more information Contact DTF)

2. **Operating Temperatures:**
   Maximum 113 Fahrenheit (45 Celsius)
   Minimum 40 Fahrenheit (4.4 Celsius)
3. **Operating Pressure:**
   Maximum 60 PSI (4.2 kg/cm2)
   Minimum 40 PSI (2.95 kg/cm2)

Note:* If your Pressure is more than 60PSI, you may consider purchasing Pressure Regulator *(for more information Contact DTF)

***CAUTION!!* Do not allow ROCCS to freeze. The membrane always contains water and will be destroyed if frozen.**

***CAUTION!!* Do not plumb ROCCS to hot water. This will destroy the integrity of the system components.**

***WARNING!!* Warranty voided and manufacturer assumes no responsibility for damage to system or property if:**

- **ROCCS freezes.**
- **Hot water goes to the inside of the ROCCS.**
- **Pressure exceeds 60 PSI.**
- **Non-Licensed Plumber Installed Your ROCCS.**

***WARNING*!! The following conditions for feed water supply must be met or the warranty will be voided.**

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PRODUCT LIABILITY AND WARRANTY INFORMATION :

Warning!! **The installer is responsible for any leaks resulting from installation of tubing or related fittings. The installer must check over the entire system completely while under pressure to ensure system is not leaking and is functioning properly. Liability resulting from failure to check for leaks under pressure is the sole responsibility of the installer.**

Each system is Warranted to be free from defects in material and workmanship for a period of one year from the date of original purchase. In the event of such defects within the warranty period, the Dream Tree Family will, at its option, replace or recondition the product without charge. This shall constitute the sole and exclusive remedy for breach of warranty, and the including without limitation, lost profit on the cost of repairing or replacing other property which is damaged. If this product does not work properly, other costs resulting from labor charges, delays, charges, negligence, fouling caused by foreign material, damage from diverse water conditions, chemicals, or any other circumstances over which the company has no control. This warranty shall be invalidated by any abuse, misuse, misapplication, or improper installation of the product. THIS WARRANTY IS IN LIEU OF ALL TOHER WARRANTIES OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PUPOSE. Any implied warranties that are imposed by law are limited in duration to one year. **Must be installed by Licensed Plumber or Warranty is VOID.**

• Tools & Materials Needed For Normal Installation:

- Variable Speed (VS) Drill
- Carbide Grinding Burr
- 1/4” (6mm) Drill Bit for single faucet
- 1-3/8” (26mm) Drill Bit for dual faucet
- 7/16” (11mm) Drill Bit
- 1/2” (13mm) and 5/8” (16mm)
- Open--Close Wrenches/ Included with the system
- Phillips Screwdriver
- Flashlight or Droplight
- Teflon tape
- Protective Eyewear (goggles... i.e.)

• PRE-INSTALLATION INSPECTION:

After opening, inspect package and locate the following items:

1. ROCCS Unit.
2. Storage Tank.
3. Faucet with mounting hardware.
4. Installation Packet:
   - A.Drain Saddle
   - B.Tank Ball Valve.
   - C. Angle Valve Connect with the Main water Line.
   - D. Tubing:
     - Blue for the tank.
     - Yellow for the drain.
     - White for the faucet.
     - Red or white for the main water Line.

