



www.pur2o.com

973-794-3175

1 - 888-393-1828

D-h₂O DI Manual **INSTALLATION & INSTRUCTIONS**

The **D-h₂O DI** Water Filtration, Purification and DE-ionization System is unique and based on the newest technologies of filtration and purification using methods of reverse osmosis and DE-ionization.

Once installed, the **D-h₂O DI** system produces the highest quality water for your dental practice, your staff and patients..

D-h₂O DI is connected directly to your existing water line. The water goes through the following stages of filtration:

Stage 1 – The 5-micron **sediment filter** removes suspended matter from tap water by passing it through a cartridge filter preparing the water for the reverse osmosis (RO) membrane.

Stage 2 – **Pre-Carbon filter** contains granular activated carbon to remove chlorine and other chemical contaminants, protecting the RO Membrane.

Stage 3 – The **Reverse Osmosis Membrane (RO)** is a semi-permeable membrane and considered the heart of the system. Here the remaining suspended solids and most of the dissolved impurities are separated from water molecules and flushed down the drain.

Stage 4 – The **De-ionizing Filter** reduces the tds (total dissolved solids) level to ZERO ppm making suitable for use in sensitive equipment such as autoclaves, turbines, milling machines, etc.

Service of the system

The filters in the System Box Assembly - sediment, pre-carbon and de-ionizing filter or 3-Pack must be replaced once a year.

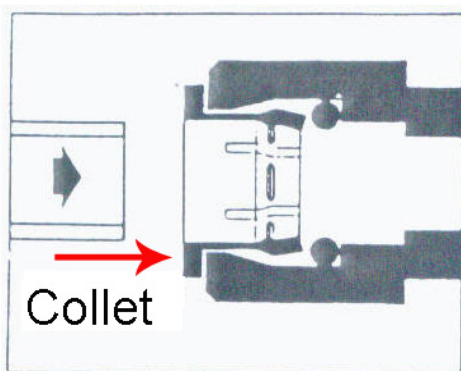
Reverse osmosis membrane is replaced when purified water reads 15% of the Total Dissolved Solids (TDS) at tap water or every 3 years. (Proper membrane production should be at 5%)

Tank's bladder pressure should be at a minimum of 7 psi to a maximum of 9 psi. Make sure that tank's pressure level is checked when it is empty, the same applies when recharging air.

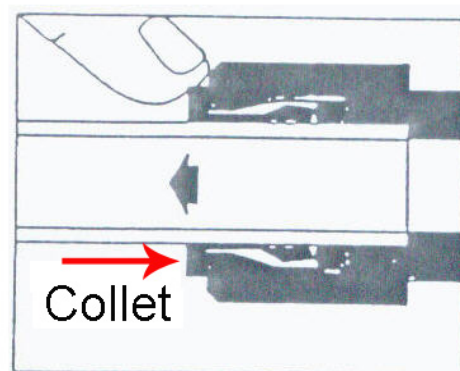
Quick Connect & Secure Fittings

- 1 – Confirm the tubing ends are cut squarely – NOT at an angle and without burrs.
- 2 – Firmly insert the end of the tubing into the Quick Connect Fitting until the tubing bottoms. The tubing will insert into the fitting approximately 5/8 of an inch.
- 3 – To remove the tubing from the Quick Connect Fitting, press firmly and evenly on the protruding collet with your fingers. The gripping mechanism will release and the tubing may be withdrawn.

