

### **10 Tips for an Easy and Successful Installation**

1. Keep it simple - there are 4 connections to make, and the tubing is color coded.
2. Have plenty of time, light, space, and towels before getting started. If everything goes well, you should be done in 45 minutes. However, if your feed water line is a different size, or if you don't have an extra hole for the faucet, it can take somewhat longer.
3. NEVER use plumber's putty, thread-lock, or anything else you wouldn't eat on any part of this system. You may use as much white Teflon plumber's tape as you like. If you use plumber's putty on your faucet, you will have disgusting and potentially toxic water for the life of the faucet.
4. Mount the faucet first, and when making the final connection, use the grey "push-pull" faucet adapter found in the bag of parts with the EZ adapter, tank valve, and drain clamp.
5. If you have a 3-hole sink and want to avoid drilling a 4<sup>th</sup> hole for the Tap Master faucet, then get a single handle *kitchen* faucet. This will free up 2 holes, one of which you may use for the Tap Master faucet, the other you can use for a soap dispenser or side sprayer.
6. Mount the Tap Master vertically so that the back cap is on top. There is only one "black cap" and it has one grey fitting at its top. Mount the (optional) permeate pump correctly nothing will work. There is a big arrow on the permeate pump, make sure it points up.
7. Mount the drain saddle on a vertical section of drain pipe. IF you have to mount the drain saddle on a horizontal section, then drill the hole on the top side of the pipe or at least at an angle where the drain water from the Tap Master drops down into the drain pipe. [Think of a man-hole passage into the sewer] When making the connection from the system to the drain saddle - wrap the tubing around the drain pipe a few times, so that some loops of tubing are higher than the fitting.
8. DO NOT touch the air nipple on the side of the reserve tank. You may be tempted to check the pressure, or pump it up - don't. It already has plenty of air. Adding more will not boost flow, it will only decrease tank capacity.
9. Read the instructions thoroughly before beginning. There is a lot of information there, some of which you may not need for your application. If you have questions - call or email. Email will usually be answered within hours even at night.
10. Have patience. Your new Tap Master may take some time to break in and start flowing. Make sure you fill, and drain, the reserve tank at least twice.

