

INSTALLATION & SERVICE MANUAL

Under-the-sink Reverse Osmosis Systems



Model: ATI-S5, ATI-S4
*ATI-P5,*ATI-P4
*ATI 3-Stage



System Tested and Certified by NSF International against ANSI/NSF Standard 58 for the reduction of Arsenic, Barium, Cadmium, Copper, Cyst, Fluoride, Hexavalent Chromium, Lead, Radium 226/228, Selenium, TDS, Trivalent Chromium, Turbidity.



System Tested and Certified by WQA against ANSI/NSF Standard 58 for the reduction of Arsenic, Barium, Cadmium, Copper, Cyst, Fluoride, Hexavalent Chromium, Lead, Radium 226/228, Selenium, TDS, Trivalent Chromium, Turbidity.

*** Note: NSF certificate does not apply to ATI-P5 and ATI-P4.
WQA and NSF certificate do not apply to ATI 3-Stage**

 **Aqua Technologies Inc.**

MEMBER
 **Water Quality Association**

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Thank you for choosing the ATIRverse Osmosis Drinking Water System. With proper care your water filtration system will produce high quality drinking water for many years.

Read carefully and follow the instruction in this manual before proceeding with the actual installation. Pay particular attention to all warnings, cautions and notes. Failure to do so could result in personal injury or damage to the equipment or other property. System and installation need to comply with state and local laws and regulations.

CHECK LIST:

- 1) Reverse Osmosis Unit.
- 2) Water storage tank, 4 gallon volume (2.8 gallon @40psi).
- 3) Installation kit: tank ball valve, drain saddle valve, feed water valve, faucet assembly.
- 4) Manual.



1) Reverse Osmosis Unit
ATI-S5 shown



2) Water Storage Tank
4 Gallon



3) Installation Kit

RECOMMENDED TOOLS LIST

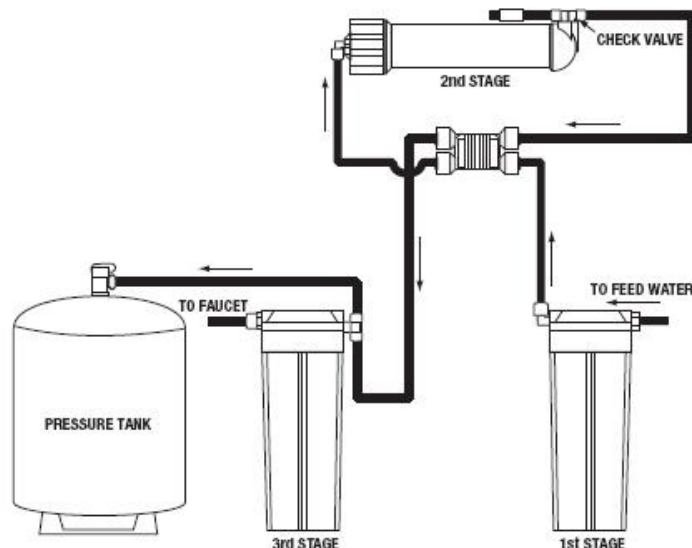
- * Variable speed drill
- * 1/8" and 1/4" drill bits
- * 7/16" drill bit 1/2" and 9/16 open-end wrenches (or adjustable)
- * Phillips screwdriver
- * Utility knife
- * Teflon tape

This reverse osmosis system contains a replaceable treatment component critical for effective reduction of total dissolved solids. The product water shall be tested periodically to verify that the system is performing satisfactorily.

System Tested and Certified by the WQA and NSF International against NSF/ANSI Standard 58 for the reduction of Arsenic, Barium, Cadmium, Copper, Cyst, Fluoride, Hexavalent Chromium, Lead, Radium 226/228, Selenium, TDS, Trivalent Chromium, Turbidity.

Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system. Systems certified for cyst reduction may be used on disinfected water that may contain filterable cysts.

3 STAGE FILTRATION PROCESS



SPECIFICATIONS:

- 1st stage: Sediment filter, 5 micron, 10"
Carbon Block filter, 5 micron, 10"
- 2nd stage: CTA membrane, 16GPD
TFC membrane, 25GPD
- 3rd stage: High performance carbon filter, 20 micron, 10"
- Auto shut off valve
- Operating pressure: 50-90 PSI
- Operating temperature: 40-100°F

Efficiency Rating*	17.68%
Recovery Rate**	33.22%
Daily Production Rate	10.55GPD

*Efficiency Rating means the percentage of influent water to the system that is available to the user as reverse osmosis treated water under operating conditions that approximate typical daily usage.

