



### Did you know . . .

*The process of osmosis through semipermeable membranes (reverse osmosis) was first observed in 1748 by Jean-Antoine Nollet, a French clergyman and physicist. It was not used outside a laboratory until 1949 when it was tested in seawater desalination research.*

## What is Reverse Osmosis

Reverse osmosis (RO) refers to the process of reducing contaminants in water by reversing the natural flow of water. Reverse osmosis was developed as a water treatment method more than 45 years ago. The process first arose as a technique of getting the salt out of seawater. Once the method's capabilities of getting other contaminants out of drinking water were recognized, reverse



osmosis systems began to be commercially produced for home water treatment purposes. These RO systems were installed in homes as early as the 1970s.

### How Does It Work?

Reverse osmosis uses a semi-permeable filter membrane. It allows water to pass through, but not certain contaminants. Reverse osmosis uses water pressure to push water molecules through the membrane, leaving the contaminants on the membrane.

### What Contaminants Does RO Reduce?

Reverse osmosis treatment systems can reduce a wide range of contaminants or impurities including

aluminum, asbestos, arsenic, barium, cadmium, chloride, chromium, copper, fluoride, cysts, hardness, iron, lead, manganese, nitrates, particles, radium, selenium, sulfates, total dissolved solids and uranium, as well as reduce water turbidity. Many RO systems also reduce chlorine and volatile organic compounds; be sure to verify the specific contaminants a particular system removes from the [NSF International certified listing of RO systems.](#)

### Why Choose NSF International Certified RO Systems

NSF International certified RO systems have been tested and verified to rigorous standards. NSF/ANSI 58 covers material safety as well as performance of the reverse osmosis system. Using the listing above, you can customize the search with specific contaminants that you are concerned about in your drinking water to find the RO system best for your drinking water.

### For More Information

NSF International's Consumer Information Specialist is available to answer any questions regarding [selecting a water filter](#), water treatment filters and water contaminants at +1.800.673.8010 or [info@nsf.org](mailto:info@nsf.org).