#### **TUBING COLOR CODING**

**ORANGE—LINE IN**

**BLACK—TO STORAGE TANK**

**RED— TO DRAIN**

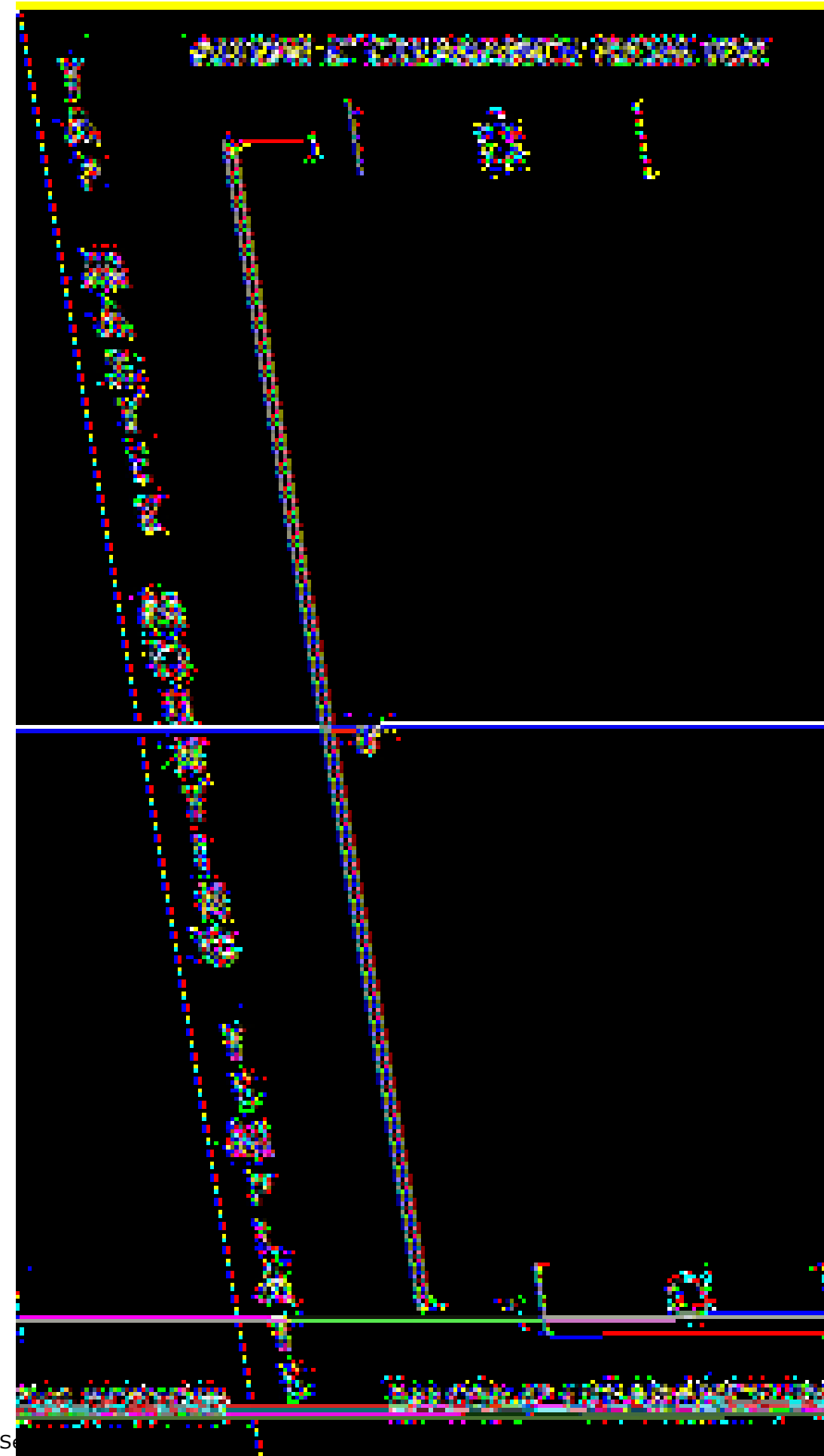
**BLUE—TO RO FAUCET**



Advanced Water Filters  
 Where Technology and Water Combine  
 Perfect Water Technologies, Inc.  
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# Tap Master® Series Installation & Service Manual

- Tap Master
- Tap Master Artesian
- Tap Master IRON
- Tap Master UV
- Tap Master ULTRA



sediment filter (red label) from the EZ adapter. Turn off the water at the EZ adapter and tank, and briefly turn on the RO faucet at the sink to relieve any system pressure. Disconnect the tube from the sediment filter fitting after the EZ adapter. Point the tube you have just disconnected into a pitcher and turn on the EZ adapter valve. The flow should be strong. If it is strong repeat this step for the next carbon filter in line. The flow should be strong.

8. If the flow to the sediment filter is weak (#7), then disconnect the EZ adapter and check the rubber grommets and o-ring for proper seating and to ensure the flow is unimpeded.

**Discoloration of water** The first batch of water produced from your purification system may be discolored due to the presence of carbon from the carbon filters, and a small amount of preservative. This is normal. DO NOT drink the first 6.5 gallons of water. Drinking from un-flushed system may cause gastrointestinal discomfort, colic and/or diarrhea. Consult a physician if discomfort persists. Running out the first two tanks will effectively flush out the system, and make it ready for use. The tank is full when the hissing or clicking stops.

**TUBING COLOR CODING**

**ORANGE—LINE IN**

**BLACK—TO STORAGE TANK**

**RED— TO DRAIN**

**BLUE—TO RO FAUCET**

Permeate pump should be mounted with inlet and outlet ports to the sides, and the center indicating arrow pointing up.

