

ClearValue's Merman™ - POE Device

The earth is 2/3 water; our bodies are 2/3 water. Pure drinking water is critical to human health and important for a long healthy life.

There are many contaminants in tap water which are harmful to human health. Those include: micro-organisms, toxins, carcinogens, teratogens and neurotoxins. Micro-organisms are present from growth in distribution piping, growth in piping at the customer site and contamination from less than complete purification at the drinking water plant.

Municipalities are only required to produce 0.3 NTU water, that is 0.3 pounds of contaminant per million pounds of water (about 120,000 gallons). That means, one percent of the bacteria and viruses in the raw water make it to the water distribution system. Unless killed by the disinfectant, these bacteria and viruses make it to your tap. To the extent that the disinfectant does not kill bacteria and viruses, biological films grow in distribution piping. And so, the next stomach flu.

Toxins, carcinogens and teratogens are actually created in the drinking water during water purification. Natural organic matter (NOM) enters water from the watershed, measured as total organic content (TOC). Man made toxins may also enter the water and are also measured as TOC. The problem with TOC is that TOC reacts with the disinfectant, a well known reaction, nucleophilic substitution. Chlorine, ammonia, ozone and chlorine dioxide chemically attach to TOC, thereby creating a molecule that is toxic, carcinogenic or teratogenic. From a common sense perspective, disinfectants are used to kill, kill bacteria. So it is no surprise that attachment of a disinfectant to a food source (TOC) creates toxins, carcinogens and teratogens.

Dangerous are neurotoxins. Neurotoxins include all heavy metals; yet are most commonly, lead, arsenic, mercury and aluminum. While most heavy metals arrive with the raw water itself, aluminum is placed in the water during purification. Alum, aluminum sulfate, is often used to remove contaminants from the water. However, Alum, invented by the Egyptians over 3,000 years ago, dissolves in water as soluble aluminum. Soluble aluminum is a known cause of neurological disorders; such as: Alzheimer's and Parkinson's disease; ADD; Dementia; and Depression.

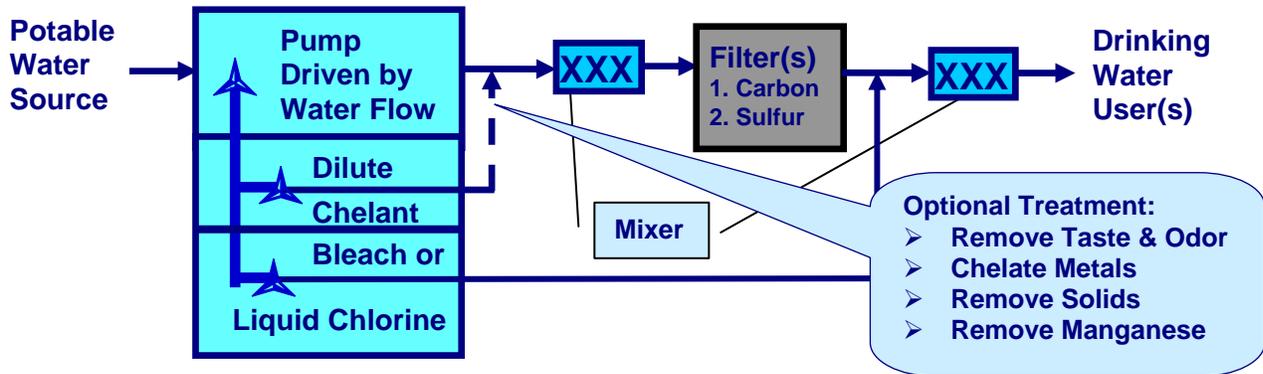
Current systems in the market are based upon either: carbon filtration, reverse osmosis or ion exchange. None of these truly control drinking water purity. Carbon filters leave heavy metals in the water, including aluminum, while removing the disinfectant, thereby creating a potential for bacterial or viral contamination downstream. Ion exchange systems do little to purify the water, yet place sodium in the water during removal of calcium and magnesium. Our bodies do not need sodium, yet our bodies need calcium and magnesium; further, it is the calcium and magnesium which provide the "taste" we all enjoy. Reverse osmosis also removes the disinfectant and all nutrients from the water, thereby creating a water void nutrients and which literally "sucks" nutrients from our bodies, leaving us in our urine.

Given this non-responsible and poor health scenario, it is no wonder that people buy bottled water at a cost 1000 times that of tap. To solve this challenge and meet a significant need, ClearValue invented the Merman™ Potable Water Purification System. Merman™ is a Point of Entry (POE) device which removes from potable water: microbiological contaminants, toxins, carcinogens, teratogens and neurotoxins; all while, controlling hardness deposits and disinfectant concentration.

Merman™ also controls iron and manganese that can stain porcelain fixtures.

HUMAN BODY PARTS	% Water
Bodily Average	68%
BRAIN	75%
LUNGS	86%
KIDNEY	93%
BLOOD	92%
HEART	75%
LIVER	86%
MUSCLES	75%

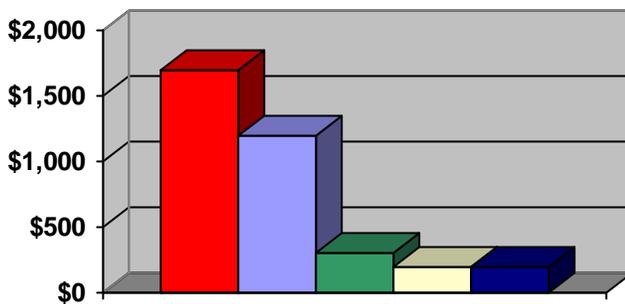
Merman™ – (U.S. Pat. No. 7,299,550)



Merman™ is powered by water pressure, the water line pressure supplied by the municipality.

Merman™ purifies water while leaving beneficial nutrients, calcium and magnesium, in the water. The nutrients are then dispersed with Vitamin E or phosphate, either of which is beneficial to our bodies. Being dispersed, the nutrients cannot deposit in piping, on glassware or on tile. Merman™ removes heavy metals, including aluminum. Heavy metal removal is accomplished in an iron-sulfur compound which attracts and therefore removes heavy metals. Finally, Merman™ places a disinfectant in the water, bleach or a liquid form of chlorine, metered to concentration to control biological contamination in downstream plumbing and fixtures.

Merman Operating Cost Comparison - Family of 4



- Total Current Costs
- Bottled Water
- Extra Cleaning Costs
- Extra Plumbing Costs (Including Hot Water)
- Merman Annual Costs

Being a POE, Merman™ purifies water to an entire home, building or subdivision within a single unit. Smaller, residential units are priced at only \$1 per gallon-day of water flow. A family of four using 500 gallons per day would only need a Merman™ 500 at a cost of \$500. Commercial units are quoted and specially built, depending upon water flow and quality requirements.

Maintenance is semi-annual; wherein, filter(s) and cartridge(s) are replaced.

Residentially, each maintenance is \$100 (excluding labor) for a total annual homeowner operating cost of \$200; which lead to, an operating savings (bottled water costs, reduced cleaning costs and reduced hot water heating costs) of \$500 to \$1500 for a family of four.

Commercially, each Merman™ is built to match customer water needs, both in use and in purity. Merman™ provides savings in equipment, cleaning and maintenance costs; while providing, water that is disinfected after filtration; and therefore, water that is safe for customers, safe from contamination by metals, carcinogens, teratogens and biologicals.

Take care of your health with a Merman™ .
 Improve your finances with a Merman™ .
 Where else can you improve your health and save money at the same time?
 Even the water tastes better!