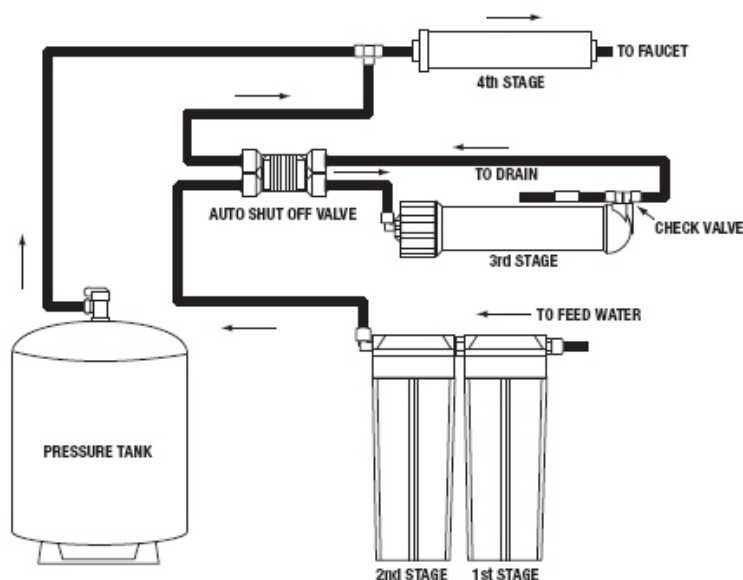
**Recovery Rating means the percentage of influent water to the membrane portion of the system that is available to the user as reverse osmosis treated water when the system is operated without a storage tank or when the storage tank is bypassed.

REPLACEMENT PARTS

DESCRIPTIONS	SERVICE LIFE
Sediment filter, 5 micron, 10"	6-12 months
Carbon block filter, 5 micron, 10"	6-12 months
CTA MEMBRANE, 16GPD	24-36 months
TFC membrane, 25GPD	24-36 months
High performance carbon filter, 20 micron, 10"	6-12 months

*Note: NSF and WQA certification do not apply to ATI 3-Stage Series

4 STAGE FILTRATION PROCESS



SPECIFICATIONS:

1st stage: Sediment filter, 5 micron, 10"
 2nd stage: Carbon block filter, 5 micron, 10"
 3rd stage: TFC membrane, 30GPD @ 60PSI / 45GPD @ 100PSI
 4th stage: Inline carbon filter
 Auto shut off valve
 Operating pressure: 50-90 PSI
 Operating temperature: 40-100°F

Efficiency Rating*	17.68%
Recovery Rate**	33.22%
Daily Production Rate	10.55GPD

*Efficiency Rating means the percentage of influent water to the system that is available to the user as reverse osmosis treated water under operating conditions that approximate typical daily usage.

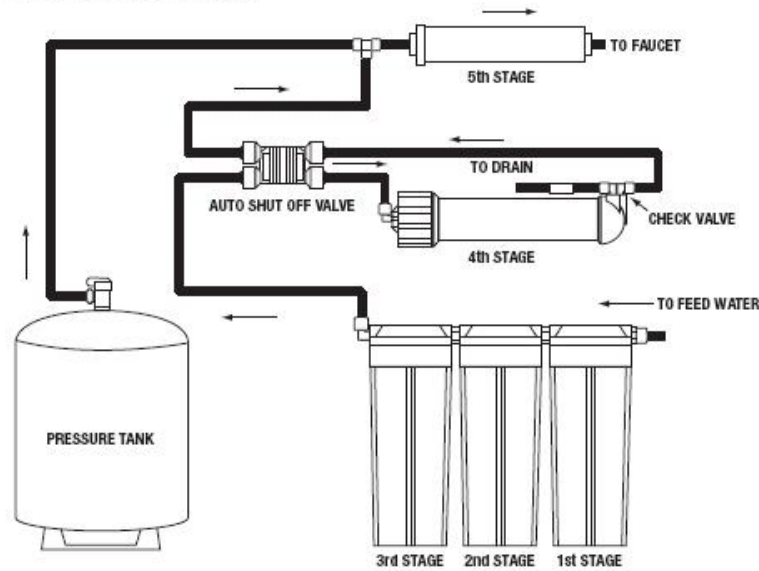
**Recovery Rating means the percentage of influent water to the membrane portion of the system that is available to the user as reverse osmosis treated water when the system is operated without a storage tank or when the storage tank is bypassed.

REPLACEMENT PARTS

DESCRIPTIONS	SERVICE LIFE
Sediment filter, 5 micron, 10"	6-12 months
Carbon block filter, 5 micron, 10"	6-12 months
TFC membrane, 30GPD @ 60 PSI / 45 GPD @ 100 PSI	24-36 months
Inline carbon filter	12-18 months

*Note: NSF certification dose not apply to ATI-P4

5 STAGE FILTRATION PROCESS



SPECIFICATIONS:

1st stage: Sediment filter, 5 micron, 10"
 2nd stage: GAC carbon filter, 20 micron, 10"
 3rd stage: Carbon filter, 5 micron, 10"
 4th stage: TFC membrane, 45GPD @ 60 PSI / 75GPD @ 100PSI
 5th stage: Inline carbon filter
 Auto shut off valve
 Operating pressure: 50-90 PSI
 Operating temperature: 40-100°F

Efficiency Rating*	18.10%
Recovery Rate**	33%
Daily Production Rate	12.65GPD

*Efficiency Rating means the percentage of influent water to the system that is available to the user as reverse osmosis treated water under operating conditions that approximate typical daily usage.