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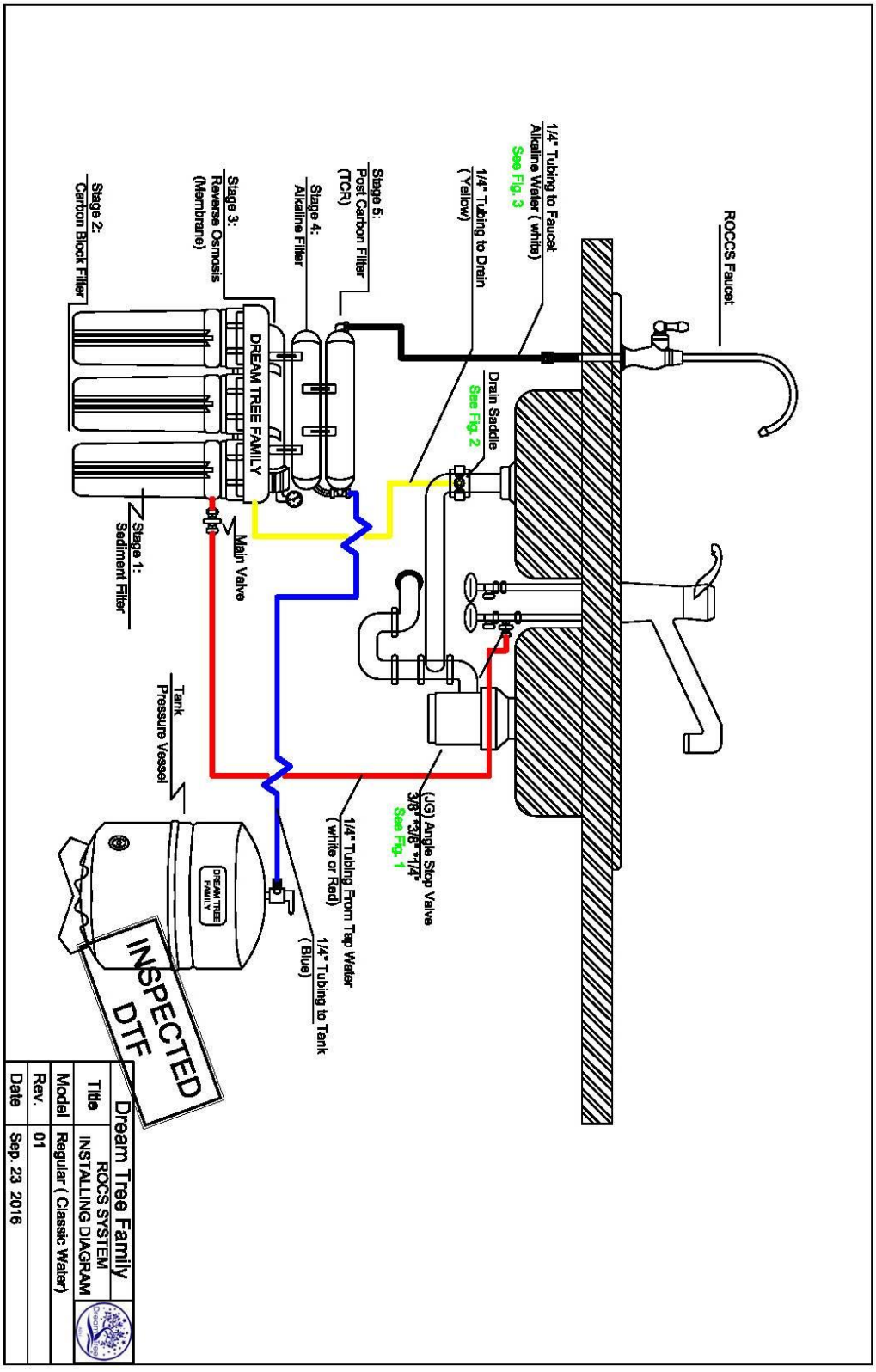

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SYSTEM INSTALLATION

- ***Faucet :***

Information About the Faucet:

1. **The system includes a standard sink top faucet without an Air-Gap. In localities where plumbing codes require installation of an Air-Gap, contact your local distributor to obtain a code approved Faucet or Adapter.**

- **The ROCCS may be mounted to the side of the sink cabinet. It must be positioned to allow access for service and filter changes. The assembly should be relatively near the faucet to maximize flow rate. A Delivery Pump may be needed, If your pressure less than 40PSI *… (for more information Contact DTF)***

1. **The storage tank should be placed where it can be easily removed if necessary. The storage tank can be placed only in the vertical position otherwise it will affect system performance. If there is insufficient space under the sink for placement, the tank may be placed adjacently to a cupboard up to 12ft. Away, in which case a delivery pump may be required for maximum performance.**
2. **The faucet should be positioned to allow a free flow pattern into the sink. It must be positioned to allow ready access to the mounting hardware under the sink.**

CAUTION!! **Extreme care must be taken in drilling the hole for the sink-top faucet. The surface material of most sinks is extremely hard and brittle and can be easily chipped or cracked. If you are uncomfortable performing the following procedure it is recommended that your local plumber be consulted for techniques and other assistance. The unit's manufacturer accepts no responsibility for sink top damage resulting from unit installation.**