**MOUNTING ORIENTATION**



**CORRECT**



**INCORRECT**

**Tap Master Contents:**

- 1 Instruction book: detailed descriptions, photos and troubleshooting guide.
- 1 10" Sediment pre-filter: 5 micron bonded spun poly with high holding depth, 1-year service life.
- 2 10" IRON/Carbon pre filter<sup>1</sup>: 5 micron granular activated carbon (coconut shell carbon) with IRON filtration, 6-month or 1500 gallon service life.
- 1 10" Carbon pre filter<sup>2</sup>: 5 micron granular activated carbon (coconut shell carbon), 1-year or 3900 gallon service life.
- 1 10" Carbon post filter: 5 micron granular activated carbon (coconut shell carbon), 1-year or 3900 gallon service life.
- 1 10" Artesian post filter<sup>4</sup>: 5 micron granular activated carbon (coconut shell carbon) with advanced remineralization media, 1-year or 2500 gallon service life.
- 1 Thin Film Composite membrane 0.001 micron ultra-fine pore, 50 gallon per day, 4-5 year service life.
- 1 UV filter<sup>3</sup> 1-year service life, with universal electronic transformer (50/60Hz, 110-240v) featuring audible alert.
- 1 Flow restriction architecture: integrated flow restrictor and water check valve, central auto shut-off valve.
- 1 Drain saddle; all fittings and connecting hardware.
- 1 Reserve tank: 3.2-gallon (or 9 gal upgrade) , stand, quick connect ball valve
- 1 Chrome long reach sink faucet (or custom faucet); quick connect fitting and hardware.
- 1 EZ adapter—feed water adapter 3/8" mc x 3/8" fc x 1/4" tube

**Maintenance Schedule**

<b>Sediment filter</b>	<b>annual replacement</b>
<b>Carbon filter(s)</b>	<b>annual replacement</b>
<b>IRON/carbon filter<sup>1</sup></b>	<b>6 month replacement</b>
<b>UV filter<sup>3</sup></b>	<b>annual replacement</b>
<b>Membrane (50 gpd TFM)</b>	<b>4-5 year replacement</b>
<b>Artesian filter</b>	<b>annual replacement</b>

**General System Specifications**

- Feed water: PSI 40 - 125 PSI
- Feed water Temperature: 40° - 100°(F)
- Max. Total Dissolved Solids (TDS): 2000 ppm
- Max. Hardness: 10 gpg
- pH limits: 4 - 10

<sup>1</sup> Included with Tap Master IRON and ULTRA only.  
<sup>2</sup> Included with Tap Master standard and UV only.  
<sup>3</sup> Included with Tap Master UV and ULTRA only.

<sup>4</sup> Included with Tap Master Artesian only.

**System Location**

The Tap Master may be installed under a sink, or in a basement within 20' feet of the RO sink faucet as long as the Tap Master is not subjected to freezing temperatures. The Tap Master should be mounted vertically where the drain line out is at the bottom. Mount the reserve tank on a sturdy shelf, because it will weigh over thirty pounds when full.

**Tools Required**

- Safety glasses
- Towels
- Phillips screwdriver
- Scissors
- Medium Crescent wrench
- Medium pliers
- Teflon tape
- Felt tip pen or marker
- Variable speed corded power drill (3/8" for the sink hole, 1/4" for the remainder)
- 1/4" metal drill bit w/ cobalt tip
- 1/2" metal drill bit w/ cobalt tip (not required if sink has a pre-drilled hole)
- 1/2" masonry drill bit (not required if sink has a pre-drilled hole, or if sink is not porcelain)

**READ ALL INSTRUCTIONS THOROUGHLY PRIOR TO INSTALLATION**

**TUBING COLOR CODING**

**ORANGE—LINE IN**

**BLACK—TO STORAGE TANK**

**RED—TO DRAIN**

**BLUE—TO RO FAUCET**

**Drilling hole for RO faucet – porcelain sinks (drilling time – up to 3/4 hour)**

WARNING: Serious cracking and damage may occur to your sink even if instructions are followed exactly due to age and the imperfections inherent in natural materials. Instructions may not apply exactly to your sink. Use caution – sink may be slippery.