Simply push in tube to attach



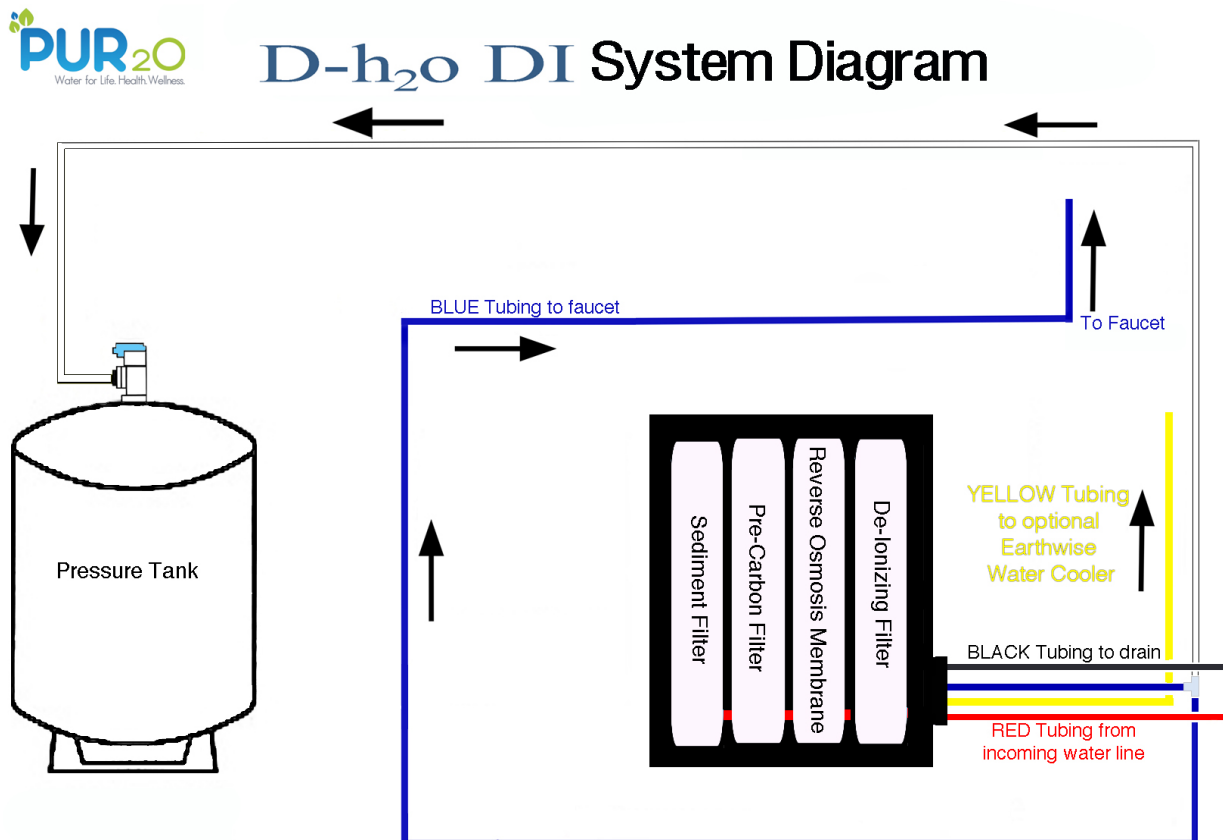
Push in collet to release tube



Tubing Connections

Tubing connections below designates tubing and the label on the Reverse Osmosis Box Assembly associated with the fitting connection point.

- 1 – Connect ¼” tubing from the **DRAIN PORT** on the box unit to the **DRAIN SADDLE VALVE**.
- 2 – From the T-connection coming from the **OUT** port, connect ⅜” tubing to either **WHITE PORT** on the **T-connection** to the shut off valve fitting on the **Pressure TANK**.
- 3 – From the T-connection coming from the **OUT** port, connect ⅜” tubing to either **WHITE PORT** on the **T-connection** to the **FAUCET**.
- 4 – From the **IN** port, connect ¼” tubing to the cold water supply valve connection.



INSTALLATION REQUIREMENTS

The requirements below are necessary for correct installation, proper operation and to validate the warranty:

- A pressure of 40 psi* (276 Kpa**) minimum and 100 psi (689 Kpa) maximum.
- A temperature of 40-100 °F (5-35 °C).
- Maximum total dissolved solids (TDS) 500 ppm. ***
- Installation must comply with existing state and local plumbing codes.
- PH level 3-11.

*pounds per square inch

**Kilo-Pascal

***parts per million

Feed Water Valve

This is the mechanism that connects the system to your cold water line under your sink. The angle/feed valve is included.

Drain Saddle Valve

This connects to your drain plumbing and allows reject water flow to enter the drain system.

Storage Tank

The storage tank holds 2.8 gallons of product water at 40 psi. A diaphragm inside the tank keeps the water under pressure. The tank has an air pre-charge of 5-7 psi from the factory.

Faucet

This sink-top or counter-top faucet dispenses the product water.

NOTE: YOU MAY HEAR A GURGLING NOISE FROM THE FAUCET OR FROM THE SINK. THIS IS NORMAL; IT IS THE WATER GOING TO THE DRAIN. THE NOISE WILL STOP ONCE YOUR STORAGE TANK IS FULL

For installation, you will need

- Drill and drill bits
- Teflon tape
- Straight & Phillips screwdriver
- Adjustable wrench
- Work gloves
- Pliers
- Safety glasses
- Knife or scissors

Additional tools will be required for installation on sinks without a predrilled alternate faucet location.

NOTE: DRILLING OF HOLES MAY BE NEEDED FOR THE FAUCET AND COLD WATER SADDLE VALVE.

CAUTION: DO NOT ATTEMPT TO INSTALL THIS SYSTEM USING DEFECTIVE OR DAMAGED COMPONENTS.

