

REVERSE OSMOSIS DRINKING WATER SYSTEMS

A Reverse Osmosis (R.O.) Drinking Water system uses a combination of filtration technologies to reduce unwanted contaminants in a water supply. The following steps combine to give you the best drinking water:

MECHANICAL FILTRATION – The sediment pre-filter will remove the larger particles such as silt, rust and scale. Its 5 micron (equal to 0.0002 inch) nominal rating helps to give maximum life to the R.O. Membrane and carbon filter.

ACTIVATED CARBON PRE-FILTER – The activated carbon in a pre-filter will remove any chlorine that may be present in the feed water. This pre-treatment is necessary for membrane protection against chlorinated water. A 5-stage R.O. System uses 2 activated carbon pre-filters, extending the life of your filters if you have high amounts of chlorine in your water. Our 4-stage R.O. System will accomplish the same purpose because we use a custom KDF/activated carbon cartridge that will remove chloramines.

REVERSE OSMOSIS MEMBRANE – The R.O. Membrane is the heart of the filtration system. It is designed to reduce the dissolved mineral content of the water. Minerals picked up in the environment by the water are measured as Total Dissolved Solids (T.D.S.). In the Reverse Osmosis process, dissolved minerals are separated from the incoming water (Feed Water) to produce the product water (the Permeate). The excess minerals are rinsed to drain (the Reject Water). The spiral wound construction of the R.O. Membrane provides maximum surface area for water production and is less susceptible to fouling by particulate matter, turbidity and colloidal materials.

ACTIVATED CARBON POST-FILTER – The Activated Carbon Post Filter cartridge contains carbon particles with a vast network of pores. The tremendous surface area of these pores (typically 800-1200 square meters per gram of carbon) gives the carbon very good adsorptive sites for chlorine as well as other substances that contribute to tastes and odors. The product water from the membrane as well as the holding tank passes through the Activated Carbon Post filter on the way to the Dispensing Faucet. The Activated Carbon Post Filter reduces tastes and odors that may pass through the system. It adds a final "polish" to the water.

REMINERALIZATION CARTRIDGE – In addition to the basic 4 or 5-stage R.O. System, Texas Drinking Water Systems adds a proprietary alkalinity cartridge. Water passes through this cartridge prior to entering the storage tank, producing output water with a pH level of approximately 7.5-8.5, as well as restoring trace minerals to your drinking water.

PRESSURE REGULATOR VALVE – The Pressure Regulator Valve limits incoming water pressure to 70 PSI.

LEAK STOP VALVE – The Leak Stop Valve will shut off water flow to the system if it gets wet.

AUTOMATIC SHUT-OFF VALVE – The A.S.O. Valve senses when the product water tank is full and closes the feed water supply to prevent excess reject water from going to drain when the unit is not producing water.

WARRANTY – Texas Drinking Water Systems will repair or replace any defective system part of filter for a period of one (1) year from the date of installation. This warranty only applies to normal "in-home" use and service conditions. TDWS is not responsible for any damage resulting from manufacturer's defects in workmanship and material or both. All warranty damage claims need to be submitted to the manufacturer (contact information will be supplied by TDWS upon request).

Recommended Filter Change Schedule

1 – Sediment Pre-filter 5 Micron	12 Months
2 – Granulated Activated Carbon Block (chlorine/chloramines) removal	12 Months
3 – Remineralization Cartridge	12 months
4 – Carbon Post-Filter	24 Months
5 – Reverse Osmosis Membrane	36 Months