CAUTION!! **Before grinding or drilling put on appropriate eye protection (i.e…..goggles) to protect your eyes from porcelain or metal chips.**

CAUTION!! **Before grinding or drilling ensure that the drill you are using is UL approved and properly grounded to prevent electrical shock or possible death. DO NO USE DRILL WHILE USING OR STANDING IN WATER!!!**

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• Faucet Installation :

1. BEFORE DRILLING: Check under the sink in the area that you plan to install the faucet and make sure that there is a flat surface to secure the mounting hardware. A flat space of approximately 2 inches in diameter is needed.

   RECOMMENDATION: ***Before drilling or grinding mask off the immediate area surrounding the grinding/drilling location preferably with duct tape or, if duct tape is unavailable, masking tape may be used. This procedure should help prevent scratching of the sink surface.***

2. Remove everything from inside the sink and surrounding area. Place paper towels in the sink to catch the shavings from the grinding and drilling.

3. Using a variable speed (VS) drill with a carbide grinding burr, gently grind away enough porcelain or enamel to more than accommodate the 7/16" (11mm) drill bit. Approximately the size of a dime. Enough surface material must be removed to expose the base metal.

   CAUTION!! ***Porcelain or enamel must be completely removed in the drilling area to prevent immediate dulling or drill bit.***

4. Remove everything from under the sink.

5. Place newspaper or paper towels directly under drilling location in order to catch the drill shavings.

6. Use a (1/4") (6mm) drill bit for the single faucet and a (1-3/8") drill bit for a dual faucet, drill a centering or pilot hole in the center of the desired faucet location. Note this centering/pilot will make it easier for the 7/16" (11mm) drill bit to cut through the sink. Operate the drill slowly and carefully especially when the drill is about to penetrate the metal. Otherwise, damage to the sink may occur. Use lubrication oil to keep the drill bit cool while drilling.
7. Using the 7/16" (11mm) drill bit or 1-3/8", drill completely through the sink. Operate the drill slowly and carefully– Especially when the drill bit is about to penetrate the metal. Otherwise, damage to sink may occur. Use lubrication oil or water to keep the drill bit cool while drilling.
8. Discard paper towels and newspaper used in sink and below sink. Be very careful not to drop any shavings in sink or on the floor as they will rust and stain surfaces very quickly.

   HELPFUL HINT: ***If you notice any rust spots from dropped shavings you should be able to get rid of them by scrubbing them with cleanser.***
9. Cover the drilled hole with your finger BE VERY CAREFUL NOT TO CUT YOURSELF ON SHARP EDGES! Rinse sink then scrub with cleanser to prevent any rusting from shavings and to prepare for faucet installation. Plug hole again while rinsing off cleanser. Hole must be plugged in order to avoid water dripping below into sink cabinet, which may cause damage.
10. Remove faucet package.

Additional style faucets and finishes are available. (for more information Contact DTF)

