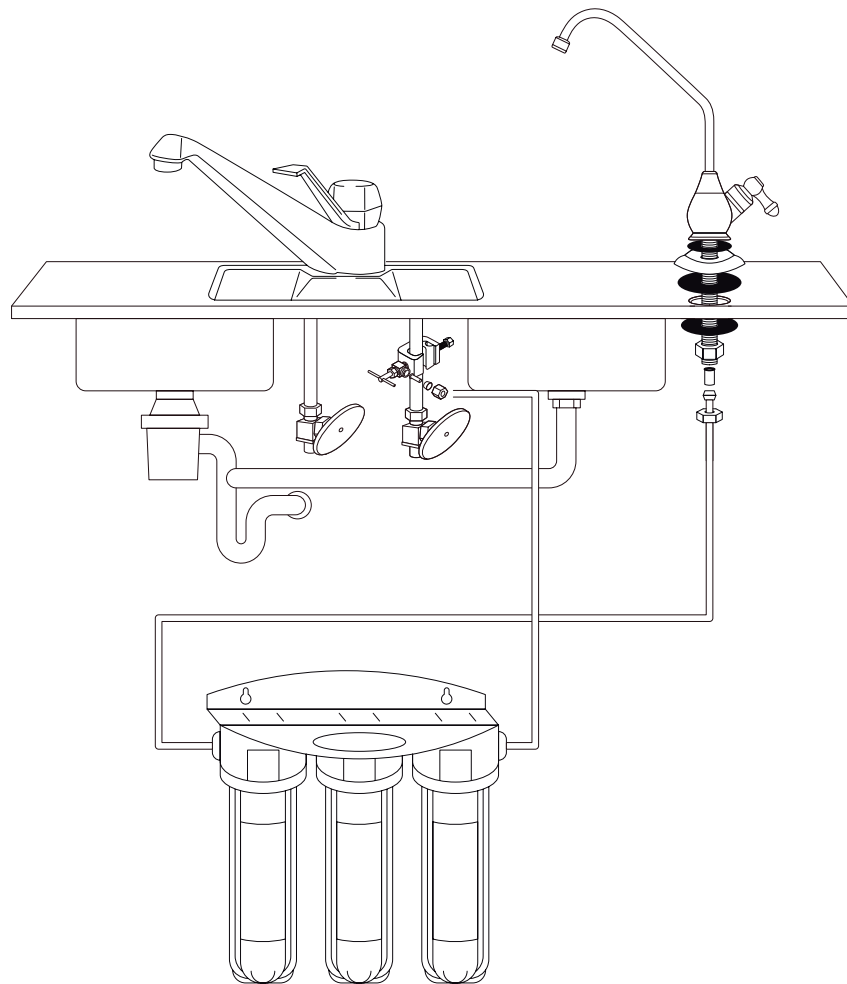




Crystal Quest® Mega Series Undersink Water Filter System INSTALLATION AND OPERATION GUIDE



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i IMPORTANT INFORMATION

- All equipment needs to be plumbed into the water system by a qualified, licensed plumber. Check with your local public works department for plumbing codes.
- Crystal Quest® accepts no liability for property damage.
- Do not use where the water is microbiologically unstable.
- Use this system on a potable (safe-to-drink) COLD water supply only.
- **It is recommended that a pressure regulator/control valve be installed inline before the system to keep the water inflow pressure at 60 psi or less.** This will reduce the water pressure flow to the system and will prevent water pressure spikes, water hammering, and excessive water pressure buildup. Alternatively, if a pressure regulator/control valve is not used, the use of a 3-way faucet will help avoid pressure buildup where water is turned off at filter faucet.
- Installation must comply with local, state, and federal plumbing codes and health department rules and regulations. These guidelines must be followed while installing the system.
- **Install an inline flood prevention valve/leak detector controller to avoid accidental property damage** and make the system failure-proof (available at www.crystalquest.com).
- O-rings should be properly seated in the groove of the sump, or water leaks could occur.
- Make sure locking clips (blue clip) are secured to the outlet/inlet fittings after tubing is inserted.
- Keep the water supply line from extreme heat or freezing. Temperature at unit location should be maintained between 35°F and 120°F.



