



Energy Consumption Reduction in Water Purification Using Nanofiltration Technology

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EuroWater Company uses nanofiltration based water purification technology, which enables it to purify water by consuming small amounts of energy. The company presents products related to this technology in the fields of home and industrial applications.

The Danish [EuroWater](#) Company holds a water purification technology based on nanofiltration process. The company is able to present water purification unit to the customers, or to provide the customers with some parts of the process due to their demands. The nanofiltration unit is able to produce drinking water or water to be used in industries. There are sulfate, chloride, and fluoride ions in this technology and water with low hardness can be produced without adding chemicals.

Nanofiltration is different from reverse osmosis process. Salts dissolved in water are usually removed from water in reverse osmosis process. However, the undesired particles in water can be partially or fully eliminated through nanofiltration method. Unlike reverse osmosis, low pressure is required in nanofiltration process. Therefore, energy consumption is much lower in nanofiltration process. EuroWater Company has designed a wide range of products of this process, which can be delivered to customers depending on their demands and the purity of the final water. Nanofiltration membranes have been used in this technology, which can limit the pass of bivalent ions or larger molecules.

The company was established in 1936 in order to provide services in various industrial sections and subsections. The policy of EuroWater Company is to have activity in all industrial sections in order to provide drinking water and water to be used in industries. A number of 365 people work in the company, half of which are located in the headquarters of the company in [Denmark](#).

Taking into consideration the water challenge all over the world, EuroWater Company tries to present its products to international markets. Therefore, it has 23 offices in 14 countries all

over the world. The main focus of this country is on European market although it is active in Asia too.

[Lenntech](#) Company is one of the rivals of EuroWater in Europe. This company is located in Delft, the [Netherlands](#). Lenntech Company is active in the field of water purification, and it produces nanomembranes for water purification. The company owns a line of water purification based on nanofiltration, which is able to purify underground water and wastewater. Among other applications of this technology, mention can be made of purification of laundry wastewater, water softening, and removal of nitrate from water.

Another company active in this field is [Arya Water](#), which is one of the largest companies active in [India](#) in the field of water purification. This company exports its technology to 55 countries in the world. Arya Water holds nanofiltration technology too. Hollow fibers have been used in nanofiltration membranes produced by this company, which are suitable for environment with high working pressure.

According to statistics on [NPD](#), there are 164 products related to water purification membranes in this database. The [United States](#) has the highest number of products in water and wastewater industry on NPD by having 173 products. [China](#) stands on the second rank with a great difference by having 26 products. Subject analysis shows that reducing energy consumption is one of the most important characteristics among the nanotechnology products in water and wastewater industry.