



UNDER COUNTER
DRINKING WATER SYSTEM
3 & 4 STAGE SYSTEMS

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LEGEND	
	CAUTION / WARNING
	EYE PROTECTION
	ELECTRICAL WARNING
	FRAGILE



WARNING: READ ENTIRE MANUAL. FAILURE TO FOLLOW ALL GUIDES AND RULES COULD CAUSE PERSONAL INJURY OR PROPERTY DAMAGE.

Check with your state and/or local public works department for plumbing codes. You must follow their guides as you install the Water Filtration system.

NOTE: Failure to comply with these installation instructions will void the product Warranty, and the installer will be responsible for any service, repair or damages caused thereby.



WARNING: DO NOT USE WITH WATER THAT IS MICROBIOLOGICALLY UNSAFE OR OF UNKNOWN QUALITY WITHOUT ADEQUATE DISINFECTION BEFORE OR AFTER THE SYSTEM.

INITIAL INSPECTION

TOOLS & MATERIALS NEEDED FOR NORMAL INSTALLATION:

- Cordless Drill
- Phillips screwdriver
- Carbide grinding burr
- Flashlight or droplight
- 1/4" (6 mm) drill bit
- Teflon tape
- 7/16" (11 mm) drill bit
- Protective eye wear (i.e. goggles)
- 1/2" (13 mm) and 5/8" (16 mm) open-end wrenches (or adjustables)

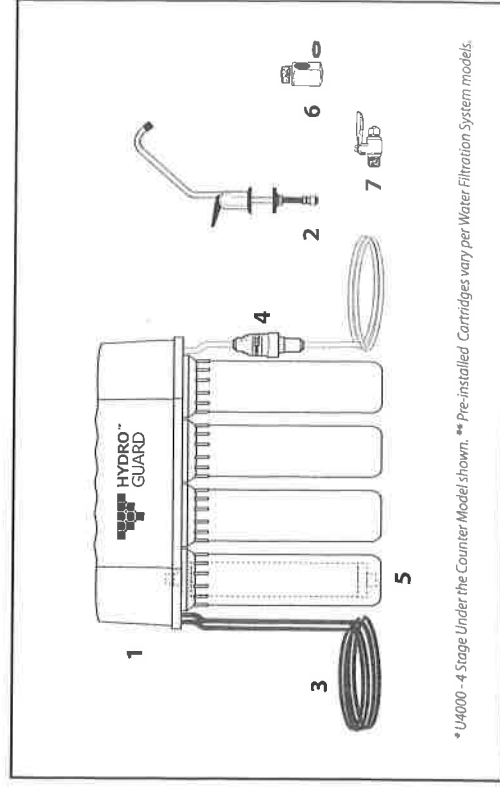
If the above tools are not available, contact your local dealer/distributor for assistance.

WATER FILTRATION SYSTEM INCLUDES:

1. Filtration system* - (3 Stage and 4 Stage available)
2. Faucet - (with mounting hardware)

PARTS (already pre-installed in system) **ACCESSORIES** (Included in installation packet)

3. Connection Tubing - (Pre-installed)
6. Feedwater Adapter
4. SHOKBLOK - (Pre-installed)
7. Ball Valve
5. Cartridges** - (Pre-installed)



* U4000 - 4 Stage Under the Counter Model shown. ** Pre-installed Cartridges vary per Water Filtration System models.

- ⚠ WARNING!!** The following conditions for feed water supply must be met or Warranty will be void.
 1. Unit **MUST** be connected to a municipal or well water source that is treated and tested on a regular basis to insure water is microbiologically safe.
 2. Operating temperatures:
 - Maximum: 105° F (40.6° C)
 - Minimum: 33° F (0.55° C)
 3. Inlet Pressure **MUST NOT EXCEED 80 PSI** (5.6 kg/cm2)

⚠ CAUTION!! DO NOT ALLOW SYSTEM TO FREEZE. The membrane always contains water and will be destroyed if frozen.

⚠ WARNING!! DO NOT PLUMB SYSTEM TO HOT WATER. This will damage filters and void the warranty and manufacturer's responsibility.