WARNING: IF DRILLING METAL PIPE, TO PROTECT YOURSELF FROM SERIOUS INJURY OR FATAL SHOCK, USE A HAND DRILL OR CORDLESS DRILL TO MAKE THE HOLE. IF YOU USE AN ELECTRIC DRILL, OUTLET MUST BE GROUNDED. ALWAYS USE SAFETY GLASSES OR OTHER EYE PROTECTION WHEN DRILLING TO PREVENT POSSIBLE EYE INJURY FROM FLYING PARTICLES.

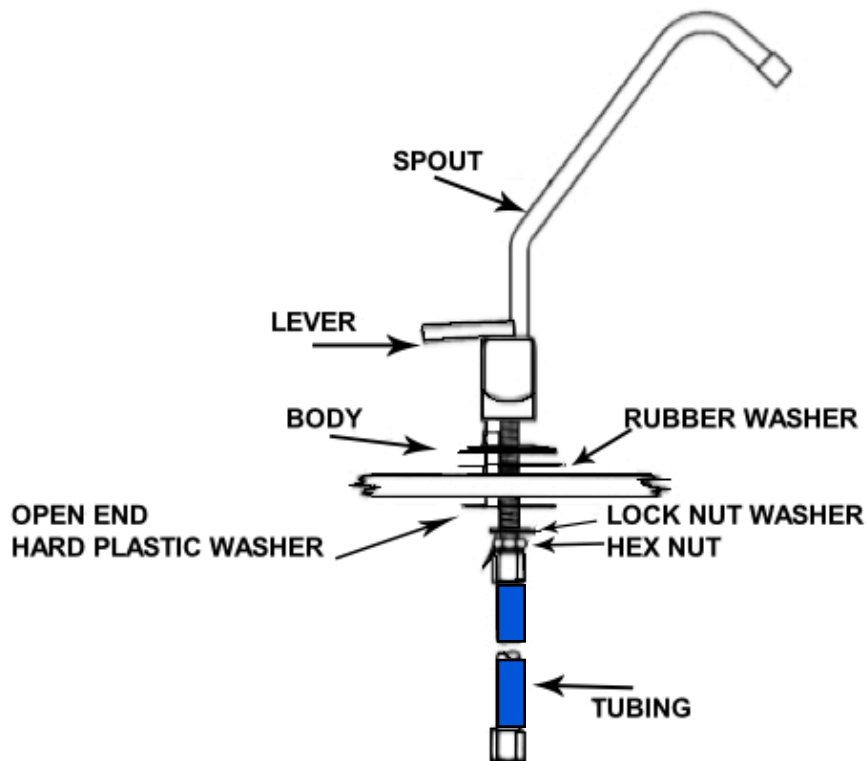
Faucet Installation

Select a location to mount the faucet. It is recommended that the faucet be placed in the extra hole provided on most sinks (many times used for a sprayer or a soap dispenser). If this is not possible, an alternate location will be required such as:

- On the counter top next to the sink, positioned to allow the faucet spout to drain in to the sink. This requires a 2" clearance around the faucet - both above and under the counter top.
- Another option is to drill a new hole into the sink rim itself, if space allows.

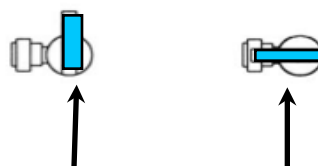
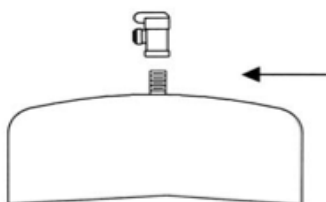
Mounting Faucet

- 1 - Locate Faucet kit.
- 2 - Insert faucet onto your sink/counter top hole. Place OPEN END HARD PLASTIC WASHER, LOCK NUT WASHER and HEX NUT onto the stem of the faucet. Tighten, securing the faucet to the sink/counter top.
- 3 - In the PARTS bag, take GRAY plastic $\frac{3}{8}$ " Faucet Connector and screw it on the stem of the faucet, securing it in place.



Storage Tank Preparation

- 1 - Remove storage tank from its box, discard packing material.
- 2 - From parts bag locate: tank shut-off valve.
- 3 - Using Teflon tape (included), wrap 1/4" male threads on storage tank using clockwise motion.
- 4 - Install tank shut-off valve on storage tank as seen in figure "B". Do this by hand tightening valve clockwise onto male threads of storage tank.
- 5 - Slide tubing into tank shut-off valve.



OFF Position **ON Position**

- 6 - Set aside until needed and proceed to drain connector installation.