1. Remove base cover plate from RO faucet packaging. Line-up base cover plate with other sink faucets. See Fig 1. Check underside of sink for spacing from trim, curvatures, and other obstacles. See Fig. 15. Don't place spigot too close to obstacles - leave yourself enough room under the sink to use hand tools. Either right or left side of the sink is OK provided previous conditions are met. Mark center of base cover plate with marker. See Fig 2. Place towel underneath sink, below drilling site, to collect fillings. Always wear protective eyewear and gear while drilling, and while under sink.
2. Using 1/2" masonry bit and variable speed corded power drill, slowly begin drilling through the porcelain. Drill bit should be perpendicular to sink. Failure to do so may cause the drill bit to slip and cause bodily injury, and/or property damage. Rinse & dry drill bit tip and sink area with cool water for every 20 seconds of drilling to prevent drill bit overheating and sink damage. Small localized flaking or chipping may occur. **Use caution – drill bit may be very hot. DO NOT touch drill bit. Electrical hazard! DO NOT allow power drill electrical components to come into contact with water. Use caution – sink may be slippery.**

**No water from Tap Master™ RO System** Make sure all valves are on the ON position. Check for over tightening of fittings. Eliminate possible blockage points by disconnecting each system component and checking for pressure. Check for blockage in drain saddle and drain tubing. Have a bowl and towel at hand.

**No water or ice from refrigerator water center** Make sure line from Tap Master™ RO to refrigerator has pressure. Make sure refrigerator water center and/or icemaker are turned ON, and refrigerator is plugged in. If water center works, but icemaker does not, then defrost the freezer as the line in may have frozen.

**Hissing or flowing sounds from Tap Master™ RO** are normal during the water purification process. Sounds should last for approximately 1 hour per gallon of water used. Sounds should stop once the reserve tank is full. Permeate pump equipped systems will "click" and "whoosh."

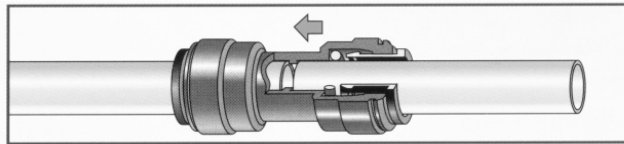
**Weak pressure at RO sink faucet & Reserve tank filling slowly**

NOTE: Seasonal changes in temperature can cause pressure imbalances within the system resulting in slow water production. Oftentimes the imbalance will correct itself on its own within a few days. You may also restore the internal system pressure balance by draining the tank, then shutting off the system overnight. Turn it back on, and allow the tank to refill, then shut it off again when full for another night.

1. Make sure reserve tank is full, and has been flushed at least twice (6.5 gallons).
2. Make sure the angle-stop is wide open. (see Fig.4 on the instructions enclosed with your tap master.)
3. Check all tubing for kinks or sharp bends - this can impede the flow of water.
4. Check reserve tank air pressure with tank empty, system off and faucet open. Air valve is located on the side of the tank under a cap Use a bicycle tire pressure gauge. Tank should have 7-7.5 psi.
5. Check flow to the membrane housing. Turn off the water at the EZ adapter and tank, and briefly turn on the RO faucet at the sink to relieve any system pressure. Then pull the black tube out of the top of the black membrane housing at the quick connect fitting. (There is only one fitting on the top of the membrane housing, the bottom has two - one white, one grey). Point the tube you have just disconnected into a pitcher and turn on the EZ adapter valve. The water flow from the tube should be fairly strong.
6. If the flow to the membrane housing is strong (#5), then check flow to the reserve tank. Turn off the water at the EZ adapter and tank, and briefly turn on the RO faucet at the sink to relieve any system pressure. Disconnect the tube from the reserve tank ball valve. Point the tube you have just disconnected into a pitcher and turn on the EZ adapter valve. The water flow from the tube should be a thin, but steady trickle.
7. If the flow to the membrane housing is weak (#5), then check the water flow to the

