

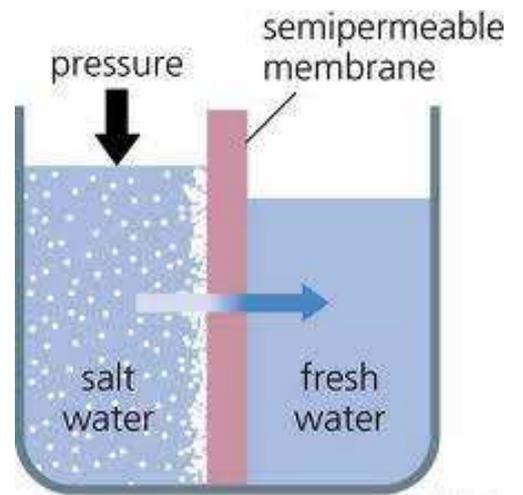


Background information on Reverse Osmosis

Reverse osmosis

Reverse osmosis is a process used to remove a wide range of contaminants to give water a high purity; osmosis is a natural process involving fluid flow across a semi-permeable membrane barrier.

It is the process by which nutrients feed the cells in our bodies and how water gets to the leaves at the top of trees. If you separate a solution of salts from pure water using a basic semi-permeable membrane, like a sausage skin, the pure water passes through the membrane and tries to dilute the salt solution.



If the salt solution is connected to a vertical pipe then the progressively diluted solution will fill the pipe until the 'osmotic pressure' drawing the pure water through the membrane is the same as the head pressure of the diluted solution.

This process can be reversed hence 'reverse osmosis' by applying a higher pressure to the salt solution. Pure water will then pass the other way through the membrane in a process that is easy to visualize as filtration where the filter will only let through the small water molecules and retains almost all the other molecules.

This means that water containing a high level of natural salts can be purified without the need for chemical regenerates, such as acid or caustic.