- 4. Operating pressure:
 - Maximum: 80 PSI (5.6 kg/cm2)
 - Minimum: 40 PSI (2.95 kg/cm2)

This drinking water system is designed to operate at a water pressure in the range of: 40 to 80 PSI (2.95 kg/cm2 to 5.6 kg/cm2).

- At pressures lower than this, the quantity as well as quality will be reduced.
 - At higher pressure, severe, damage to the system may result.
- A pressure regulator **MUST** be installed on the feed water source, which reduces the water pressure coming into the system.

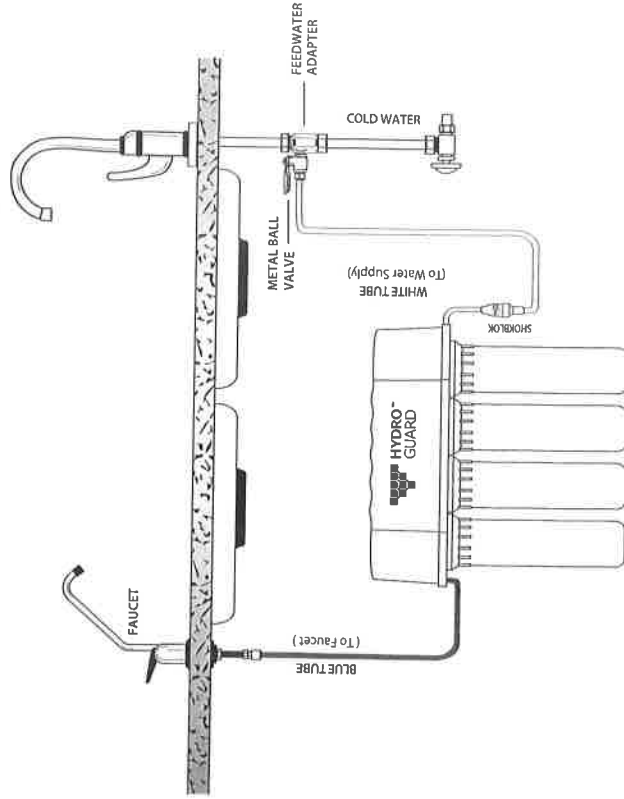
⚠ WARNING!! Warranty voided and manufacturer assumes no responsibility for damage to system or property if pressure exceeds 80 PSI.

- 5. Turbidity: <5 NTU
- 6. pH: 4 to 11
- Sulfide, Iron and Manganese: less than 0.01 ppm.
- Chlorine In Water Supply: less than 2 ppm.
- Water Supply pH Limits: 4-11.
- Turbidity: 1 NTU Max.

RECOMMENDATION: If your water hardness exceeds 7 grains per gallon, or 120 PPM you may wish to purchase a water softener. Contact your local dealer or distributor for pricing and availability.

- 7. Recommended Total Dissolved Solids (TDS) NOT TO EXCEED 2000 ppm.

PLUMBING SCHEMATIC FOR 3 & 4 STAGE UNDER COUNTER FILTER SYSTEMS
(U4000 -4 Stage Under the Counter Model shown).



NOTE: The water filtration system may be mounted to the side of the sink cabinet or set on the floor of the sink cabinet near the facet tube to maximize flow rate

⚠ CAUTION!! DO NOT USE WITH WATER THAT IS MICROBIOLOGICALLY UNSAFE or of unknown quality without adequate disinfection before or after the system.



IMPORTANT!! PLEASE READ, FOLLOW AND SAVE THIS INSTRUCTION MANUAL.

1. PRE-INSTALLATION PROCEDURE

1. This unit 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 drain line adapter.
2. The water filtration system may be mounted to the side of the sink cabinet or set on the floor 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. (See **DIAGRAM A** for a positioning example.)
3. 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. (See **DIAGRAM A** for a positioning example.)