**Recovery Rating means the percentage of influent water to the membrane portion of the system that is available to the user as reverse osmosis treated water when the system is operated without a storage tank or when the storage tank is bypassed.

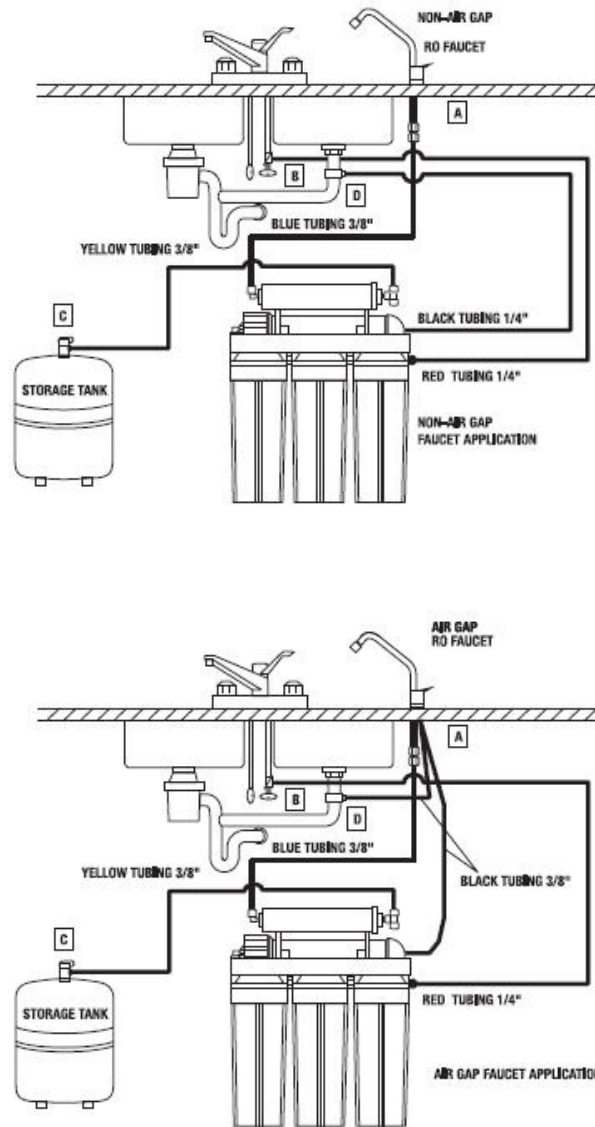
REPLACEMENT PARTS

DESCRIPTIONS	SERVICE LIFE
Sediment filter, 5 micron, 10"	6-12 months
GAC carbon filter, 20 micron, 10"	6-12 months
Carbon block filter, 5 micron, 10"	6-12 months
TFC membrane, 45GPD @ 60PSI / 75GPD @ 100PSI	24-36 months
Inline carbon filter	12-18 months

*Note: NSF certification does not apply to ATI-P5

INSTALLATION QUICK LOOK

Please follow 4 color tubing diagram to complete installation



CAUTION: When cutting supplied tubes, predetermine the length by measuring the distance between the components to be connected.

No tools are needed to connect 4 colored tubes.

HOW TO MAKE A CONNECTION

1. CUT THE TUBE SQUARE

Cut the tube square. It is essential that the outside diameter be free from score marks and that burrs and sharp edges be removed before inserting into fitting. For soft thin walled plastic tubing we recommend the use of a tube insert.



2. INSERT TUBE

Fitting grips before it seals. Ensure tube is pushed into the tube stop.



3. PUSH UP TO TUBE STOP

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.



4. PULL TO CHECK SECURE

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.



Disconnecting - PUSH COLLET AND REMOVE TUBE

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.



Please follow any special plumbing codes in your area.

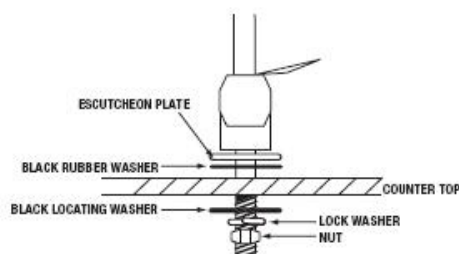
	4 Connections	Color of Tubing	Description
A	RO Faucet	Blue	Pure water to the Faucet
B	Feed Water Valve	Red	Feed Water to RO System
C	Tank Ball Valve	Yellow	Pure Water to Storage Tank
D	Drain Connector	Black	Discharge Water to Drain