Drain Connector Installation

- 1 - From parts bag locate BLACK DRAIN SADDLE VALVE connector assembly and the WHITE FLOW RESTRICTOR.
- 2 - The drain saddle valve should be installed above the trap and on the vertical or horizontal tail piece.
- 3 - The position of the hole on the pipe should be marked and drilled with a 1/4" bit through only one side of the pipe.
- 4 - Align the drain saddle valve over drilled hole and attach it to the drainpipe and tighten the two screws evenly.
- 5 - On the DRAIN 1/4" tubing, connect the FLOW RESTRICTOR by cutting the 1/4" tubing (at about the half way point) with the ARROW pointing to the drain.



NOTE: IF THE UNIT IS INSTALLED IN A PERMANENT HANGING POSITION, A MINIMUM CLEARANCE OF 2" WILL BE REQUIRED TO ALLOW FILTER REPLACEMENT.

Standard Installation

- 1 - Mark pilot holes for mounting unit 16" from base and 7" apart.
- 2 - Drill pilot holes using a 1/8" drill bit, approximately 1/2" deep.
- 3 - Set mounting screws with screwdriver, leaving a 1/4 gap between screw head and mounting surface to allow bracket to slide on easily.

NOTE: ALTERNATE FASTENING METHODS MAY BE REQUIRED FOR PLASTERBOARD PARTICLE BOARD OR SIMILAR MATERIAL INSTALLATION.

Inlet Water Supply

CAUTION: ONLY USE COLD WATER LINE. IF YOU CANNOT TELL WHICH LINE IS THE COLD, TURN ON WARM WATER AND FEEL FOR WARMTH.



- 1 - Locate the cold water line and shut-off valve for faucet. Shut off water supply. Turn cold water on at sink to release pressure.
- 2 - From parts bag, locate: $\frac{3}{8}$ " x $\frac{1}{4}$ " x $\frac{3}{8}$ " ANGLE SUPPLY VALVE.
- 3 - Disconnect $\frac{3}{8}$ " tubing from existing cold water shut-off. Insert ANGLE VALVE on the male thread of the existing cold water supply valve. Now, fasten the loose $\frac{3}{8}$ " tubing to the TOP of the ANGLE VALVE.
- 4 - Connect $\frac{1}{4}$ " tubing to the port in the ANGLE VALVE.
- 5 - Turn OFF BLUE VALVE.
- 6 - TURN ON cold water supply, making sure there are no leaks.

NOTE: THE ABOVE INSTALLATION STEPS ARE FOR COPPER AND PLASTIC PLUMBING INSTALLATION ONLY. TO INSTALL IN IRON PIPE, YOU WILL NEED TO DRILL A HOLE FOR THE PIERCING POINT.

System Start-Up

- 1 - Turn on cold water supply.
- 2 - Make sure the tank ball valve is in the **OFF** position.
- 3 - Turn ON dedicated faucet, wait until the water flows to a steady trickle.
- 4 - Turn off the faucet - this will allow the system to PRESSURIZE. At this time, check the system for leaks.
- 5 - Turn the tank ball valve to the **ON** position.
- 6 - It will now take several hours (2-3) for the storage tank to completely fill, depending on the local water pressure.
- 7 - After the tank is filled, turn on the dedicated faucet and allow the pressure tank to completely drain. This will take about 5 minutes.
- 8 - Turn OFF the dedicated faucet.
- 9 - REPEAT Steps 7 & 8.
- 10 - Wait for the pressure tank to fill again.
You are now ready to use the water.
- 7 - Check for leaks for the first several days and periodically thereafter.
- 8 - You may notice that the water may be milky colored during the first week. This results from air bubbles in the water. It is normal and safe.

Troubleshooting

NOTE: TURN OFF THE SYSTEM BEFORE SERVICING.

PROBLEM	CAUSE	SOLUTIONS
Milky colored water	Air in system	Air in system is a normal occurrence with initial start-up of the RO system. This milky look will disappear during normal use within 1 to 2 weeks.
Noise from faucet	Location of drain saddle Restriction in drain line	Relocate the drain to above water trap. Blockage sometime caused by debris from garbage disposal or dishwasher.
Small amount of water in storage tank	System just starting up. Air pressure in storage tank is low.	Normally it takes 2-3 hours to fill the tank. Low water pressure and/or temperatures can reduce production rate. Add pressure to storage tank. The pressure should be 5-7 psi when the tank is empty.
Slow production	Low water pressure. Crimps in tubing. Clogged pre-filters. Fouled membrane.	Add a booster pump. Make sure tubing is straight. Replace pre-filters. 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	Tubing ends are not cut squarely/ may have burrs. Fittings are not tightened. Twisted O-Ring. Misalignment of hole in drain saddle.	Cut tubing ends squarely – NOT at an angle and without burrs. Tighten fittings as necessary. Replace O-Ring. Realign drain saddle.