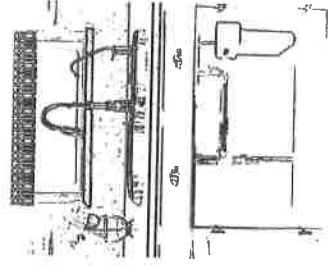


DIAGRAM A

2. FAUCET INSTALLATION

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 distributor or experienced plumber be consulted for techniques, installation or other assistance. The system's manufacturer accepts no responsibility for sink top damage resulting from system installation. **EXTREME CAUTION SHOULD BE TAKEN WITH GRANITE, MARBLE AND LIKE MATERIAL.**

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

CAUTION!! To avoid damaging the sink, consult a qualified plumber or installer for drilling procedures. Special drill bits may be needed for porcelain or stainless steel.

WARNING: Many homes are electrically grounded through the plumbing. To protect yourself from serious injury or fatal shock, use a battery-powered hand drill only to make the hole. **DO NOT USE AN ELECTRIC DRILL.**

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.



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

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 cordless drill with a carbide grinding burr, gently grind away enough porcelain or enamel to more than accommodate the 7/16" (11 mm) drill bit. Approximately the size of a dime. Enough surface material must be removed to expose the base metal.
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. Using the 1/4" (6 mm) drill bit, drill a centering or pilot hole in the center of the desired faucet location.

NOTE: this centering/pilot hole will make it easier for the 7/16" (11 mm) drill bit to cut 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 lubricating oil to keep the drill bit cool while drilling.

7. 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 oxidize 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 a cleaning chemical.

8. Cover the drilled hole with your finger. **BE VERY CAREFUL NOT TO CUT YOURSELF ON SHARP EDGES!** Rinse sink then scrub with cleaner to prevent any rusting from shavings and to prepare for faucet installation. Plug hole again while rinsing off cleaner. Hole must be plugged in order to avoid water dripping below into sink cabinet, which may cause damage.

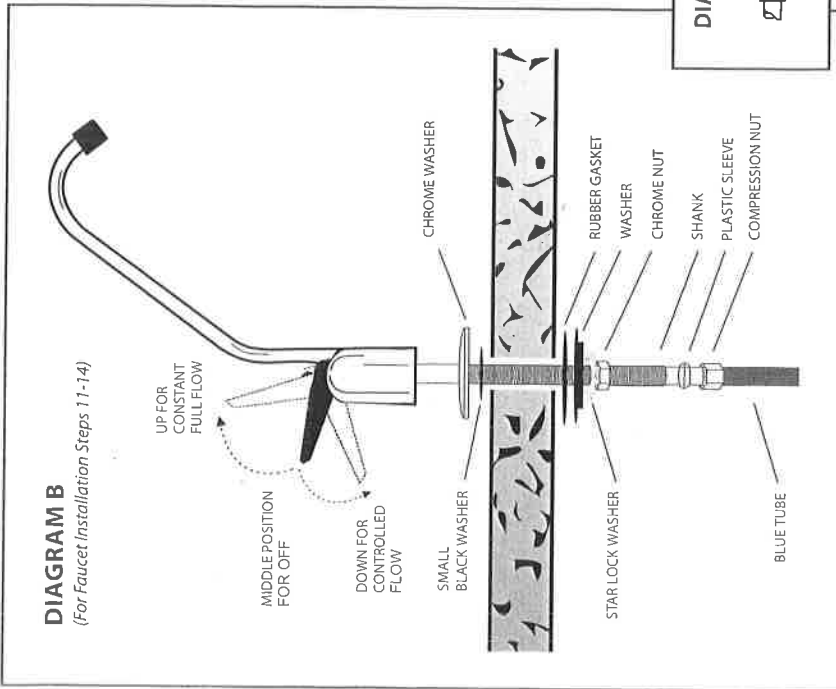
9. Remove faucet from package.

For steps 11-14 refer to DIAGRAM B on page 8.

10. Slip the small, thin rubber gasket over the faucet shank. Next slip the chrome trim plate (escutcheon plate) over the faucet shank. Finally, slip the large, thin rubber gasket over the faucet shank.
11. Take the faucet spigot and insert it into the faucet base in the hole next to the faucet handle. Push the faucet spigot in until it stops.
12. Place the faucet shank complete with only hardware installed in step 11 through the drilled hole.
13. From under the sink slip the large, black plastic, locating washer over the faucet shank. Next, slip the lock washer over the faucet shank followed by the thin chrome nut.
14. While holding the faucet assembly above the sink tighten the chrome nut below the sink with an adjustable wrench. Tighten the chrome nut until the faucet assembly does not move.



