

Iron Removal System #2 7-10 ppm

How It All Works

IRON REMOVAL

The water in our region is typically low in pH, low in hardness and will show iron from 0.3ppm to as much as 60ppm. Manganese is usually present in low levels but not often at a level that would require treatment.

The selection of an iron removal system is dependent on several factors including the total iron present in the raw water.

Most iron removal system used in this area require oxidation of the iron and then filtration of the oxidized iron to remove from the water. We have had great success with several systems including Katalox and Hydrogen Peroxide (sometimes both together)

When the level of iron is low the use of a softener and the ion exchange process, rather than oxidation, can also work. This can be a good solution when hardness is also present.

Ozone can also be used as an oxidization treatment for iron and has some advantages when there are other issues in the water like lead and arsenic. However, it tends to be more expensive and must be carefully installed.

Hydrogen Peroxide

Almost all methods for removing iron use oxidation of the iron to make it come out of the water and then filtration to remove the oxidized product. The higher the level of iron the a more efficient an oxidizing agent is required. Hydrogen Peroxide is a great oxidizer. In our system we use a chemical mixing tank, that we build ourselves using a patented mixing rod that we have permission to use from its inventor. This mixing tank allows us to get a high level of contact between the water and the hydrogen peroxide so maximum oxidation occurs. We then filter the water through a Katalox filter to capture all the oxidized iron before it goes into the household water system.

Nextsand Filter

next Sand offers a single bed media made from high purity Clinoptilolite, which delivers superior performance over conventional filter sands or multimedia, and at a lower cost. The material is mined in Western USA and then highly processed and graded; the resulting product is hard and stable with a high surface area and micro-porous character in addition to surface micro-crystals making it an ideal filter media. next Sand has high filtration performance at <5 micron compared to 12 to 15 micron for multi media. It also has a higher flow capacity, typically three to four times that of multimedia. This higher flow rate means a greater performance can be achieved from existing vessels when upgraded with next Sand, or for new applications smaller filter vessels would be required to achieve the same results. Filtration through the entire media bed depth provides more than twice the capacity of multimedia filtration. It has a higher dirt holding capacity so requires less frequent backwashing, leading to reduced downtime. Lighter weight and lower volume requirement means lower capital and shipping costs than multimedia and the product also lasts longer. The media isn't consumed in the filtration process; a simple periodic backwash will keep the media clean and operating efficiently for five years or more.

Activated Carbon Filter

Carbon filtering is a method of filtering that uses a bed of activated carbon to remove contaminants and impurities, using chemical adsorption. It is effective at removing any excess Hydrogen Peroxide that if left after the oxidation process has been completed.

Each particle/granule of carbon provides a large surface area/pore structure, allowing contaminants the maximum possible exposure to the active sites within the filter media. One pound (454 g) of activated carbon contains a surface area of approximately 100 acres (40 Hectares).

Activated carbon works via a process called adsorption, whereby pollutant molecules in the fluid to be treated are trapped inside the pore structure of the carbon substrate. Carbon filtering is commonly used for water purification, in air purifiers and industrial gas processing.

Active charcoal carbon filters are most effective at removing chlorine, sediment, volatile organic compounds (VOCs), taste and odor from water.

They are not effective at removing minerals, salts, and dissolved inorganic compounds. Typical particle sizes that can be removed by carbon filters range from 0.5 to 50 micrometres. The particle size will be used as part of the filter description.



Muskoka Clean Water

Making Your Lake Water Great Water

Stenner Pump, Controller and Meter

A peristaltic pump is a self-priming pump that achieves pumping action by moving a system of rollers against a flexible tube. The pumped fluids (e.g., chemical feeds) are never exposed to the air or to the mechanical moving parts. The roller design prevents siphoning by providing a constant seal on the pumping tube.

We use Stenner pumps as we find them economical and they rarely have issues of any kind. The parts are easy to source if repairs are ever required.



About Muskoka Clean Water

- Well trained courteous staff.
- Store front location to serve all your water treatment needs.
- We use NSF certified and CSA certified products when and where applicable in our filters and installations.
- We service all types of water treatment systems even if we did not sell it.
- Members of the Canadian Water Quality Association and the Water Quality Association.

SERVICES AVAILABLE

Technical Support

Installation and Setup

Maintenance



77 Centre St. North
Huntsville, ON P1H 1T4
705-349-2837
www.muskokacleanwater.com
info@muskokacleanwater.com