OPERATING SPECIFICATIONS:

Pressure Range:	30-60 psi (2.1-4.2 bar)
Temperature Range:	40-85°F (4.4-29.4°C)
Rated Service Flow:	0.3-0.5 gpm

PREPARING FOR INSTALLATION

Read the instructions carefully and learn the specific details regarding installation and use. Failure to follow them could cause serious property damage.

- Inspect the carton and unit for evidence of rough handling and concealed damages. If contents appear damaged, ask driver or contact carrier for a damage claim form to fill out. Shipper must be notified immediately. Remove components from shipping carton. Check that all installation parts are present, which includes the unit, faucet, installation hardware and tubing. If any part is missing or damaged, do not attempt to install the filter. Please contact customer support for replacement parts at (800) 934-0051.

IMPORTANT NOTICE

All Crystal Quest® water filtration systems should be installed by a qualified, licensed plumber. Not using the service of a plumber will void warranty. Crystal Quest® assumes no liability whatsoever for systems improperly installed or those installed by anyone other than a qualified, licensed plumber.

TOOLS AND MATERIALS RECOMMENDED FOR INSTALLATION

- Safety glasses
- 3/8" variable speed electric drill, 1/8" and 1/2" bits
- 1-1/4" porcelain hole cutter (if hole for second faucet is not provided)
- Extension cord, drop light or flashlight
- Plastic anchors and screws
- Plastic tube cutter
- Air pressure gauge (low pressure)
- Pliers
- Phillips head and flat head screwdrivers
- 1-1/4" wood bit
- Household bleach (liquid)
- Adjustable wrench
- Crescent wrench
- Thread seal tape
- Air pump (hand)



STEP – 1 INSTALL THE FAUCET

Faucet should be placed near the sink where drinking/cooking water is normally required. A 2" flat surface is required to mount the faucet if an existing hole for a second faucet is not available. The mounting thickness should not exceed 1-1/4". If the sink has a sprayer, it may be disconnected for faucet installation. A pipe cap or plug will be necessary to seal the sprayer connection. If making the faucet mounting hole (if sprayer or second hole is not used), check to make sure the drill does not interfere with anything below. Center punch a small indent at the desired faucet location (2" flat surface is required, not exceeding 1-1/4" thickness). Drill the required pilot hole of the chassis punch and tighten nut to cut the desired hole size. Clean up sharp edges. The faucet should be positioned so it empties into the sink and the spout swivels freely for convenience. If sink has a hole that can accommodate the faucet, no drilling is required. Proceed with mounting the faucet.

MOUNTING THE FAUCET:

Disassemble hardware from the threaded nipple, except for chrome base plates and rubber washers. (Rubber washers may be replaced with a bead of plumber's putty for a neater appearance.) Feed the threaded nipple through sink or counter mounting hole and position the faucet. From below sink or counter, assemble the white spacer flat washer and hex nut on threaded nipple and tighten by and (open end up; open side toward air gap). After checking faucet orientation, tighten with a wrench until secure (Fig 1).

Important!

Do not use washable prefilter with Undersink units.

INSTALL FOR STAINLESS STEEL SINKS

Recommended Tools:

- Center punch
- Variable speed drill
- High speed drill bits
- Chassis punch 7/8" (9/16" for non air gap faucets)
- Protective gloves and eye protectors

Procedures:

1. Center punch small indent for hole.
2. Drill the required pilot hole.
3. Set-up the chassis punch per instructions and tighten nut to cut the desired hole size.
4. Clean up sharp edges with file.

INSTALL FOR PORCELAIN, ENAMEL, CERAMIC ON METAL OR CAST IRON

Precautions must be taken to penetrate the porcelain through to the metal base and prevent it from chipping or scratching.