CAUTION!! DO NOT OVERTIGHTEN THE CHROME NUT. Overtightening can cause damage to the sink or faucet assembly.



3. INSTALLATION OF FEEDWATER ADAPTER



CAUTION!! For your safety and protection, do not use where water is microbiologically unsafe or of unknown quality. The water supply to your system **MUST** be from the **COLD WATER LINE!** Hot water will severely damage your filtration system!

1. Turn off cold water supply to the sink using the supply valve located under the sink.

NOTE: In some cases the supply valve may leak or may not work at all. If this happens turn off the water at the main water shut off for the entire house. In extreme cases the house shut off valve does not work. If this happens shut the water off at the street and replace the defective valves immediately. Locate the type of shut off valve you have under your sink and follow that step for connecting the feedwater.

2. Some shut off valves have an extra port for an icemaker hookup. You will not need the feedwater adapter for this type of installation. (See *DIAGRAM C*)
3. On some shut off valves you can install the feedwater adapter directly to the valve. Slip the black washer into the feedwater adapter. Tighten feedwater adapter to the valve with an adjustable wrench. Tighten until snug. Insert the 1/4" nylon elbow fitting into the feedwater adapter. **TIGHTEN BY HAND ONLY! DO NOT OVERTIGHTEN!** (See *DIAGRAM D*)

Most under sink shut off valves have a built in smooth or corrugated riser going up to the faucet. (Refer to *DIAGRAM E* for help with this type of valve.)

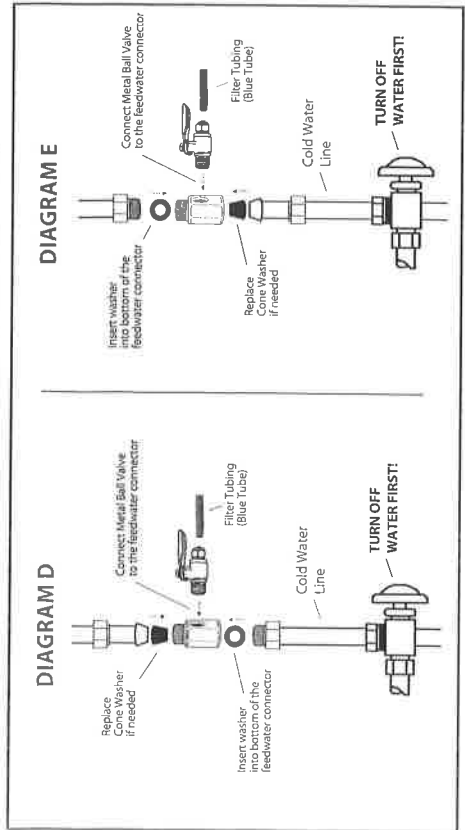
Secure an adjustable wrench to the fitting on the cold water side of the sink faucet -- **NOT THE WATER SYSTEM FAUCET!** Secure another adjustable wrench to the smooth/ corrugated riser line nut. Gently undo the riser line from the sink faucet. Do not be alarmed! There will be water left in the line—this is normal. However, if the flow does not stop you probably haven't shut the water off properly. (See the *NOTE* in *Step # 1, Section # 3* if you need help with water shut off.)

4. Insert the black rubber washer into the feedwater adapter. Screw the adapter onto the fitting coming from the cold water side of the sink faucet. Using two adjustable wrenches tighten the feedwater adapter to the cold water line. Take extreme care not to twist or damage the connection to the cold water connection.



CAUTION!! Tightening the connector improperly to the faucet could cause irreparable damage to the faucet.

