

## **About Reverse Osmosis Systems**

**Q. How does reverse osmosis ("RO") work?**

**A.** RO works by passing water through a semi-permeable membrane that separates the pure water into one stream and the salt water into another stream. The process is called "reverse osmosis" because it requires pressure to force pure water across a membrane, leaving the impurities behind.

**Q. Why do they call it "reverse osmosis"?**

**A.** In regular "osmosis," the process utilized by plants, water flows from a lower concentration of salts to higher concentrations. In "reverse osmosis," the application of pressure greater than the osmotic pressure reverses the water flows from higher concentrations to much lower concentrations, producing pure water.

**Q. Is this the best type of drinking water filter for my water?**

**A.** This depends on the quality of the source water. Generally, if the water to be filtered is municipally-treated city water low in minerals, then less expensive [carbon block filtration systems](#) would be the best type. If the water is very high in minerals, then a reverse osmosis system or distiller that removes minerals, salts and chemicals may be desired. In our experience, folks generally prefer RO, since it provides purified, "bottled-quality" water, instead of just merely removing [chlorine](#) tastes like many filters.

**Q. What does GPD & IGPD stands for?**

**A.** These stands for US Gallons Per Day & imperial Gallons Per Day. Reverse osmosis systems are sized in the amount of gallons they will produce in one day, or a 24 hour period. A 50 GPD system would produce around 2 gallons per hour.

**Q. Isn't 50 gallons per day a lot of water? Our family only uses three to five gallons a day.**

**A.** Since the pure water is stored in a small holding tank under the sink typically a three gallon tank, one would only have three gallons available at a given time.. Even though one may not plan on using 50 gallons of water a day for instance, a 50 GPD system may be desired, since it will fill the little pure water holding tank up quickly, if it were to be used up.

**Q. Will RO's remove minerals or help cut down on scale buildup in coffee pots, etc.?**

**A.** Yes! Most water contains "total dissolved solids" (TDS) , which is roughly the total inorganic mineral content of the water, and these are removed. The reverse osmosis membrane separates these dissolved solids, or salts and flushes them down the drain.

**Q. Will RO systems reduce lead?**

**A.** Yes.

**Q. Is RO water like distilled water?**

**A.** Distilled water is almost with zero TDS, and Zero TDS water is not drinking, usually used in pharmaceutical and process industry. Distilled water contains practically no minerals or dissolved solids, whereas RO water does contain trace amount of minerals and salts. Most people report RO as tasting better than distilled water, which can taste flat. Distillers use electricity, whereas RO's work on line pressure from the household plumbing (except for commercial and industrial RO systems, which use pumps) and require no electricity.

**Q. How many of the minerals are removed by RO?**

**A.** In most cases, 95% of the minerals, salts and other inorganic dissolved solids, such as metals, fluoride, sodium, and calcium is removed by RO systems.

**Q. Don't we need these minerals in our drinking water?**

**A.** According to many experts and studies, only a small percentage of the minerals in water is absorbed by the body. A far better source of minerals is found in foods such as green leafy vegetables, milk, soy products and fish etc.

**Q. How does RO water compare with bottled waters?**

**A.** This depends on the bottled water. Many bottled waters use reverse osmosis to purify municipal tap water. Some add back in minerals after the purification process. Some bottled waters use natural spring waters which can vary widely in the mineral content based on the source water.

**Q. I would like to add minerals back in to the water after the RO process, is this possible?**

**A.** Yes. You can add a final stage filter contained crushed marble (pure calcium carbonate).

**Q. Is bacteria a problem with under sink reverse osmosis systems?**

**A.** Yes and no. We have tested many of our systems for total bacteria counts over the years and have not found higher levels after the systems unless the systems sat for several days in between uses. However, in some cases, particularly if the source water is high in bacteria and/or low in chlorine residual, bacteria can grow. It is always wise to run the water from any drinking water fixture, whether the kitchen tap, or the drinking water filter tap, for a few moments to avoid getting the water that has sat in the fixture or filter. We also have Ultraviolet Sterilizer Systems that disinfect water after it leaves the filter system, insuring water low in bacteria.

**Q. How do I know what is in my drinking water?**

**A.** If you are on city water, your local water must meet very strict Federal and State standards for purity. However, many areas use ground water (well water) high in minerals and salts. This can affect taste. All municipally treated water is chlorinated, and this can also affect taste and create odors in the water. If you are on a private well or spring, you should have your water tested, and you also may want to contact our technical staff for help on selecting the best RO for your water chemistry.