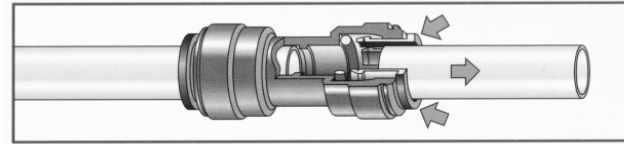
### USING QUICK CONNECT FITTINGS

Insert tube Push up to tube stop



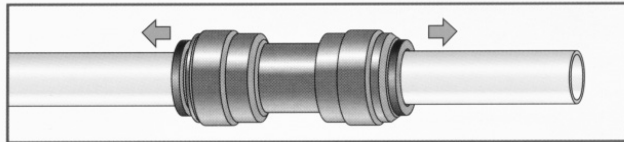
Push the tube into the fitting, to the tube stop. The collet (gripper) has stainless steel teeth which hold the tube firmly in position while the 'O' ring provides a permanent leak proof seal.

Push in 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.

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.

### Troubleshooting

**IMPORTANT NOTE:** Before performing service on the Tap Master™ RO at any time, and for any reason: first switch to the OFF position all under-sink water valves, except for the RO faucet which you should switch ON to relieve system pressure and drain away excess water from the lines. Push-pull and Speedfit® fittings are nearly impossible to remove when under pressure.

**Leaks from metal fittings** Unscrew fittings and re-tape male fitting. Tape should be wound 5-7 times around male thread. Tape should not cover opening. Use only Teflon tape. Re-tighten fitting securely. Over tightening can crush the tubing insert and cause a **water blockage**.

**Leaks from plastic fittings** Plastic fittings should be firmly finger tightened. Under tightening can result in leaks, over tightening can crush the tubing and result in a **water blockage**. For plastic fittings only; make sure the plastic tubing has an insert in the tube end, and a feral (o-ring which compresses the tubing around the insert) in the plastic female fitting. Drain tubing does not need an insert.

**Leaks from quick connect, push-pull or Speedfit® fittings** Disconnect fitting by pushing in the tubing with one hand and depressing the ring on the fitting with the other hand. Then pull out tubing while the ring is still depressed. Tubing cannot be pulled out without depressing the fitting ring, and relieving system pressure. Make sure the tubing is cut is straight, the edge is completely smooth, and the tube is rounded. Scratched, gouged, damaged, or oblong tubing end will leak. Re-insert the tubing into the push-pull fitting. Push tubing all the way in, then pull back gently, to check fit. Most push-pull fittings take about a 1/3" of tubing inserted into them.

- When metal is struck, switch to 1/4" metal bit with cobalt tip. Drill bit should be perpendicular to sink. Failure to do so may cause the drill bit to slip and cause bodily injury, and/or property damage. Begin drilling to drill a hole all the way through the sink. Rinse & dry drill bit tip and sink area with cool water for every 20 seconds of drilling to prevent drill bit overheating and sink damage. Small localized flaking or chipping may occur.
- When 1/4" hole is completely drilled through, switch to 1/2" metal drill bit w/ cobalt tip. Drill bit should be perpendicular to sink. Failure to do so may cause the drill bit to slip and cause bodily injury, and/or property damage. Begin drilling to enlarge the 1/4" hole to 1/2" all the way through the sink. Use caution when hole is near completion to avoid damaging sink surface. Rinse & dry drill bit tip and sink area with cool water for every 20 seconds of drilling to prevent drill bit overheating and sink damage. Small localized flaking or chipping may occur.
- When 1/2" hole is drilled through completely, install RO faucet with provided mounting hardware. For more details, see mounting instructions enclosed with hardware. See Fig. 3. Connect Tap Master™ to RO faucet using Speedfit® faucet adapter as outlined later.

### Drilling hole for RO faucet – stainless steel sinks

See Steps 3–5 above.