5. Connect the riser from the water shut off valve to the feedwater adapter. Ensure that the cone washer on the riser tube is in good condition. With one adjustable wrench on the feedwater adapter and another adjustable wrench on the riser nut connect the riser to the feedwater adapter. **DO NOT OVERTIGHTEN!** This can cause damage to the riser connection.
6. Insert the 1/4" nylon elbow fitting into the feedwater adapter. **TIGHTEN BY HAND ONLY! DO NOT OVERTIGHTEN!**



4. WATER FILTRATION SYSTEM PLACEMENT AND MOUNTING

- Determine if mounting of the water filtration system is necessary or desired. The system 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.

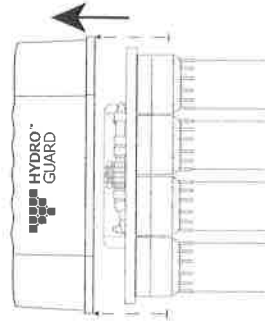


IMPORTANT!! Be very careful not to kink any of the tubing on the water filtration system. If tubing is kinked the tubing can rupture and leak.

- Position the system on the wall at the desired mounting location 2 - 3 inches from base of cabinet. Using the bracket holes on the back of the bracket, mark on the wall with a pencil where the screws need to be inserted.
- Set the system aside.
- Screw the two (2) Phillip head screws (supplied in the installation packet) into the wall at the marked positions.

NOTE: Let the screw heads protrude from the wall enough to hang the filtration system safely.

- Mount the water filtration system onto the screws.



5. TUBING CONNECTIONS



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

CONNECTING THE SYSTEM:

(BLUE TUBING - From system faucet port. This is from port labeled faucet)

- Connect the blue tubing to the faucet by slipping the 1/4" chrome nut over the tubing followed by the nylon ferrule.

NOTE: It is not necessary to have a 1/4" nylon insert in this line as it would restrict the flow through the faucet.

- Push the blue line all the way into the faucet stem and tighten the chrome nut. **DO NOT OVERTIGHTEN!!**

CONNECTING THE FEEDWATER:

(WHITE TUBING - From System inlet port)

- If you installed the feedwater adapter using step # 3 or # 4 in Section # 3 simply slip a chrome nut over the end of the tubing from the metal ball valve with blue lever.

Then insert the end of the extra white tubing into the barb of the ball valve on the feedwater adapter. Tighten the chrome nut securely. **DO NOT OVERTIGHTEN!!**

(Continues on page 11...)

TUBING & QUICK CONNECT FITTINGS

CONNECTING THE FEEDWATER: (Continued)

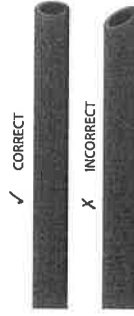
- If you have the connection for the icemaker tee as in Step # 2 of Section # simply slide the 1/4" chrome nut over the blue tubing. Slip the nylon ferrule over the blue tubing and insert the 1/4" nylon insert into the tubing end. Insert tubing into the cold water shut off valve and tighten securely.

DO NOT OVERTIGHTEN!

HOW TO MAKE QUICK CONNECT FITTINGS CONNECTIONS

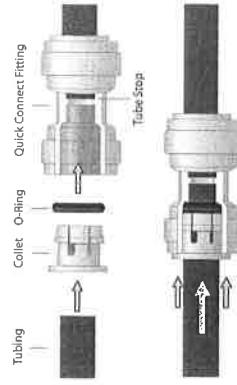
- CUT THE TUBING

-Cut the tube cleanly and squarely. Ensure that the tube has a smooth outside diameter without any burrs, chamfers or score marks prior to inserting it into the fitting. Tubing that has not been cut properly can cause drips and leaks.



- INSERT TUBING

Push the tubing through the collet and o-rings until it bottoms out against the tube stop. The collet holds the tube in place and the o-ring provides a leak resistant seal. If you need to remove the tubing always re-cut before connecting tubing again. Scores on tubing can cause failure.



(Continues on page 12...)

HOW TO MAKE QUICK CONNECT FITTINGS CONNECTIONS: (Continued)

3. **INSPECT AND TEST**
Push and pull the tubing toward and away from the fitting to ensure that it has been installed properly. Test and inspect the installation for any leaks.