INSTALLATION

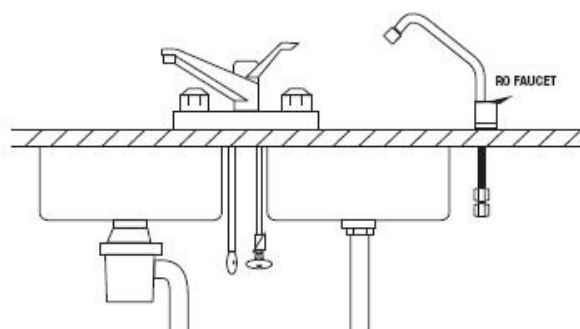
STEP 1: INSTALLING THE FAUCET

- 1) Determine the desired location for your RO faucet on your sink surface.
- 2) Place a piece of masking tape or duct tape on the determined location where hole is to be drilled.
- 3) Use a variable speed drill at slow speed with a 1/8" (3 mm) drill and drill a centering hole in the center of the desired faucet location. Use lubricating oil to keep the drill bit cool while drilling.
- 4) Enlarge the hole using a 1/4" (6.4 mm) drill bit. Use factory approved method or approved plumbing practice to drill hole in sink.
- 5) Enlarge the hole to 7/16" (11 mm) diameter. Keep bit well oiled and drill slowly.
- 6) Pass the small rubber washers, the chrome base plate and the large rubber washer in that order over the threaded mounting tube at the base of the faucet.
- 7) From under the sink, install the large metal (or plastic) washer and the star washer over the threaded stem. Screw on the nut and tighten.
- 8) Sleeve over the brass compression nut and the white plastic ferrule (do not use the brass one) over blue tubing and push to the end of the threaded stem. Screw on the compression nut and tighten.

Please see <Fig. 1> and <Fig. 2>



<Fig. 1>



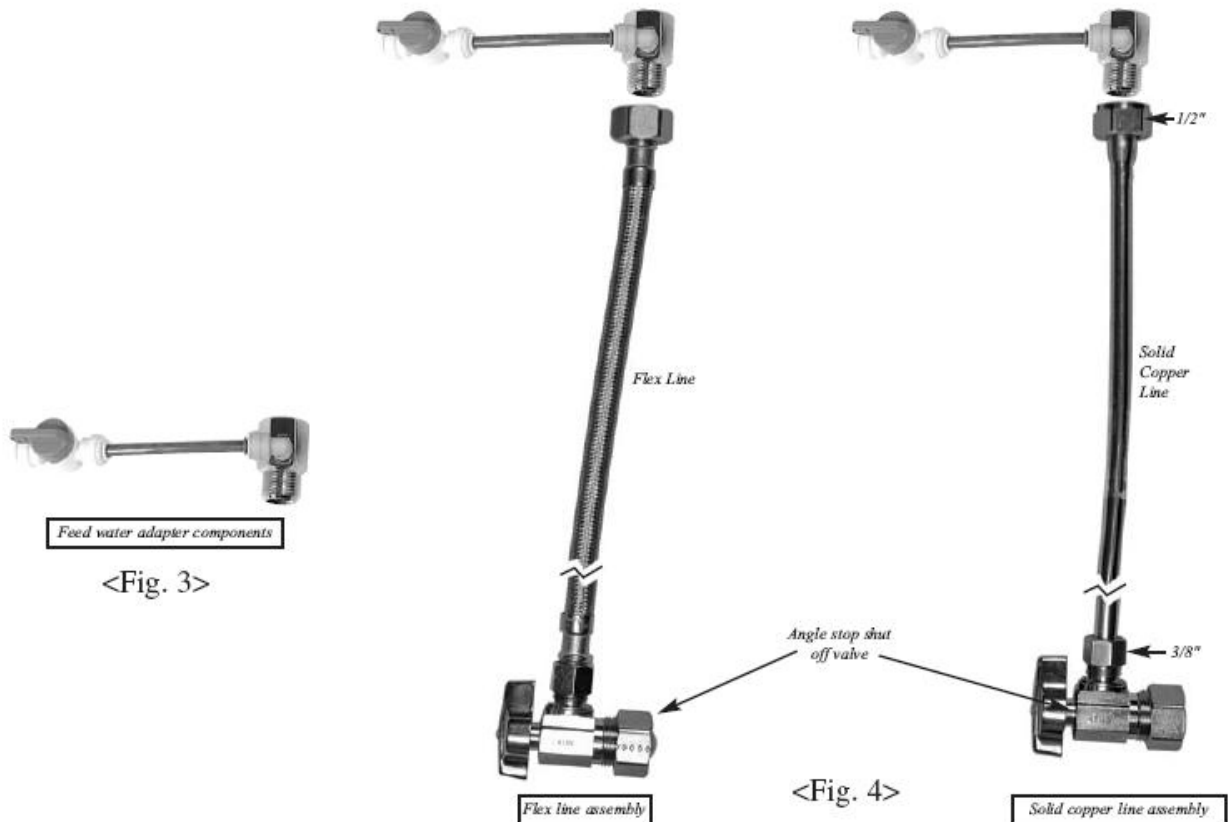
<Fig. 2>

- 9) Pull out the 3/8" O.D. red tube from RO faucet and insert the stainless steel long reach spout into the faucet base while the 1/4" handle is in the off position.
- 10) The spout is 360° swivel.
- 11) The faucet handle can be turned for instant and continuous flow.

STEP 2: TAPPING INTO COLD WATER LINE

Caution: The water supply to your unit MUST be from the COLD WATER LINE. Hot water will severely damage your R.O. System.