### Installing The Tap Master™ Reverse Osmosis System

**1. Install EZ adapter on cold water line** - Always wear protective eyewear while under sink. Locate the cold angle-stop (the main water lines under the sink – one hot water, one cold water), and turn clock-wise to shut off the water. See Fig. 4. Locate 3/8" fitting, typically found on the line out of the angle-stop (see Fig.7) or where the existing line connects to the kitchen faucet. See fig. 6. Disconnect the 3/8" fitting on either the angle-stop or the kitchen faucet. Use Teflon tape on the EZ adapter and the angle-stop male threads, and make sure o-rings are properly seated. Fit the EZ adapter and tighten. Check for water pressure & leaks on ball valve. Turn ON water by rotating angle-stop counter-clockwise. Close ball valve, by turning the handle perpendicular to the ball valve body. (Valve is closed in Fig. 7) Have a bowl or cup nearby to catch water. Dry all parts, check for leaks, and snugness.

### FOR ADDITIONAL INFORMATION ON USING QUICK CONNECT FITTINGS SEE PAGE 8

**2. Mount the Tap Master™** - Identify location for installing mounting clips for the Tap Master™ RO unit. Location should allow room for the reserve tank, for connecting and disconnecting the unit, and enough room for performing general service on the unit. Typical locations are on either right or left side, near the back wall. Use supplied mounting clips and mounting template located inside back cover. Tap Master should be mounted vertically where the drain line out is on the bottom of the Tap Master. See Fig 8 & 12. Insert ORANGE 1/4" tubing into EZ adapter used in step 1.

**2a. Mounting Permeate Pump (optional equipment)** - Mount permeate pump side by side with the tap master using supplied mounting clip and screws. **IMPORTANT: permeate pump must be mounted with indicator arrow pointing up. Indicator arrow is the large, center arrow. See page 10 for mounting orientation diagram.**

**3. Install refrigerator kit (optional)** – Installation may vary according to make, model, and age of your refrigerator. Make sure refrigerator icemaker and water center are turned OFF. Clean area below and around refrigerator thoroughly. Use care when rolling out refrigerator. Flooring may become scratched, gouged or damaged from moving refrigerator. Consult your local licensed contractor or plumber for trimmed-in refrigerators, or refrigerators without rollers. Roll out refrigerator. Unplug refrigerator electric plug. Locate water line in for refrigerator. (Yours may already be connected to a water line from wall. If so use local angle-stop to shut off water. Disconnect female fitting. See Fig. 13.) Plan the route for the water line from the Tap Master™. Drill ¼" holes through the lower cabinetry, high along the back wall just below the drawers. See Fig. 9. Make sure cabinet contents are removed, prior to drilling, and ¼" tubing does not come into contact with drawers, doors, or sharp objects. Smooth the holes free from splinters and sharp edges. [Alternate route for refrigerator line -- run ¼" refrigerator tubing along the baseboard, and enter the kitchen sink cabinet by drilling a ¼" opening in the bottom board of your kitchen sink cabinet, towards the front baseboard.]

Push tubing through the cabinetry holes from the the Tap Master™ RO to refrigerator. Allow 2-4' of extra tubing at the refrigerator, and position it so that it cannot be crushed or otherwise damaged while rolling the refrigerator. Trim extra tubing. Make sure the cut is straight, the edge is completely smooth, and the tube is rounded. A scratched, gouged, damaged, or oblong end will leak. Connect the female metal fitting from the refrigerator kit to the male metal fitting on the refrigerator. See Fig. 14. Make sure all male metal fittings are thoroughly Teflon taped to prevent leaks. Do not roll back refrigerator until the Tap Master™ is fully installed and operational. Make sure shut off valve on the refrigerator connection kit at the Tap Master® is in the OFF position, where the blue handle will be perpendicular to the body.