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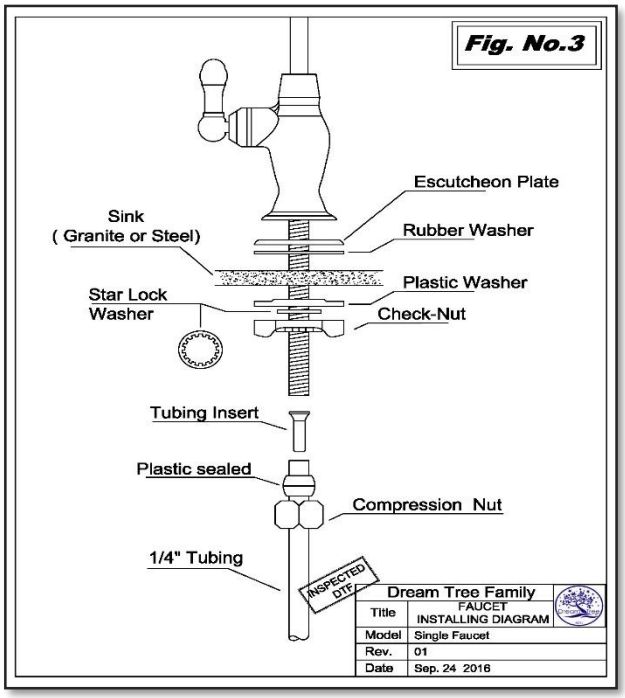
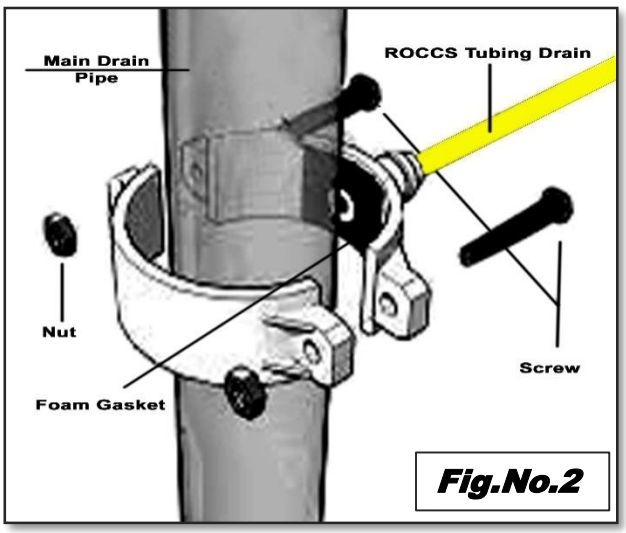
11. Slip the chrome trim plate (escutcheon plate) over the faucet shank. Finally, slip the large, rubber washer over the faucet shank.
12. Insert the faucet spigot into the faucet base in the hole next to the faucet handle. Push the faucet spigot in until it stops.
13. Place the faucet shank complete with only the hardware installed in step 11 though the drilled hole.
14. From under the sink slip the large black plastic washer, over the faucet shank. Next slip the Star lock washer over the faucet shank followed by the Check-Nut.
15. While holding the faucet assembly above the sink use your hand to tighten the Check-Nut until the faucet assembly does not move.

CAUTION!! It is very important that the 1/4" Insert be inserted into the tubing.



Drain Saddle Valve Installation:

A Drain Saddle is used to make the wastewater connection with the drain under the sink, which is designed to fit around a standard **1 1/2"** OD drainpipe. The drain saddle valve should always be installed before (above) the p-trap and on a vertical or horizontal drain. Do not install the drain saddle near a garbage disposal to avoid clogging the drain line with debris.



1. Position the drain saddle valve at selected location and mark the opening.
2. Drill 1/4" hole where you marked through one side of pipe.
3. Remove backing from gasket and place adhesive side to the fitting half of drain clamp around hole.
4. Position both halves of drain saddle on drain pipe so the opening aligns with the drilled hole. Use a small drill bit to verify that drain clamp is properly aligned.
5. Secure drain saddle clamp on valve with bolts and nuts provided. (Do not over-tighten make sure there is equal space between saddle halves on each side)

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DANGER!! ***The drain saddle MUST be installed on the side of the P·Trap that goes to the sink drain!! If installed on the wrong side of the P-Trap, sewer gas could enter the unit and damage it.***

CAUTION!! ***Be very careful when drilling into drainpipe Do not drill all the way through-stop after piercing the first wall of the pipe.***

Angle Stop Valve Installation:

INTRODUCTION: The John Guest Angle Stop Valve connects between the supply valve and riser, to the main water supply line, for applications in Reverse Osmosis.

1. Shut off water supply at brass/chrome supply valve.
2. Disconnect riser from brass/chrome supply valve.
3. Ensure that the sealing gasket is fully seated into the Angle Stop Valve female thread.
4. Install Angle Stop Adapter Valve on supply Valve.
5. Connect the risers to the Angle Stop Adapter Valve.
6. Fully insert tubing into the **Speedfit** side of the valve.
7. Open valves and check for leaks.

Fig.No.1

Flexible Riser Tubes - Most riser tubes that are used today are made of flexible material, either braided stainless steel, braided plastic or gray 3/8" plastic tubing. These flexible tubes are the easiest to use with the John Guest Angle Stop Valve because the 2" of additional space needed for the Faucet Adaptor can be easily accommodated by flexing this kind of riser. A shorter riser tube will not be needed.