- 1) Locate cold water angle shut off valve underneath the sink and turn it off. Open cold water faucet to release the pressure. On single handled faucets, the hot water may have to be turned off to prevent any hot water cross over. If water continues to come out of faucet with angle valve turned off, the house main will have to be turned off.
- 2) Locate feed water adapter in the installation kit. The angle needle valve should be installed into slip joint adapter (VV-WWC-1) before assembly is connected to feed water line. See <Fig. 3> (Teflon tape must be used on angle valve to prevent leaks).
- 3) Disconnect the cold water riser tube and install the slip joint adapter.

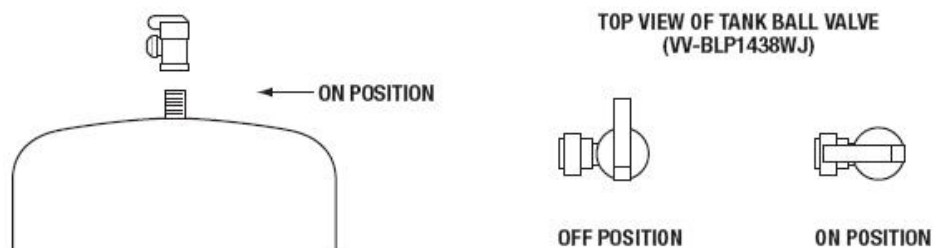


- 4) Please follow by <Fig. 4> for flex line and solid copper riser installation.
 - a) Flex line: Loosen nut and separate cold water riser tube from faucet shank. Gently bend riser tube so that slip joint fits onto faucet shank. Replace the existing cone washer with new washer provided in installation kit onto cold water riser tube. Reinstall riser tube onto slip joint adapter and tighten.
 - b) Solid copper riser tube: Procedure as flex tubing except you must cut a piece of the riser tube about 3/4\" or 1\" so the slip joint adapter can fit between faucet and riser tube (Teflon tape must be used on slip joint adapter to prevent leaks).
- 5) Connect red tubing to the inline valve .

STEP 3: MOUNTING THE TANK BALL VALVE

Note: Do not tamper with the air valve on low side of storage tank. It has been preset at 8-10 psi by the manufacturers.

- 1) Unplug the plastic cap on the top of the tank.
 - 2) Wrap the thread 3 times with plumbers (Teflon) tape only.
 - 3) Connect the ball valve to the thread. Make sure it is tight but not over-tight. See <Fig. 5>.
 - 4) Connect the yellow tubing from to the tank ball valve
- Turn the tank ball valve off.

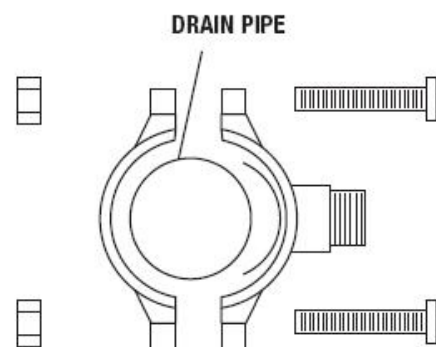
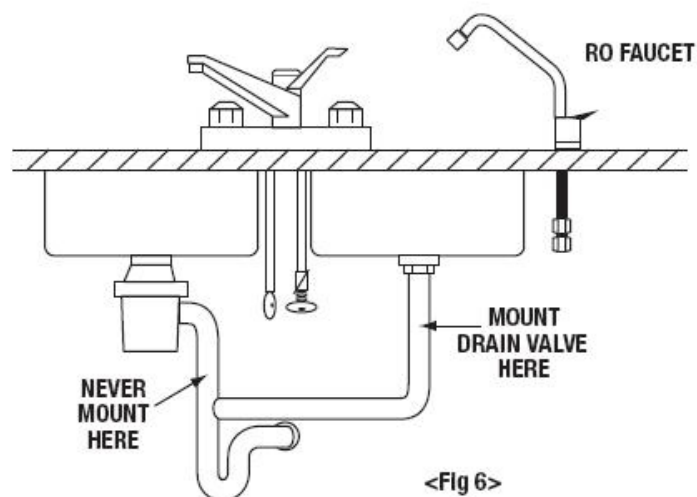


<Fig 5>

STEP 4: MOUNTING THE DRAIN CLAMP

The drain clamp (VV-DSP014/3) will fit most standard drain pipe 1/4". It should be installed above the trap and on the vertical tailpiece. See <Fig. 6>

- 1) Position the drain saddle in desired location, mark spot through thread outlet, remove saddle.
- 2) Drill 1/4"(6.3mm) hole into the drain pipe above the water line of trap.
- 3) Align the hole drilled in the drain pipe with the drain saddle using a drill bit or other narrow straight object and tighten clamp.
- 4) Make sure to align drain saddle to drilled hole. Attach drain saddle to drain pipe and tighten the two screws evenly. See <Fig. 7>.
- 5) Connect black tubing to drain clamp.



<Fig 7>

STEP 5: SYSTEM STARTS UP

- 1) Turn on the cold water supply and the under sink feed water valve but close the tank ball valve (VV-BLP1438WJ).
- 2) Open RO faucet (FU-WDF-703-CP) (handle in the up position) for continuous flow.
- 3) Check system for leaks, tighten as necessary.
- 4) After 10-30 minutes, the water will start to drip out of the RO faucet. Let it drip for about 10 minutes and then flip the handle to the closed position. **TURN ON THE TANK BALL VALVE NOW.** It will now take several hours (2-3) for the storage tank to fill, depending on the local water pressure.