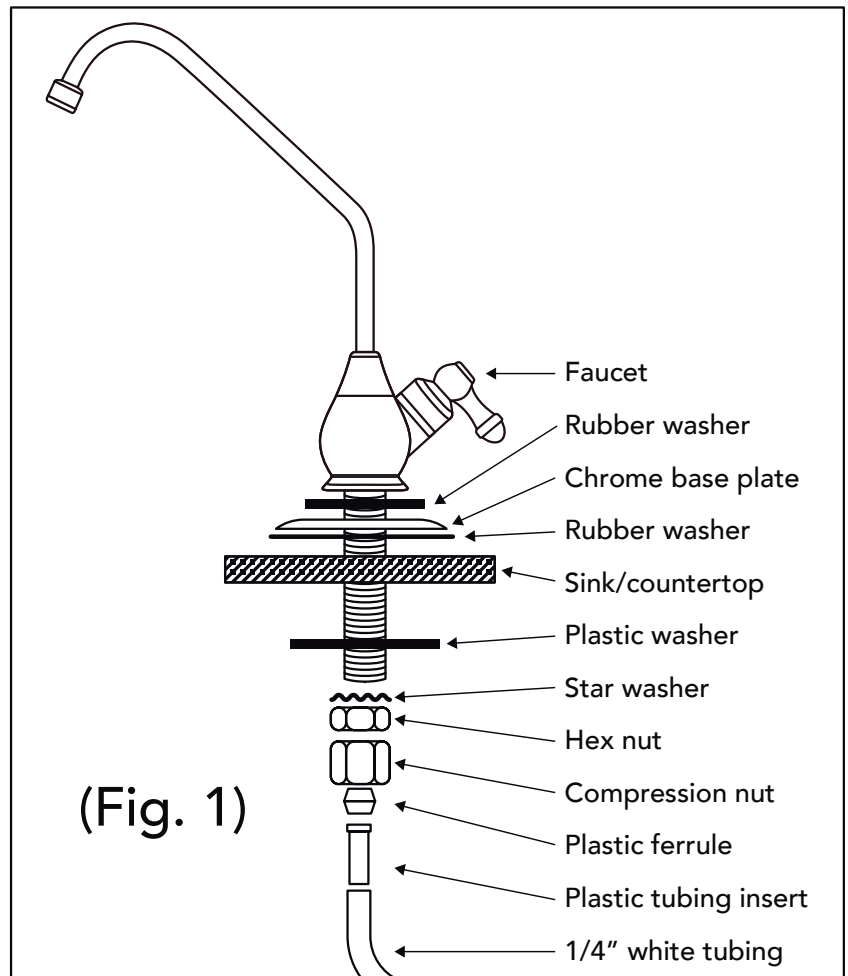
Recommended Tools:

- Variable speed drill
- Plumber's putty
- Porcelain cutter tool set (7/8" or alternative size, 9/16")

Procedures:

1. Mark the center for the 7/8" hole.
2. Form shallow putty around hole area and fill with enough water to lubricate carbide drill bit.
3. Carefully drill pilot hole through all layers (use light pressure and slow speed).
4. Insert pilot tip of spring-loaded porcelain cutter into pilot hole.
5. Drill porcelain/enamel disc down to the base metal. Make certain the cutter does not touch outer rim of the cut porcelain/enamel. Continue with this bit to cut through metal until sink has been completely penetrated.

NOTE: Always use sharpened porcelain cutter to eliminate chips and cracks.





STEP 2 – INSTALLING VALVE OPTIONS

SADDLE VALVE INSTALLATION

Choose the Valve Location:

- Choose a location for the valve that is easily accessible. It is best to connect into the side of a vertical water pipe. When it is necessary to connect into a horizontal water pipe, make the connection to the top or side, rather than at the bottom, to avoid drawing off any sediment from the water pipe.
- Disconnect the cold water supply line. Attach and tighten the saddle valve connector assembly, being careful not to pinch or crimp any tubing or water supply line while tightening. Use thread seal tape to ensure a tight fit.

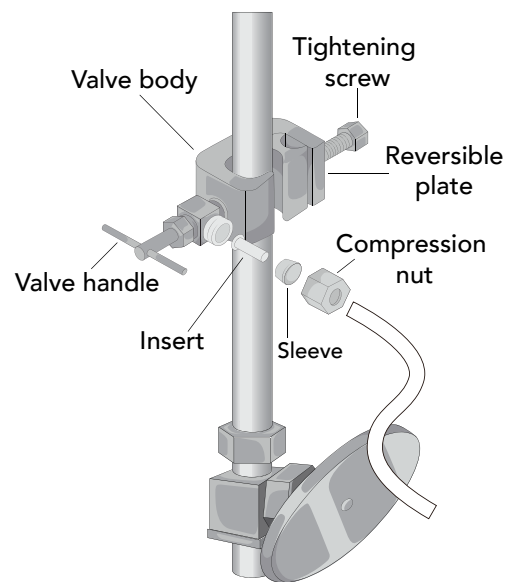
NOTE: The saddle valve clamps onto hard tubing or pipe. It will make its own hole in copper tubing nut not in iron or brass. For brass or galvanized iron pipe, drill a 1/4" hole in pipe before mounting saddle valve. If possible, use a hand or cordless drill when drilling water pipe. If using an electric drill, be sure that the drill, cord and outlet are all properly grounded.

