

Safe Well Water RI

Trusted, expert information

Tip Sheet 24



“Tip sheets helped us learn about our well water.”

Get Tip Sheets at www.rivelltesting.org:

- 14 Tip Sheets about harmful substances
- 10 Tip Sheets about treatment choices
- 3 Tip Sheets about other topics of concern

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Look for the NSF seal on water treatment devices.

NSF International is a non-profit group that sets performance standards for water treatment devices. Learn about NSF here: www.nsf.org

Reverse Osmosis Water Treatment Systems

Test and talk before you treat!

Use a State-certified testing lab. Find a list of certified labs here: www.health.ri.gov/find/labs/privatewelltesting.

Call and talk with a State water quality expert. We can review your water test results with you and suggest ways to treat problems.

- » University of Rhode Island Water Quality Program
Direct line to water expert: 401-874-5398
- » Rhode Island Department of Health
Ask for the Private Well Program: 401-222-5960

If you decide to buy a treatment system, work with a water treatment professional. They can help design a system to fit your needs. Before you buy a system, get a least 3 price quotes. Learn the questions to ask. See Tip Sheet 16.

CAUTION: Be aware that sometimes more than one system is needed to treat water. Consider whether using an alternative water supply such as putting in a new well, using public water if available, or using bottled water may be a better long-run solution.

When would I need a reverse osmosis treatment system?

Unwanted substances that can be removed by reverse osmosis:

- | | |
|------------|-----------------|
| ▶ Aluminum | ▶ Manganese |
| ▶ Chloride | ▶ Nitrate |
| ▶ Chromium | ▶ Potassium |
| ▶ Fluoride | ▶ Salt (sodium) |
| ▶ Iron | ▶ Silica |
| ▶ Lead | ▶ Sulfate |

Reverse osmosis treatment can also remove some:

- ▶ Detergents
- ▶ Taste, color and odor-producing chemicals
- ▶ Pesticides
- ▶ Other pollutants



How reverse osmosis systems work

Reverse osmosis water treatment for households is a point-of-use system. This means it treats just the water from one tap used for cooking and drinking. Whole-house treatment is not practical because these systems waste about 75% of the water run through the system. It takes about 4 gallons of raw water to produce 1 gallon of treated water.

A reverse osmosis unit filters water through a special membrane. It then collects filtered water in a storage tank which is attached to a separate faucet. The pollutants which are washed out enter the waste stream, along with “reject water” (untreated water).

Filtration is often required before water passes through the reverse osmosis membrane:

- A pre-filter (microfilter) to remove sand, silt, and sediment
- An activated carbon filter to remove chlorine and other chemicals

Issues to think about before buying a reverse osmosis treatment system

CAUTION: Several kinds of reverse osmosis membranes are sold. Be sure you know what you are treating before buying a treatment unit. Check the unit to make sure it removes the substance(s) of concern.

Ask before buying a system:

- ▶ Costs to install and maintain, including costs for pre-treatment filters?
- ▶ How much treated water will the unit produce per day? How much water does the unit reject?
- ▶ Maintenance? How often? Can homeowner replace membrane and filters or does a factory-certified person need to do it?
- ▶ Any special requirements to install that may add costs, such as changes to household plumbing?

If I have a reverse osmosis system, how do I maintain it?

All water treatment systems must be maintained according to the instructions that come with the unit.

- **Keep all paperwork and instructions** that come with the unit.
- **Keep records and receipts** of equipment maintenance and repairs.
- **Be aware of membrane and filter costs.** When the reverse osmosis membrane becomes clogged or torn, it must be replaced. When pre-treatment is required, filters must be purchased and replaced as required by the instructions.

What else do I need to know about a reverse osmosis system?

- Make sure it's installed and operated according to instructions.
- Make sure it works. After installing the system, have your water tested at a State-certified lab.