DO NOT DRINK THE WATER FROM THE FIRST TANK PRODUCED BY YOUR NEWLY PURCHASED SYSTEM

- 5) After the tank is full (you will hear the water stop), flush the system by placing the RO faucet in the open position until the water is completely discharged.
- 6) Upon complete discharge of storage tank, turn handle to closed position on RO faucet and let the refilling process begin. This process could take 2-3 hours to complete.
- 7) After the second tank is filled, you may enjoy the filtered water.
- 8) Check leaks daily for first week and periodically thereafter.
- 9) You may notice that the water may be milky colored during the first week. It is the air bubbles in the water. It is normal and safe.

NOTE:

- 1). Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system. Systems certified for cyst reduction may be used on disinfected water that may contain filterable cysts.
- 2). This reverse osmosis system contains a replaceable component critical to the efficiency of the system. Replacement of the reverse osmosis component should be with one of identical specifications, as defined by the manufacturer, to assure the same efficiency and contaminant reduction performance.

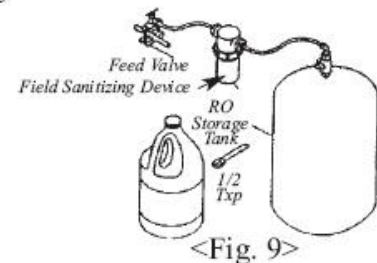
■ **WARNING:** Do not use this RO system appliance to purify non-drinkable sources of water that are unsafe or with water of unknown quality.

■ **WARNING:** Never use hot water or freeze unit.

■ **WARNING:** Incorrect installation will VOID the warranty.

CLEANING PROCEDURES

- 1) Shut off the source water supply to the RO system.
- 2) Open the RO faucet and depressurize the RO system and storage tank.
- 3) Remove pre-filter cartridges, post-filter cartridges, and RO membrane. Discard or prepare for cleaning. If the RO membrane element is to be reused, disinfectant solution should be introduced into the permeate tube outlet sufficient to remove biofilm in this vulnerable area, before reinserting the membrane into the housing. Use 1/4 teaspoon (1 ml) of unscented 5.25% sodium hypochlorite liquid household bleach.
- 4) Wash the internal housing areas with warm soapy water using a clean brush (do not scratch the surface of the housings). Be sure to clean o-ring grooves thoroughly. Remove the existing o-ring. Discard o-ring or prepare for cleaning.
- 5) Rinse off all housing pieces with clean water to remove soap.
- 6) Replace o-rings, and lubricate per manufacture's instruction.
- 7) Pour about 1/4 teaspoon (1 ml) of unscented 5.25% sodium hypochlorite liquid household bleach into each of the clean housings and replace housings on the RO system.
- 8) Disconnect RO storage tank from the system.
- 9) RO storage tank cleaning procedure:



Recommended items:

- Tank sanitizer feeder or small filter housing with fittings and tubing, see <Fig. 9>
- Disinfectant solution
- Pressure gauge and air pump
 - a) The tank should be empty. Check the air precharge pressure with an accurate gauge (low pressure type 0-12 lbs.). The average tank pressure should be 8-10psi (when the tank is empty).
 - b) Fill the tank sanitizer feeder with the recommended disinfectant dosage, and connect the feeder to the water supply and RO storage tank.
 - c) Turn on water supply and force water and disinfectant solution into the RO storage tank. The storage tank should feel heavy when filled.
 - d) The disinfectant solution should remain in the tank a minimum of 10 minutes. If the tank has not been sanitized in over a year, leave the solution in for 20 to 30 minutes. Turn off the water supply valve and the RO storage tank valve. Disconnect the sanitizer feeder, and connect the RO storage tank to the RO unit (the tank ball valve should remain closed).

- 10) Open the feed water valve and open the RO faucet until water flows freely from the spout. Close the RO faucet. Hold the disinfectant solution in the RO system, including the tubing and faucet, for a minimum of 10 minutes. Open the tank ball valve.
- 11) Shut off the feed water valve and open the RO faucet. Let water run out until the flow stops at the RO faucet.
- 12) Open the feed water valve. Let water flow freely from the faucet for three minutes. Shut off the water at the source water supply with RO faucet open.
- 13) When the flow of water has stopped at the RO faucet, remove the filter housing sumps and membrane housing from the RO system. Replace the filters and membrane according to the service life.
- 14) Replace the housings on the RO system. Open the source water valve and allow the water to flow from the faucet.
 - Because some of the disinfectant may still be in the system, the system should be flushed prior to using the water human consumption.
 - A maintenance record should be kept for the RO system, including information about the replacement parts, when service was performed, and by whom.

*It is recommended that you completely drain the RO Tank every month.

PREVENTIVE MAINTENANCE

These recommendations are intended for maximize efficiency of RO water production by your system.