Copper Riser Tubes - If your riser tube is made of copper you will need to make a bend in the copper to allow for the 2" of space needed for the John Guest Angle Stop Valve. If the copper tube is 3/8", bending it can be done easily by hand.

The John Guest Angle Stop Valve works with 3/8" shut-off valves and riser tubes. In some cases, older plumbing may use a larger size shut-off and riser tube. In this case, it would be necessary to either replace the old valve and riser tube with new 3/8" parts, or use an alternative connection to draw the water supply to the ROCCS. Alternatives include self piercing valves, T fittings, and faucet adaptors that connect between the faucet and the top of the riser tube.

Please consult DTF or an installation professional for additional assistance.

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TANK (PRESSURE VESSEL)

1. Wrap Teflon tape 4 to 5 times around the tank threads located on top if you have a metal tank. However if you have a plastic tank this step is not required.
2. Hand-tighten the plastic shut off ball valve of tank stem.

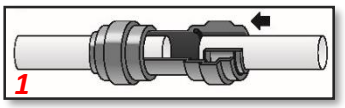
CAUTION!! ***Hand- tighten the valve only! DO NOT OVER TIGHTEN!! IF valve is over tightened it will crack and it will leak.***

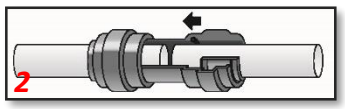
IMPORTANT!! ***The tank pressure must be between 5-10PSI when measured empty. This must be measured with a good dial or digital pressure gauge. A pop-up tire gauge will not give you an accurate reading. If you do not have access to a good gauge contact you local plumber to purchase. If your tank pressure is above 10 PSI use the tank Schrader valve to release pressure until there is between 5-10PSI. If your tank pressure is below 5PSI use a bicycle pump or compressed air to increase pressure to between 5-10PSI***

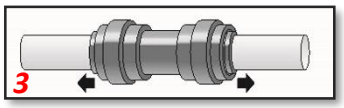
3. The storage tank should be located where it can be removed if necessary. After you adjust the pressure you need to return the cup to the right place. The storage tank should be placed in a vertical position without affecting the system performance. If there is insufficient space under the sink for placement, the tank may be located in an adjacent cupboard up to 12 feet away.

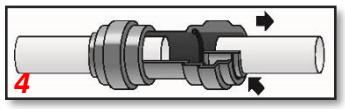
How To Make Quick – Connect Connection

1. ***Fitting grips before it seals. Ensure tube is pushed into the tube stop.***
2. ***Push the tube into the fitting, to the tube stop. The collet (gripper) has stainless steel teeth which hold the tube firmly in position while the O-ring provides a permanent leak-proof seal.***
3. ***Pull on the tube to check that it is secure. It is a good practice to test the system prior to leaving site and/or before use***.
4. ***To disconnect, ensure the system is depressurized before removing the tube. Push in collet squarely against face of fitting. With the collet held in this position, the tube can be removed…The fitting can then be re-used.***









NOTE: ***Locking clips are used on fitting where the tubing has bend near the fitting***.

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ROCCS PLACEMENT AND MOUNTING:

1. Determine if mounting of the ROCCS is necessary or desired. The ROCSS does not need to be mounted on the wall of the cabinet if there is room for it to sit on the floor. However, if it is mounted to the side of the cabinet it is easier to change the filters and does not take up floor space.
2. Position the ROCSS on the wall at the desired mounting location. Using the bracket holes on the back of the bracket, mark on the wall with a pencil where the screws need to be Inserted.
3. Set the ROCSS to the side.
4. Screw the two (2) Phillip head screws (supplied in the installation packet) into the wall at the marked positions.
5. Mount the ROCSS onto the screws.