NOTE: If water supply line is soft tubing, it is recommended to use a T-valve installation.

NOTE: Do not turn handle before installing or while installing saddle valve. To prevent damage to piercing needle, make sure that piercing lance does not project beyond the rubber gasket.

NOTE: Leave handle in this position (valve closed) until filter installation is complete.

1. Hold backplate against tube.
2. Hold saddle valve against tubing in a position directly opposite backplate.
3. Tighten screw enough so saddle valve and backplate are held securely against tube.
4. Tighten screw firmly. Do not crush tube.



(Fig. 2)

CONNECT SOURCE WATER FEED TUBING TO VALVE BODY USING COMPRESSION FITTING

1. Slide nut and sleeve onto tubing (in that order).
2. Install insert into tubing.
3. Install tubing with insert and sleeve into valve body.
4. Thread compression nut onto valve body and tighten.
5. Turn saddle-tapping valve handle clockwise until it is firmly seated and piercing lance is fully extended.

CAUTION: When the supply line is pierced, the valve should be closed. Do not open valve until system is activated. Turn on cold water supply. Check saddle-tapping valve installation for leaks. Allow water to run from faucet for a few minutes to clear any debris in the line caused by installation.

NOTE: If flow from sink faucet is reduced, clean faucet aerator.

T-VALVE INSTALLATION

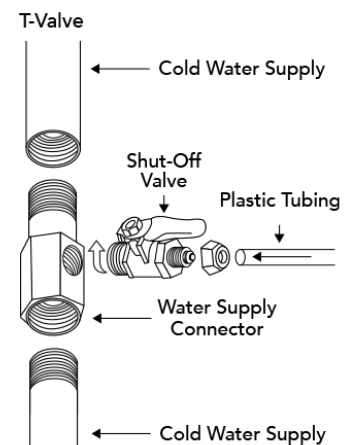
WARNING: Water supply pressure must not exceed 60 psi.

NOTE: T-Valve is designed for installation on flex line tubing.

NOTE: Always check the local plumbing codes before tapping into a water line.

1. Turn off cold water supply.
2. Assemble T-Valve by screwing and tightening the shut-off valve into the water supply connector (use thread tape on threads).
3. Disconnect source water feed tubing from cold water supply.
4. Install T-Valve assembly in line with water feed tubing and water supply.
5. Remove nut from feed end of shut-off valve and slide over filter supply tubing.
6. Press end of tubing over exposed nipple on shut-off valve. Ensure it is completely seated.
7. Slide nut down tubing and tighten securely to shut-off valve.
8. Slowly turn cold water supply on and check for leaks.
9. Open T-Valve shut-off valve slowly to supply water to filter

For further instructions on T-Valve assembly, see T-Valve product label.