1) Filter maintenance

- a) It is OK to store filters on the shelf for several years.
- b) To store the sealed, unopened filter, we recommend that it be kept in an air-tight container. This prolongs the shelf life of the carbon filter (particularly filter was ordered more than one year before its intended use) and avoid having the filter absorb any possible odor from the air.

2) Membrane maintenance

- a) The dry packed membrane usually has a two-year shelf life. To prolong the shelf life, we recommend keeping unopened dry membrane in a refrigerator.
- b) Once the membrane is in use, we recommend running the RO system every day for at least 10-15 minutes (about 1 gallon or 4 liters of drinking water). This helps to maintain the membrane performance.
- c) If the RO system is not used for over a week, drain the storage tank first. Then fill the tank and drain it twice. Your RO system is now ready to use again.

3) Filter and membrane change procedures:

- a) Shut off the water supply.
- b) Turn off the tank ball valve by turning it 90 degrees.
- c) Open RO faucet to the continuous flow position and drain the tank completely.
- d) Slide in the housing wrench. Use one hand to hold the system and the other hand to turn the wrench clockwise to open the housing.

Note: If it is too tight to open the housing you may try unplugging the fitting between red tubing and the system in order to reduce the air and water pressure inside the housing

- e) After opening the housing, remove the used filter and put the new filter into the housing. Make sure the O-ring is back in place and turn the housing counter-clockwise to close.
 - f) Repeat previous step to change second filter.
 - g) Turn on the water supply and make sure there are no leaks.
 - h) Let the water drip from the faucet for about 10 minutes. If the water flow is less than 1 cup (8 oz. or 240 ml) per minute, it may be a signal to change the membrane.
 - i) Membrane change procedures:
 - Unscrew the membrane housing cap.
 - Slide out the used membrane and discard.
 - Insert the new membrane into the housing. The end with the two o-rings should go in first; to prevent leaks be sure it is fully seated in the bottom of the housing.
 - Screw the cap back onto the membrane housing, making sure o-ring is still in place.
 - It may take 10-20 minutes for the new membrane to run at normal flow.
- If the water flow is OK, then turn on the tank ball valve. After 1 minute, turn off the RO faucet and complete the filter change procedures.

PERFORMANCE DATA SHEET

Model No.	Daily Production Rate (GPD)	Recovery Rate(%)	Efficiency Rate (%)	Pressure Drop at Rated Flow (PSI)	System Weight (lbs)	System Dimension (in)
ATI-3TFC *	10.55	33.20	17.68	5	9.6	14x6x15
ATI-S4	10.55	33.20	17.68	5	10	14.5x5.5x17
ATI-P4 *	10.55	33.20	17.68	5	10	14.5x5.5x17
ATI-S5	12.65	33.20	18.10	5	13	14.5x5.5x17
ATI-P5 *	12.65	33.20	18.10	5	13	14.5x5.5x17

Test parameters of 25°±1°C, 50 psi, and pH of 7.5±.5.

Efficiency rating means the percentage of the influent water to the system that is available to the user as reverse osmosis treated water under operating conditions that approximate typical daily usage

Recovery rating means the percentage of the influent water to the membrane portion of the system that is available to the user as reverse osmosis treated water when the system is operated without a storage tank or when storage tank is bypassed

Operating Pressure: 50-90 PSI
 Operating Temperature: 40-100° F
 Water Hardness: <120 ppm (7 gpg)
 pH Range: 3-11
 TDS: <1000 ppm

Function

Arsenic Reduction
 Barium Reduction
 Cadmium Reduction
 Copper Reduction
 Cyst Reduction
 Fluoride Reduction
 Hexavalent Chromium
 Lead Reduction
 Radium 226/228 Reduction
 Selenium Reduction
 TDS Reduction
 Trivalent Chromium Reduction
 Turbidity Reduction



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Conforms to NSF/ANSI 58 for pentavalent arsenic reduction.
 See performance data sheet and Arsenic Facts section for an explanation



System tested and certified by WQA against NSF/ANSI Standard 58 for the reduction of Arsenic, Barium, Cadmium, Copper, Cyst, Fluoride, Hexavalent Chromium, Lead, Radium 226/228, Selenium, TDS, Trivalent Chromium, Turbidity.

Conforms to NSF/ANSI 58 for pentavalent arsenic reduction.
 See performance data sheet and Arsenic Facts section for an explanation

While testing was performed under standard laboratory conditions, actual performance may vary.

***Note:** NSF certification does not apply to ATI-P series.

NSF and WQA certification do not apply to ATI 3-Stage.

General Installation/Operation/Maintenance Requirements

- Installation needs to comply with state and local laws and regulations
- Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after system. Systems certified for cyst reduction may be used on disinfected water that may contain filterable cysts.
- This reverse osmosis system contains a replaceable treatment component critical for effective reduction of total dissolved solids. The product water shall be tested periodically to verify that system is performing satisfactorily.