IMPORTANT!! ***Be very careful not to kink any of the tubing on the ROCSS, If tubing is kinked the tubing can rupture and leak.***

NOTE: ***Let the screw heads protrude from the wall enough to hang the ROCSS safely.***

TUBING CONNECTIONS:

IMPORTANT!! ***Be very careful not to kink any of the tubing on the ROCCS. If tubing is kinked the tubing can rupture and leak.***

Connecting To Faucet :

WHITE LINE

1. Connect the white tubing to the post carbon. Please refer to page "9" for connection instructions ***(How To Make Quick – Connect Connection)***
2. Other end of the tubing should already be connected to the faucet. If not done already refer to page "7" ***(Faucet Installation)***

Connecting To Faucet :

BLUE LINE

1. Connect the Blue tubing to the other side of the Post Carbon. Please refer to page "9" Figure No.1, for connection instructions ***(How To Make Quick – Connect Connection)***
2. Other end of the tubing should already be connected to the Tank Valve. If not done already refer to page "9" ***TANK (PRESSURE VESSEL).***

Connecting To Feed water :

WHITE / RED LINE

1. Connect the white /red tubing to the Main Valve. Please refer to page "9" Figure No.1, for connection instructions ***(How To Make Quick – Connect Connection)***
2. Other end of the tubing should already be connected to the Angle Stop Valve. If not done already refer to page "8" ***(Angle Stop Valve Installation)***

Connecting To Drain:

YELLOW LINE

1. Connect the Yellow tubing to the Restrictor. Please refer to page "9" Figure No.1, for connection instructions ***(How To Make Quick – Connect Connection)***
2. Other end of the tubing should already be connected to the Drain Saddle. If not done already refer to page "7" ***(Drain Saddle Valve Installation)***

IMPORTANT!! ***You may have a threaded connection instead of a quick connection. If that is the case please be careful NOT to OVERTIGHTEN the nut.***

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SYSTEM START-UP:

Prior to start-up:

1. Check all fitting connections.
2. Check that all the valves are shut-off (Angle Stop Valve, Main Valve, Tank Valve and the faucet).
3. Open Angle Stop Valve … and check the connection for leaking between the angle stop valve and the main valve under pressure.
4. Open the main valve, the water should start to flow through the system.

Note: ***If you have a model with a pressurized flow and Restrictor valve, push or turn on the valve for 3 minutes. This will allow residual carbon fines to be washed through the system and down the drain.***

Note: ***Check the Gauge Reading, the reading should be (40-60) PSI if not contact DTF.***

5. Open the faucet.
6. Leave the tank valve closed.
7. Wait 15-20 minutes for the water to reach the faucet. You will get Black water, those are residual carbon fines. Leave it flushing for 5 minutes, and Shut-off the faucet to allow system to pressurize, check for leaks.
8. Look at the gauge, after a few minutes the gauge will go to zero, check all the connections and be sure there is no leaking.
9. To flush the system, open the faucet and allow it to produce water for 3 hours.
10. Shut–off the faucet and turn on the tank valve.
11. Leave the system working for 2 hours to fill the tank.
12. Open the faucet for 5 minutes to flush all the water in the tank and the system.
13. Close the faucet and wait for the tank to fill up.
14. You can now use the water.

Note: ***Don't drink the water made during the flushing of the system, but you can use it for plants.***

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SYSTEM Maintenance

• Replacement And Filter Change Interval:

- **PP Sediment Cartridge 5µm: Up to 3months.**
- **Carbon Block Cartridge 5µm: Up to 6months.**
- **Carbon Block Cartridge 5µm: Up to 6months.**
- **Alkaline & Mineral Cartridge: Up to 12months/ or depends on the pH reading.**
- **TCR Post Carbon Cartridge: Up to 12months**
- **R.O. Membrane 50GPD: Up to 2years**

***NOTE:* Life of filters and membrane depends on the quality of water supplied to the ROCCS.**

***Filters maintenance:* Each year the filters in the system should be replaced. Usually the membrane can be replaced every other year, but the pre-filters and post-filter should be changed annually and in some cases more often.**

Filters Replacement:

❖ ***Change (Sediment, Block Carbon)***

1. Turn off feed water pressure from Angle stop valve **or** main valve
2. Turn off tank valve.
3. Open ROCCS Faucet to relieve pressure.
4. Using the supplied housing wrench, remove the filter housing.
5. Discard old filters.
6. Clean filter housings with a cleaning brush, you can use soap or bleach , but you need to rinse the canister very well.
7. Turn on feed water pressure from Angle stop valve **or** main valve.