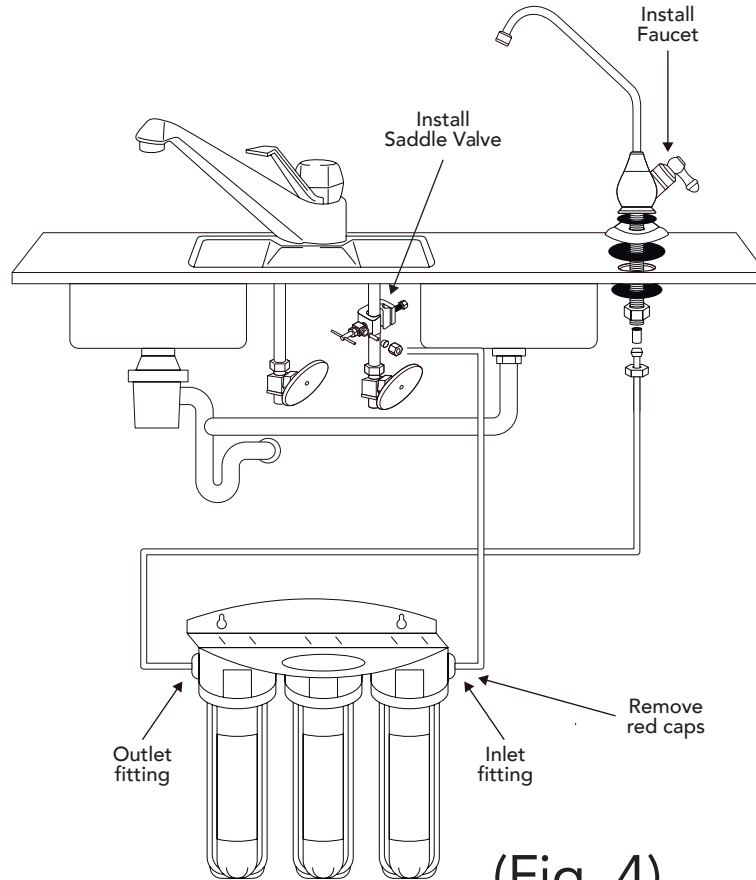
(Fig. 3)



CONNECTING TUBING INTO FILTER

PLASTIC TUBING

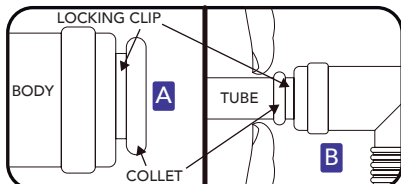
- Cut tube ends square and straight. Do not deform tube (i.e., cause tube to compress its diameter so it is no longer round).
- Avoid sharp changes in direction when routing tubing. Sharp turns cause tubing to flex and deform, which reduces its flow capacity and may increase lateral stress on the fittings, causing leakage.
 1. Remove red end caps from unit's water inlet/outlet connections.
 2. Push in tube from saddle valve through water filter INLET fitting (Fig 4). Remove blue locking clip, if any.
 3. Push in tube from faucet through water filter OUTLET fitting (Fig 4). Reattach blue locking clip, if any.



(Fig. 4)

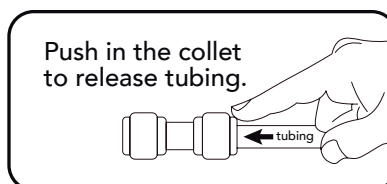
CONNECT USING QUICK-CONNECT FITTINGS

- Fittings consist of three parts: a body, collet, and a locking clip. Make sure outer surface of tube is clear of marks or scratches for a length equal to twice tube diameter. This allows O-ring to seat properly against tube.
- Remove locking clip from body collet (A).
- Push tube through collet into body until it seats firmly at bottom of fitting. Replace the locking clip around the collet. Not replacing the locking clip may cause the tube to eject, resulting in water damage (A, B).



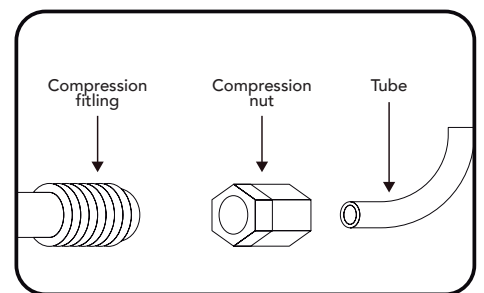
REMOVE FITTINGS

- To remove a tube, turn off the water. Remove locking clip.
- Push and hold collet against body (ring of the connector) square against the fitting while pulling tube out.
- To reinsert a tube, cut 1/2" of tube from the end. This will help prevent leaking. Replace the locking clip around the collet.



CONNECT USING COMPRESSION FITTINGS

- Slide compression nut over the end of tubing.
- Connect compression nut to compression adapter and tighten the compression nut securely.





TROUBLESHOOTING

Water appearance

- **WHITE water:** When a new water filter or cartridge is installed or after cleaning, the water may appear milky of white for a while. It is harmless and will soon clear. White water is due to micro bubbles of air. On standing, the water will become clear as the bubbles move upwards. Water in some areas of the country has a high level of lime or calcium. The redox inside the unit changes these substances into harmless elements which react with air and temperature.
- **BLACK water:** When a new water filter or cartridge is installed or after cleaning, very fine black particles may appear in the water. This is normal and the particles are harmless carbon. Flushing the system for a few minutes by turning the tap on and off rapidly several times will help to clear this.
- **COLORED water (often RED):** Water in some areas may be high in dissolved iron and this can pass through the filter. When the water is left to stand, dissolved iron gives a red or brown color as the iron oxidizes (rusts). In very severe cases you should contact Crystal Quest® for specialist advice. Ordinary particulate rust in the water will be removed by the system.

