**Purification Process used in Gravity Based Water Purifier**

Purifying water before drinking has become very important these days as every source of water is contaminated by many impurities. Without using a good water purifier we cannot expect our water to be clean and pure. The gravity-based water purifier is the most economical water purifiers that can be used to have access to pure drinking water. Such purifiers can easily remove dirt, dust particle, chlorine, and harmful microorganisms from the water and make it safe for drinking. You might be planning to buy a gravity water purifier, but before buying it you must know about the water purification process in gravity-based water purifiers. In this article, we will learn about the purification techniques possessed by these water purifiers.

Water Purification process in Gravity Based water Purifier: How it works?

As already discussed in the previous articles that [gravity based water purifier](http://bestufwaterpurifier.com/gravity-based-water-purifier-pros-cons/) works on the principle of gravity and no electricity is used to operate it, therefore, these are also known as the [non-electric water purifier](http://bestufwaterpurifier.com/top-5-non-electric-water-purifier-in-india/). In gravity water, purifier water flows from the top compartment to the lower compartment naturally. In the purification process, the different type of filters that are used are namely sediment, activated carbon filter, and ultrafiltration.

Sediment Filters

Sediment filters are used to remove suspended solids, sediment filter functions like a net that catches all the dust particles and other sediments that flow in the drinking water. As the water passes through the sediment filter all the unwanted dirt particles are trapped in this filter. The filter leaves behind all the sediment so that the water that comes out of it is completely particulate free. These filters usually used in many homes but they have limited functions. It can only remove the sediments from the water but the microorganism and others contaminants are not removed from these filters they are still present in drinking water.

Activated carbon Filters

Activated carbon filters not only remove sediments but also removes chlorine and other [volatile organic compounds](https://en.wikipedia.org/wiki/Volatile_organic_compound) (VOCs) from the drinking water. Any unpleasant taste and odor in drinking water can be easily removed by using activated carbon filters. Activated carbon is made from coal, wood or coconut shell. The carbon is activated by adding positively charged ions that enhance its absorption capacity of contamination. The efficiency of the carbon filter is dependent on the length of time in which contaminants are in contact with the filters. The lower the flow of water through carbon filter the more will be the absorption of the contamination. However, carbon filter can effectively remove the contaminants that bond to carbon, not all the impurities. Since sodium cannot be bonded to carbon so it cannot be removed through carbon filters.

Ultrafiltration

Ultrafiltration is the only purification process that can effectively remove all the particulates and even all the harmful microorganism such as germs, virus bacteria etc. The best advantage of this process is that it doesn’t use any chemicals to purify the water. So you will get the water which is chemical free. The pore size of the UF membrane is so small that no harmful microorganism can pass through it. These filters are very durable and can be easily maintained. The gravity-based UF water purifier from Kent are certified to remove the even cyst. The ultrafiltration purification is considered as the best purification in gravity-based water purifier as it is highly capable of removing all the microorganisms, sediments. Ultrafiltration is even better than UV process as it completely removes all the microorganism.

UF membranes are available in pore sizes ranging from 0.001 to 0.1 μm. Due to the smaller pore size of its membranes, UF water purifiers can remove a more comprehensive range of contaminants. UF is also suited to remove very fine particles that include

* Endotoxins
* Plastics
* Proteins
* Silica
* Silt
* Smog
* Viruses

About UF Membrane

Ultrafiltration Membrane modules are designed in a spiral-wound, and tubular configurations. For high purity water, spiral-wound and capillary membranes are generally used. Depending on the type and concentration filter membrane is used. These membranes are designed considering the flow velocity of water, pressure drop, and power consumption. There are a variety of materials that are used for ultrafiltration membranes. Polysulfone and cellulose acetate are the most common type of membranes. Nowadays, thin-film composite ultrafiltration membranes are being used to filter out the impurities from the supplied water.

The operation and maintenance of Ultrafiltration system are similar to reverse osmosis systems. The membranes should be cleaned when you find the system permeate rate is dropped by 10% or more. You need to check the feed flow as it is critical to the operation of ultrafiltration systems.

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