

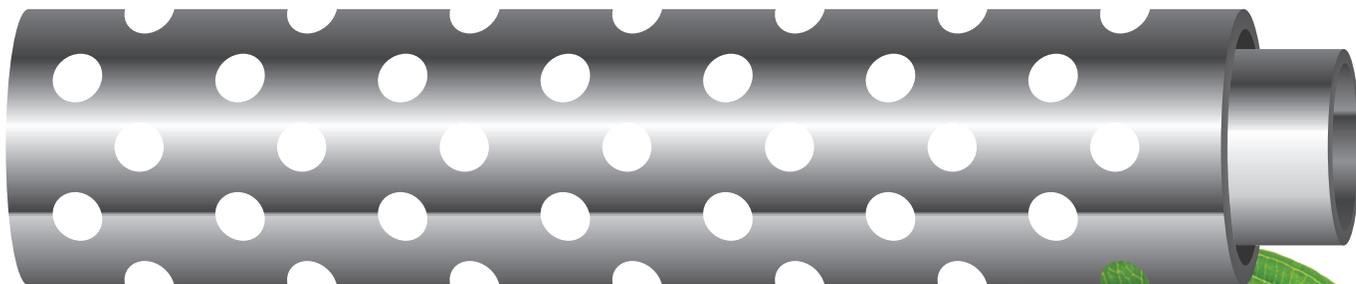


ESILL[®]

WATER TREATMENT SYSTEM

The ESIL Water Technology uses electricity for the purification of water. The equipment used in the ESIL water technology consists of multiple series of electrolytic cells containing anodes and cathodes. The anodes and cathodes are positioned in close proximity to each other allowing for a very high density of electricity across the gap. Low-voltage direct current (DC) is applied as water continuously flow through the labyrinth of holes in the cathodes.

ESIL[®]



THE ELECTROLYTIC
CELL (ESIL)

ESIL is constructed in a **CONTINUOUS FLOW MODE** and is a linear, scale-up procedure. The outer electrode (cathode) is perforated to allow ample cross-flow. The system can treat anywhere from 1 IGPM to 50,000 IGPM (Imperial gallons per minute).

ELECTROLYSIS

Electrolysis has been used to treat water since it was invented in then UK in the late 1880s. In the early 1900s many factories in the US still used electrolysis. It has been considered the most effective method of purifying water since it was invented. There were, however, several obstacles to the widespread use of electrolysis such as breakdown of the metal plates (used to conduct the electricity), flow of water (getting enough through the cathode to be efficient) and control of the current of electricity (ensuring that all water is treated to 100%).

Upon the discovery of Chlorine, electrolysis was largely abandoned as a far less efficient method. In recent decades it has become apparent that Chlorine is only cleaning the water of one type of impurity (organic) while producing the harmful effects of THMs (reference chart on final page).

The inventor behind ESIL has designed a new, patented electrolytic cell that eliminates all the obstacles from its widespread use.

Where previously breakdown of the metals was a major deterrent in the efficiency of electrolysis, it is now non-existent. The first plant to use the patented ESIL cell has been in operation for more than 9 years with no measurable loss in the density of the cell.

The flow of water and control of the current was a challenge right up until the inventor of ESIL figured out the ratio of holes that could be put into the cathode to improve water flow without disrupting the current.

Our basic unit can now produce 3,000 gallons of pristine water per day.



WHAT IS REMOVED?

Organic Matter

ESIL treatment eliminates all negative organic matter including E.Coli, Giardia, and Cryptosporidium **in one step**.

Inorganics

When treated with ESIL technology, inorganics are ion-bonded, meaning the positive ion in the electricity bonds to the negative matter and forms a solid mass known as a particulate. Once the impurities have become particulate in form, they are large enough to remove by standard filtration.

THE GOOD THAT REMAINS

Beneficial Minerals

When treated with ESIL, water retains naturally occurring soluble minerals (such as Calcium, Potassium, Magnesium, Sodium, Zinc and Iron) while removing the harmful toxins.

There is no other method of water treatment that can achieve this balance.

ENVIRONMENTAL EFFECTS OF ESIL



During the ESIL water treatment process there are NO harmful side effects or by-products. NO other water treatment can claim such a small carbon footprint.

Drever, Shane. 2013. Photograph. www.hothousedesign.ca

A plant that produces 36,000 gallons per day, using ESIL, averages only 1.5 cents per hour in electricity cost.

Off the grid, ESIL could treat up to 3,000 gallons of water per day powered by 2 Ni-Cad HD batteries, which can be charged with a 4'x8' solar panel.

ESIL is a simple, linear process with no moving parts. This means there are no mechanical replacements going into the landfill. Used cartridges are inert and thus not harmful to the environment, compared to RO cartridges that contain harmful contaminants that will then leach back into the ground.

mineva

Spring (UV Treated)

Tap

Reverse Osmosis

Maintenance of beneficial minerals	Minerals Remain.	Minerals Remain.	Minerals Remain.	Water is left stripped of minerals.
Removal of Bacteria (E.Coli, Fecal matter etc)	Bacteria is eliminated.	Bacteria reproduction is prevented	Chlorine is added to kill all bacteria. Now you are drinking chlorine!	Cannot guarantee 100% elimination of bacteria.
Removal of Heavy Metals (arsenic, lead, cyanide etc)	Heavy Metals removed.	Not removed.	Not removed.	Removed more or less according to size of filter membranes.
Other Factors	Used Cartridges are not harmful to the environment. The toxins are ion-bonded, rendering them inert.	Removes whole ground sources, moving ecosystems.	THMs (carcinogenic by-product of chlorination) are now present.	RO wastes 25%-40% additional water flushing the system. So it increases your water bill and your electricity bill.
	ESIL system costs fractions of a penny in electricity to run and has no wasted water costs.	Susceptible to infiltration by pollutants, fertilizers, manure seepage and a myriad of other ground contaminants.	Still contains pharmaceuticals that are becoming such a problem in water sources.	Filters weaken over time, allowing more toxins through. Filters need to be monitored and changed frequently at great expense and effort.

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