Water taste

Filtered and treated water tastes so much better than unfiltered water. But there are also some who cannot detect any change. Others find that the treated water tastes "different", but they will soon become accustomed to the taste of filtered water. A major factor affecting taste may be the natural composition in a particular area. There can be considerable local differences in the mineral content of the water, for example.

- **Fish odor and sour taste water:** System is not flushed properly. Run the water for five minutes and shut off for five minutes. Do three to four times consecutively. Some areas might have hard water. In very severe cases you should contact Crystal Quest® for specialist advice.
- **Chlorine taste:** The "natural" taste of an area's water is often masked by the presence of chlorine used in the treatment process. If the chlorine taste consistently reappears, the cartridge should be replaced. If after prolonged standing or during infrequent use any strong objectionable taste occurs, flush the system by running water for 5 minutes.
- **Bad taste and/or odor:** The cartridge needs replacing.

No water

- Check that the water filter faucet is open and that the main water is still on.
- Check that the saddle valve (or T-valve if used) is open.
- Check that all the tubes are connected correctly.
- Check direction of water flow.

Low water flow

- Check that you have removed all the shrink wrap from new filter cartridge.
- During periods of high water demand the pressure may fall as will the water flow from the filter. Running a bath, shower or appliance connect to the same line on which your system is connected may starve the unit of water.
- Reduction of water flow sooner than normal may be an indication of a high volume of sediment in your water. Add sediment pre-filter, backwash the system, and/or replace the cartridge.
- Check that the saddle valve (or T-valve) is fully opened or if there is slow flow at the time of installation, check that the saddle valve (or T-valve) instructions were carried out correctly and that the water line has been pierced fully. Close the line valve fully and then open it again.
- The filter system needs a minimum pressure of 30 psi to work. If the pressure is inadequate a pump may be needed, and for this you should contact Crystal Quest® or a plumber.

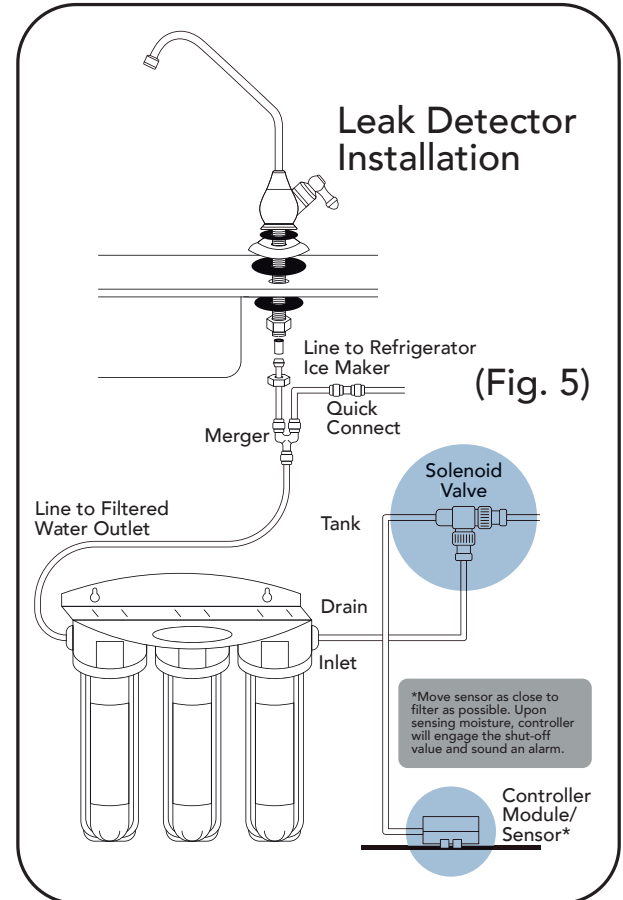
High water flow

- If the water flow has excessive force, this will lead not only to splashing at the tap but also to lower performance from the filter. Reduce the flow rate to the minimum acceptable by turning the line saddle valve handle clockwise. For optimum performance, a flow rate of 0.5 gpm is suggested.