***Note:* If you have model with pressurized flow and Restrictor valve, push or turn on the valve for 3 minutes. This will allow carbon residue to be washed through the system and down the drain.**

8. Open tank valve.
9. You can use the water.

❖ ***Change (Alkaline Filter, Post Carbon)***

1. Turn off feed water pressure from Angle stop valve **or** main valve
2. Turn off tank valve.
3. Open ROCCS Faucet to relieve pressure.
4. Remove and replace Post Carbon Filter / Alkaline Filter from the clips.
5. Remove fittings from old Filter, for connection instructions see ***(How To Make Quick – Connect Connection)***

***Note:* Re-Apply Teflon tape and install fittings in new filter, If required.**

6. Turn on feed water pressure from Angle stop valve **or** main valve.
7. Open tank valve.
8. Allow water in tank to flush out new Filters and flow to the drain until empty.
9. Drain 2 more complete batches to before using the water.

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❖ ***Membrane Replacement:***

1. Turn off feed water pressure from Angle stop valve **or** main valve
2. Turn off tank valve.
3. Open ROCCS Faucet to relieve pressure.
4. Remove the supply tube from the end of the membrane housing that has only 1 tube.
5. Unthread the cap from the membrane housing. (Use the correct wrench designed for that housing ***… (for more information Contact DTF).***
6. Remove membrane using a pair of pliers, twist it to the right and then pull.
7. Clean membrane housing with a brush.
8. Installing a new membrane and be sure to push the membrane into the housing as far as it will go…You can use Lubricating oil (NSF) ***… (for more information Contact DTF).***
9. Re-connect the supply tube in the end of the membrane housing.
10. Turn on feed water pressure from Angle stop valve **or** main valve.
11. Check all fitting connections.
12. Open the tank valve.
13. Be sure the ROCCS faucet is on.
14. Allow the system produce water for 3 hours, to flush the system.
15. Shut –off the faucet.
16. Do not touch the system for 2 hours to allow the tank to fill.
17. Open the faucet for 5 minutes to flush all the water in the tank and the system.
18. Close the faucet, let tank fill.
19. You can use the water now.

Recommendation : ***Each time the filters are replaced it is recommended that the system be sanitized.***

SYSTEM SANITIZING

1. Turn off feed water pressure from Angle stop valve **or** main valve.
2. Open ROCCS Faucet to flush all the water from the tank and the system.
3. Remove all filters from the system, (Sediment, Carbon Block, Membrane , Alkaline, Post Carbon)… Housings have been cleaned, tank is empty, and faucet is open.
4. Pour one Sani- System Packet (0.25Ounce pre-measured Packet) into empty pre–filter housing unit(on the ROCCS, It is the first housing unit).
5. Tighten filter housings with solution in ROCCS assembly.
6. Connect membrane housing and feed tube.
7. Open tank valve and feed pressure valve.
8. Allow water to fill the ROCCS housing assembly until water comes out of faucet.
9. Close the faucet.
10. Allow solution to stand for 5 minutes.
11. Open faucet and allow system to drain.
12. Repeat Points (9-11) three times.
13. Repeat points (1-2), and install all the filters(Sediment, Carbon Block, Membrane , Alkaline, Post Carbon).

Note: ***Remove water from housings before installing new filters and membrane.***

Note: ***To install new filters and membrane go, back to (Filters Replacement).***

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COMMON TROUBLESHOOTING

#	Troubleshooting	Reason	Solution
1	The flow rate of the water is low on the ROCCS faucet	A. The tank is empty B. There is no air pressure in the tank	A. Wait less than 2 hours for the tank to fill up B. Check if the tank is heavy. If so add air through the air valve. Please refer to page "9" for tank pressure vessel.
2	Water has bad taste and smell	A. Post Carbon is used up. B. Alkaline filter is new the water pH is too high.	A. Replace Post Carbon filter B. Rinse the filter by leaving the system on for 3 to 4 hours.
3	The pH is low	The Alkaline filter is used up	Replace the Alkaline Filter
4	The water tastes like tap water	The membrane is used up, and the TDS is high.	Replace the R.O membrane
5	The ROCCS faucet drips when the valve is off	The gasket inside the faucet is damaged	Change the faucet

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