PERFORMANCE DATA SHEET REQUIREMENTS

Substance	Influent challenge Concentration mg/L	Maximum permissible product Water concentration mg/L
Arsenic (pentavalent)	0.30 ± 10%	0.010
Barium	10.0 ± 10%	2.0
Cadmium	0.03 ± 10%	0.005
Chromium (hexavalent)	0.3 ± 10%	0.1
Chromium (trivalent)	0.3 ± 10%	0.1
Copper	3.0 ± 10%	1.3
Fluoride	8.0 ± 10%	1.5
Lead	0.15 ± 10%	0.010
Radium 226/228	25 pCi/L ± 10%	5 pCi/L
Selenium	0.1 ± 10%	0.05
TDS	750 ± 40 mg/L	187
Turbidity	11 ± 1 NTU	0.5 NTU

PERFORMANCE DATA SHEET PERFORMANCE CLAIMS FOR PERCENT REDUCTION

Substance	Influent challenge Concentration	Reduction requirement
Cyst	Minimum 50,000/mL	99.95%

This system has been tested for the treatment of water containing pentavalent arsenic (also known as As(V), As(+5), or arsenate) at concentrations of 0.05mg/L or less. This system reduces pentavalent arsenic, but may not remove other forms of arsenic. This system is to be used on water supplies containing a detectable free chlorine residual at the system inlet or on water supplies that have been demonstrated to contain only pentavalent arsenic. Treatment with chloramines (combined chlorine) is not sufficient to ensure complete conversion of trivalent arsenic to pentavalent arsenic. Please see the Arsenic Facts section of the Performance Data Sheet for further information.

This system has been tested according to NSF/ANSI 58 for reduction of the substances listed above. The concentrations of the indicated substances in water entering the system was reduced to a concentration of less than equal to the system, as specified in NSF/ANSI 58.

ARSENIC FACTS

Arsenic (abbreviated As) is found naturally in some well water. Arsenic in water has no color, taste or odor. It must be measured by a lab test. Public water utilities must have their water tested for arsenic. You can get the results from your water utility. If you have your own well, you can have the water tested. The local health department or the state environmental health agency can provide a list of certified labs. The cost is typically \$15 to \$30. Information about arsenic in water can be found on the internet at the US Environmental Protection Agency website: www.epa.gov/safewater/arsenic.html.

There are two forms of arsenic: pentavalent arsenic (also called As(V), As(+5), and arsenate) and trivalent arsenic (also called As(III), As(+3), and arsenite). In well water, arsenic may be pentavalent, trivalent, or a combination of both. Special sampling procedures are needed for a lab to determine what type and how much of each type of arsenic is in the water. Check with the labs in your area to see if they can provide this type of service.

Reverse osmosis (RO) water treatment systems do not remove trivalent arsenic from water very well. RO systems are very effective at removing pentavalent arsenic. A free chlorine residual will rapidly convert trivalent arsenic to pentavalent arsenic. Other water treatment chemicals such as ozone and potassium permanganate will also change trivalent arsenic to pentavalent arsenic. A combined chlorine residual (also called chloramines) may not convert all the trivalent arsenic. If you get your water from a public water utility, contact the utility to find out if free chlorine or combined chlorine is used in the water system.

This Systems are designed to remove pentavalent arsenic. It will not convert trivalent arsenic to pentavalent arsenic. The system was tested in a lab. Under those conditions, the system reduced 0.3 mg/L or 0.05 mg/L pentavalent arsenic to 0.01 mg/L (the USEPA standard for drinking water) or less. The performance of the system may be different at your installation. Have the treated water tested for arsenic to check if the system is working properly.

The RO components of the systems must be replaced (see service life for the filters) to ensure the system will continue to remove pentavalent arsenic. The component identification and locations where you can purchase the component are listed in the installation manual.

TROUBLE SHOOTING

Note: Turn off the system before servicing.

PROBLEM	CAUSE	SOLUTIONS
Milky colored water	✓ Air in system	■ Air in the system is a normal occurrence with initial startup of the RO system. This milky look will disappear during normal use within 1 to 2 weeks.
Noise from faucet	✓ Air gap faucet ✓ Location of drain saddle ✓ Restriction in drain line	■ Will disappear after system shuts down ■ Relocate the drain to above water trap. ■ Blockage sometimes caused by debris from garbage disposal or dishwasher
Small amount of water from storage tank	✓ System just starting up ✓ Air pressure in storage tank is low	■ Normally it takes 2-3 hours to fill tank. Low water pressure and/or temperatures can reduce production rate. ■ Add pressure to storage tank. The pressure should be 8-10 psi when the tank is empty
Slow production	✓ Low water pressure ✓ Crimps in tubing ✓ Clogged prefilters ✓ Fouled membrane	■ Add a booster pump ■ Make sure tubing is straight ■ Replace prefilters ■ Replace membrane
Water taste or smell offensive	✓ Post carbon is depleted ✓ Fouled membrane ✓ Sanitizer not flushed out	■ Replace post carbon ■ Replace membrane ■ Drain storage tank and Refill it overnight
No drain water	✓ Clogged flow restrictor	■ Replace flow restrictor
Leaks	✓ Fittings are not tightened ✓ Twisted O-ring ✓ Misalignment of hole in drain saddle	■ Tighten fittings as necessary ■ Replace a o-ring ■ Realign drain saddle