WATER LEAKS

Your system has been tested before leaving the factory. In the unlikely event of a fault, small leaks sometimes do occur as a result of incorrect assembly or abuse. The following tips may be helpful:

- Depending on the positioning of the filter and the temperature of the incoming water and air, condensation on the outside of the filter housing may occur, resulting in a frosted appearance of fine water droplets on the surface. This does not, of course, mean that there is a leak in the system. The remedy is to either insulate the area around the filter or reposition it.
- Leaks can occur if cartridge is not installed properly. Cartridge must be installed according to the directional arrow on the cartridge which indicates "This End Towards Cap".
- Always ensure that sump top is snapped into sump by being pushed in.
- Always ensure that the sump ring is screwed fully onto the sump top. This is essential both for the internal seal and the housing seal. Use thread seal tape around sump if necessary.
- In the event of a leak, carefully examine its source. Water from a leak may run along the pipe work. (It may drip or collect some distance from the actual location of the leak.)
- Leaks occurring at the line saddle valve may mean that the unit has not been fully clamped onto the water line. (Adhere to the instructions given on page 4.)
- Leaks at the quick fittings are usually due to the tubing not being pushed fully into the fitting. Remove the tubing, cut off an inch of tubing with a sharp knife and reinsert into the quick fitting. Ensure that the quick fit collet is in position. When fitted correctly, the tube should not pull out of the fitting (unless the collet is pushed in at the same time to release the tubing). See page 5.
- If there are leaks at the compression fittings, make sure that the components are fitted correctly and that the compression nuts are fully tightened. See page 5.
- If there is a leak from the body of the faucet, check that the tap outlet arm is pushed down firmly. Two O-rings are fitting to the faucet outlet spout; ensure they are still in position.
- If there is a leak from the water filter inlet and outlet, unscrew fitting, wrap thread seal tape around it, and screw it back.



To eliminate possible water and property damage, use the following preventative steps and devices:

1. A licensed plumber should install this unit, reading and following the Installation and Operation Guide as well as all notices.
2. Install a water pressure regulator/control valve inline to keep the water inflow pressure at 60 psi or less.
3. Keep the water supply line from extreme heat or freezing. Temperature at unit location should be maintained between 35°F and 120°F.
4. Install an auto shut-off/leak detector (Fig 7) for Undersink water filter applications. Leak controllers are specialized water shut-off systems that use sensors to detect a water leak. The sensor sounds an alarm and then shuts off the water. The alarm continues to sound until the valve is manually reset.
5. In addition to having all other safety devices, use the T-valve or saddle-valve handle to shut off the inflow of water to the system during vacation.
6. To avoid premature clogging and property maintain cartridge(s), rinse regularly or replace cartridge(s).
7. The use of a 3-way faucet will help avoid pressure buildup where water is turned off at filter faucet.

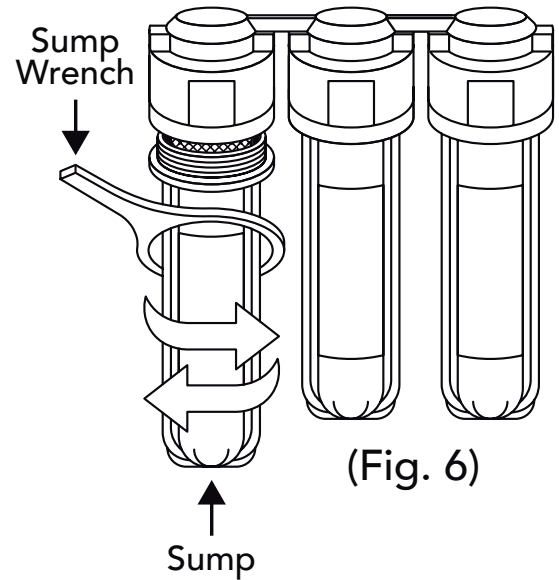


CHANGING FILTERS

NOTE: THIS MEGA UNDERSINK SYSTEM CONTAINS CARTRIDGES WHICH MUST BE REPLACED AT REGULAR INTERVALS TO MAINTAIN PROPER PERFORMANCE. USE ONLY FACTORY APPROVED CARTRIDGES.