**4. Install drain saddle clamp and drain line** – Identify a vertical section of drainpipe with enough space to mount the drain saddle clamp. See Fig. 8 & Fig. 10. Drainpipe material can be either metal or plastic. Locate drain hole template supplied with drain saddle clamp, and peel off its backing. Place the template on the previously identified location of drainpipe for the drain saddle clamp. Place ¼" drill bit inside template hole, and drill a hole into the drainpipe. Drill through one side only. DO NOT drill a hole clean through both sides of the drainpipe. This will result in a leak, and require replacement of that piece of drainpipe. Mount the drain saddle clamp on top of the template with the holes aligned. You may use a screwdriver to align the holes. Fit drain saddle clamp back-plate and screws. Alternate tightening screws on each side of the drain saddle clamp to ensure an even, snug fit. See Fig. 10. Locate RED 1/4' drain tubing and push on black plastic nut found in drain saddle bag. Hand tighten black plastic nut onto the drain saddle male fitting until it is snug. Wrap excess tubing around the drainpipe.

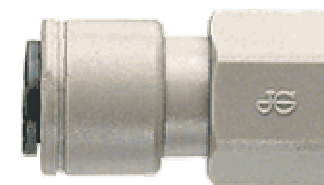
**5. Install water out line to RO faucet** – Screw Speedfit® faucet adapter onto the bottom of the RO faucet threaded shank until it is snug. See Fig. 15. Over tightening may cause damage. Insert BLUE 3/8" tubing into Speedfit® faucet adapter. Push tubing all the way in,

then pull back gently to check fit. Most push-pull fittings take about a ¼" of tubing inserted into them.

**6. Install reserve tank and connect reserve tank tubing** – Locate the reserve tank shut off valve. Hand tighten until it is snug on the stud found on the top of the reserve tank that has been factory taped with white Teflon tape. See Fig. 11. Over tightening may cause damage. Insert BLACK 3/8" tubing into the tank shut off valve. Push tubing all the way in, then pull back gently, to check fit. Most push-pull fittings take about a ½" of tubing inserted into them. Make sure reserve tank shut off valve is in the OFF position, where the blue handle is perpendicular to the body. Shown in the ON position in Fig. 11. DO NOT touch the air nipple near the bottom of the tank found under a blue cap.

**7. Pressurize the Tap Master™ RO** – For Tap Master UV & ULTRA first connect power adapter to UV filter so the filter glows blue. Power supply should make noise when connected to wall outlet and not connected to UV filter, or if connected and the UV filter does not function.

Make sure unit is dry. Water should flow normally from your sink's cold and hot faucet. Double check to make sure all valves are in the OFF position, except for the main angle-stop valve, which should be ON. SLOWLY turn ON the EZ adapter ball valve. You should hear water rushing through the system. Check for leaks at all fittings. Allow 5-15 minutes for system pressure to build. Turn valve on RO faucet to ON position by depressing and holding the lever down, or by flipping the lever up, where it should stay open. A steady trickle of water should be present after 2-20 minutes. Some blackening of the water may present due to loose carbon being flushed out. Close the lever on the RO faucet, and open the reserve tank valve. Allow reserve tank to fill for 2.5 hours, and then drain completely. Repeat. System must be flushed prior to use. Plug in refrigerator electric plug; turn ON refrigerator line shut off valve so that the blue handle is parallel with the white body. Make sure refrigerator icemaker and water center are turned ON. Check for leaks. Check for pressure at the refrigerator's water center if applicable. Dispose of the first two batches of ice after installing the Tap Master™ RO. Use caution when rolling refrigerator back into place. DO NOT crimp or crush water line, as a leak will likely develop. **IMPORTANT – After reserve tank has filled (2.5 hours), Drain entire reserve tank completely, until the flow from the RO faucet falls to a thin steady trickle. Repeat. Reserve tank is full when the hissing or clicking noise stops. Discoloration of water may be present. System must be flushed twice prior to use. Allow another 3 hours for the reserve tank to refill. Enjoy!**



Faucet Adapter



EZ Adapter



Tank Shut-off Valve