4. **TUBE REMOVAL**
Relieve pressure from the tubing and fitting. Push the collet flange against the fitting body while pulling the tubing away from the fitting to release it.



CAUTION!! IT IS RECOMMENDED THAT TUBING AND QUICK CONNECTION FITTINGS INSTALLATIONS ARE INSPECTED A MINIMUM OF ONCE PER YEAR AND PARTS REPLACED AS NEEDED.

6. SYSTEM START-UP

1. With all connections complete, turn on the cold water supply to the filtration system

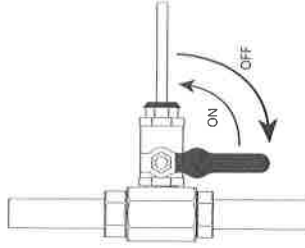
▲ IMPORTANT!! The Water Filtration Systems Main Water Shut Off Valve (indicated by the bright orange tag at the side of the unit) must be open. This means the blue handle on the valve must be in the horizontal position.

2. Immediately check entire water filtration system for leaks. If you notice any leaks turn off cold water supply and fix the leak.

7. FLUSHING THE WATER FILTRATION SYSTEMS

1. Open the filtration system faucet and let water run for 5 minutes.

▲ CAUTION!! If installing the unit in new construction, ensure that house plumbing is flushed thoroughly before opening the water supply valve.



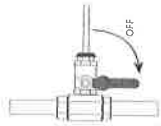
**BALL VALVE
MAIN WATER
SHUT-OFF**

▲ WARNING!! Discard all unused parts and packaging material after installation. Small parts remaining after the installation could be a choke hazard.

8. FILTER REPLACEMENT INSTRUCTIONS

(U4000 - 4 Stage Under the Counter Model shown).

STEP 1



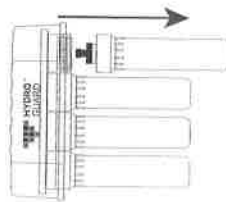
TURN WATER OFF
Turn Ball Valve Main Water Shut-Off Blue handle to vertical position

STEP 2



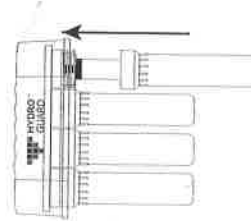
UNSCREW HOUSING
Unscrew to the left to open housing

STEP 3



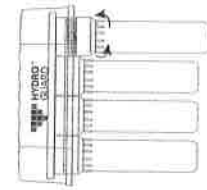
REMOVE FILTER & HOUSING
Unscrew housing and lower to reveal filter. Pull filter down into housing and remove

STEP 4



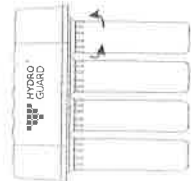
REPLACE FILTER
Place New Cartridge in Housing making sure O-Ring seals are on top. Bottom of cartridge should seat in cup at bottom of Housing
Note: rinse housing thoroughly and scrub with soft brush before reinstalling new cartridge

STEP 5



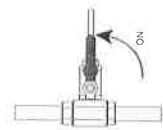
SCREW BACK HOUSING
Raise Housing and screw on towards right by hand

STEP 6



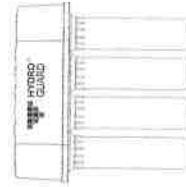
TIGHTEN FILTER
Hand tighten to the right until snug connection is made.
DO NOT OVERTIGHTEN!

STEP 7



TURN WATER BACK ON
Turn Ball Valve Main Water Shut-Off Blue handle to horizontal position

STEP 8



SECTION 8 & 9 ON PAGE #13
Follow Steps for System Start Up & Flushing the R.O. System

TROUBLESHOOTING

TROUBLESHOOTING

NOT ENOUGH WATER

POSSIBLE	CAUSE / SOLUTION
Feed water valve is plugged or closed.	Open valve or unclog.
Sediment/Carbon prefilter or Carbon Post Filter is clogged.	Replace Filters.
Low incoming water pressure.	Incoming water pressure must be above 40 PSI. Install a Booster Pump or Permeate Pump.