Use a drip pan to catch any water that may spill when the filter housings are removed.

- Close the saddle valve that feeds the filter.
- Release any pressure in the line by turning on the cold- and hot-water faucets.
- Loosen the sump by turning counterclockwise using the sump wrench that came with the filter. Careful! It will be full of water.
- Remove and dispose of used filter cartridge.
- Clean the inside of the sump with hot, soapy water. Rinse well. (Remember that you turned the water off at the sink you're working on).
- Remove shrink wrap and insert the new filter cartridge in the sump. Cartridge must be installed according to the directional arrow on the cartridge which indicates "This End Towards Cap".
- Check O-ring(s). Lubricate with any non-petroleum oil (do not use coconut oil) if needed. Position O-ring(s) properly in the groove of the sump and tighten by turning it clockwise. Do not overtighten. Do not cross-thread at the sump or inlet/outlet ports. If cross-threaded, do not put or keep in service.
- Open the water valve slowly and fill the filter. Turn off the faucets and check the unit for leaks.
- Flush cartridge 3-4 times for 5 to 10 minutes to clear out media fines before using the water.



REPLACEMENT CARTRIDGES

CQE-RC-04000 2-7/8" x 9-3/4" 5-Micron Carbon Block Filter Cartridge

CQE-RC-04001 2-7/8" x 9-3/4" 5-Micron Sediment Reusable Pleated Filter Cartridge

CQE-RC-04002 2-7/8" x 9-3/4" SMART PLUS Filter Cartridge

CQE-RC-04055 2-7/8" x 9-3/4" UF Membrane Filter Cartridge

CQE-RC-04005 2-7/8" x 9-3/4" Ceramic Filter Cartridge

CQE-RC-04126 2-7/8" x 9-3/4" Fluoride Filter Cartridge

CQE-RC-04049 2-7/8" x 9-3/4" SMART Fluoride Filter Cartridge

CQE-RC-04007 2-7/8" x 9-3/4" Nitrate Filter Cartridge

CQE-RC-04050 2-7/8" x 9-3/4" SMART Nitrate Filter Cartridge

CQE-RC-04008 2-7/8" x 9-3/4" Arsenic Filter Cartridge

CQE-RC-04051 2-7/8" x 9-3/4" SMART Arsenic Filter Cartridge

ONE-YEAR LIMITED WARRANTY

CRYSTAL QUEST® warrants your CRYSTAL QUEST® Mega Series Undersink Water Filter System for one year from the date of purchase against all defects in materials and workmanship when used in compliance with the manual. CRYSTAL QUEST® disclaims all implied warranties including, without limitation, warranties of merchantability and fitness for a particular purpose. If for any reason the product proves to be defective within one year from the date of purchase (90 days for filter cartridge), please call for assistance. This warranty gives you specific legal rights and you may have other legal rights which vary from state to state. CRYSTAL QUEST® assumes no responsibility for incidental or consequential damages, for damages arising out of misuse of the product, or the use of any unauthorized attachment. Some states do not allow the exclusion or limitation of implied warranties or incidental or consequential damages; therefore, the above limitations or exclusions may not apply to you. Should service be required during or after the warranty period or should you have any questions regarding how to use your CRYSTAL QUEST® Mega Series Undersink Water Filter System, contact our Technical Support Department at service@crystalquest.com, Monday through Friday, 9 A.M. to 5 P.M. Eastern Time.

KEEP THIS MANUAL FOR FUTURE REFERENCE AND UNIT MAINTENANCE

Online warranty information
<http://crystalquest.com/warranty.htm>

Product design is subject to change without notice.

For further assistance, contact your Crystal Quest dealer
or visit us at www.crystalquest.com

To view the latest edition of the Mega Undersink Water Filter, visit CrystalQuest.com

Please note all drawings, pictures, colors and sizes are approximate for illustrative purposes only and may not exactly resemble the end product.



AUTHORIZED DISTRIBUTOR

Should service be required during or after the warranty period or should you have any questions regarding how to use your Commercial Water Purification System, please contact manufacturer's Technical Support Department Monday through Friday, 9 AM to 5 PM Eastern Time, or your authorized CRYSTAL QUEST dealer:



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