

# water filter systems




Although water quality problems may be ameliorated by improving septic function and well construction and management on your property, some contaminants may be coming from sources that are beyond your ability to control or ameliorate. In these cases it may be necessary to filter your water and/or buy drinking water from a reliable source.

## When considering a water filter system for your residence you need to determine:

- ◆ what undesirable elements are present in your water
- ◆ what type of water filter(s) will remove these elements

## How to determine your water problems:

- ◆ conduct your own observations and lab tests
- ◆ consider former land-uses on your property and those near-by for clues on what to test for
- ◆ access free tests for e. coli and total coliforms at the nearest public health unit
- ◆ use the Baseline Water Well Test (see brochure) or a local laboratory to test for contaminants such as VOCs, pesticides, oils, and other fuels

for more  
**information**  
about  
**selecting**  
the correct  
**water filter**  
see: **'How Well  
is Your  
Well.'** 

Type of water filter	Should remove	Should meet standard
<b>Carbon and granular activated charcoal filters</b> (Pitcher style, tap-mounted, or under-sink.)	Chlorine and organic matter. <i>Note:</i> If water is contaminated with bacteria, the bacteria can be trapped in the filter and multiply.	ANSI/NSF 42 for taste, odour, colour
<b>Carbon and granular activated charcoal filters</b> (Large scale systems.) Often used as pre-treatment for reverse osmosis and water softening systems.	Volatile organic chemicals such as benzene, trichloroethylene, carbon tetrachloride, toluene, xylene.	ANSI/NSF 53 for carbon and granular activated charcoal filters that remove contaminants that can affect human health.
<b>Cation exchange water softeners</b>	Calcium and magnesium "hardness"	ANSI/NSF 44 softeners using sodium or potassium chloride to remove calcium and magnesium ions from water

(over)



Type of water filter	Should remove	Should meet standard
<b>Reverse osmosis</b> Often requires pretreatment by filtration or softening. Much water is wasted.	Minerals	ANSI/NSF 58. Most systems incorporate pre- and post-filters along with the membrane itself; these additional filters may be certified separately under the requirements of Standards 42 and/or 53 as applicable.
<b>Ultraviolet light</b>	Viruses, bacteria (incl. E. coli 0157:H7), and intestinal protozoa such as Cryptosporidium and Giardia.	ANSI/NSF 55. Class A System disinfects microbiologically contaminated water that meets all other public health standards. Not for water contaminated with raw sewage. Class B System is a bactericidal treatment for public drinking water for non-pathogenic or nuisance organisms only.
<b>Distillation</b> Heats water to boiling, collects water vapour and condenses vapour to water leaving behind minerals and heavy metals.	Bacteria, viruses, intestinal protozoa, minerals, heavy metals. <i>Note: Contaminants that convert readily into gases, such as volatile organic chemicals, may be carried over with the water vapour and remain in distilled water.</i>	ANSI/NSF 62.



### Certification

Health Canada recommends that filters should be certified. Filters that provide aesthetic (taste, odour, colour) improvements only may not be certified. The following are authorized by the Standards Council of Canada to certify water filtering devices:  
 CSA International (ANSI standards 42 and 53 only): [www.csa-international.org](http://www.csa-international.org)  
 NSF International (All six ANSI/NSF standards): [www.nsf.org](http://www.nsf.org)  
 Underwriters Laboratories (All six ANSI/NSF standards): [www.ul.com](http://www.ul.com)

### Further information

Licensed Drinking Water Testing Laboratories in Ontario, [www.ene.gov.on.ca/envision/water/sdwa/licensedlabs.htm](http://www.ene.gov.on.ca/envision/water/sdwa/licensedlabs.htm)  
 Health Canada, [www.hc-sc.gc.ca/ewh-semt/water-eau/index\\_e.html](http://www.hc-sc.gc.ca/ewh-semt/water-eau/index_e.html)  
 NSF - National Sanitation Foundation International – Lists the products it has certified according to standards: [www.nsf.org](http://www.nsf.org)  
 Private site that evaluates contaminants, health effects of contaminants, particularly on children, and water filters: [www.cyber-nook.com/water/index.html](http://www.cyber-nook.com/water/index.html)  
 U.S. Water Quality Association – Interactive, water contaminants problem solver: [www.wqa.org](http://www.wqa.org)

Compiled with information from and acknowledgement to: CBC Marketplace, Health Canada, National Sanitation Foundation International, Trojan Technologies Inc.