LOW WATER PRESSURE FROM DISPENSING FAUCET

POSSIBLE	CAUSE / SOLUTION
Carbon Post Filter is clogged.	Replace Post Filter.
The Faucet is out of adjustment or faulty.	Repair or replace Faucet.

TASTES AND ODORS IN PRODUCT WATER

POSSIBLE	CAUSE / SOLUTION
Carbon Post Filter is exhausted.	Replace Filter.
Dissolved gases in feed water.	Pre-treat feed water to remove gases.
Increase in Product Water TDS.	See next table: High TDS in Product water and drain water lines are reversed CAUSE / SOLUTION Section.

FAUCET LEAKS OR DRIPS

POSSIBLE	CAUSE / SOLUTION
Water leaks from faucet spout.	Adjust faucet by turning the tee bar located under the handle to provide a small amount of free play in the handle when shut off. Should this not work, repair or replace the faucet.
Leaks from beneath the handle.	Repair or replace the faucet.

NO WATER

POSSIBLE	CAUSE / SOLUTION
Water is shut off at stop valve	Open main stop valve. (See diagram on page 13)

SERVICE RECORD

DATE	CARTRIDGE #1	CARTRIDGE #2	CARTRIDGE #3	CARTRIDGE #4
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LIABILITY & WARRANTY

LIABILITY



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 FUNCTIONING PROPERLY.** Liability resulting from failure to check for leaks under pressure is the sole responsibility of the installer.

WARRANTY

**ONE YEAR LIMITED Warranty ON DRINKING WATER SYSTEM
(Except filter cartridges and R. O. membrane)**

Warrantor: Hydro Guard Water Sciences Ltd. - PO Box 2235 Chino, CA 91709

Warrantor guarantees, to the original owner, that the Drinking Water System, when installed and maintained in accordance with the instructions, will be free from defects in materials and workmanship for a period of one year from date of installation. If, within the first year, a part proves, after inspection, to be defective, Warrantor will, at its sole option, either replace or repair the part without charge except normal shipping and installation charges. Labor to maintain the equipment is not part of the Warranty. Filters and membranes, which are expendable, are not covered by the Warranty.

This Warranty applies only while this product is in use in the United States or Canada.

General Provisions

The above warranties are effective provided the Drinking Water System is operated at water pressures not exceeding 80 psi, and at water temperatures not exceeding 113°F; provided further that the Drinking Water System is not subject to abuse, misuse, alteration, neglect, freezing, misapplication, neglect, alteration, water pressure spikes, accident or negligence; and provided further that the Drinking Water System is not damaged as the result of any unusual force of nature such as, but not limited to, flood, hurricane, tornado or earthquake. Warrantor is excused if failure to perform its Warranty obligations is the result of strikes, government regulation, materials shortages, or other circumstances beyond its control.

*THERE ARE NO WARRANTIES ON THE FILTRATION DRINKING WATER SYSTEM BEYOND THOSE SPECIFICALLY DESCRIBED ABOVE. ALL IMPLIED WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, ARE DISCLAIMED TO THE EXTENT THEY MIGHT EXTEND BEYOND THE ABOVE PERIODS. THE SOLE OBLIGATION OF WARRANTOR UNDER THESE WARRANTIES IS TO REPLACE OR REPAIR THE COMPONENT OR PART WHICH PROVES TO BE DEFECTIVE WITHIN THE SPECIFIED TIME PERIOD, AND WARRANTOR IS NOT LIABLE FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES. NO WARRANTOR DEALER, AGENT, REPRESENTATIVE, OR OTHER PERSON IS AUTHORIZED TO EXTEND OR EXPAND THE WARRANTIES EXPRESSLY DESCRIBED ABOVE.

Some states do not allow limitations on how long an implied Warranty lasts or exclusions or limitations of incidental or consequential damage, so the limitations and exclusions in this Warranty may not apply to you. This Warranty gives you specific legal rights, and you may have other rights which vary from state to state. This Warranty applies to consumer-owned installations only. This Warranty does not cover any equipment that is relocated from the site of its original installation.

* Registered trademark/TM Trademark

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