

NANO_{FX}

Delco Water's Nano_{FX} process utilizes industry leading hollow-fibre crossflow membrane modules. These nanofiltration modules are chlorine tolerant and are ideally suited for the treatment of surface water with excess amounts of dissolved organic carbon. The NanoFx process, scalable to any flow rate, includes all the key process requirements in surface water treatment for DOC and allows for a very high rejection of DOC. NanoFx is also not susceptible to biofouling. NanoFx has proven to be a consistent technology producing reproducible results. It does not depend on chemical dosing or achieving specific water quality parameters to work.

Unique Membrane Characteristics

The Hollow Fiber Nanofiltration (HFN) process achieves the combined functionality of Ultrafiltration, normally utilizing hollow fiber technology, with the functionality of traditional spiral wound Nanofiltration. This allows for a simplified and more efficient treatment process with one system. With modules identical in appearance to UF modules, the HFN process is able to similarly treat for insoluble particles using long thin strands of hollow fibers stacked together. Unlike UF, HFN membranes are made from a modified polyether sulfone (PES) which includes a molecular charge on the membrane fibers' separation layer. This allows the HFN modules to reject ions based on surface charge, thus adding the ability to filter for soluble particles similar to a standard NF membrane. HFN is a novel treatment technology that has proven effective for the removal of insoluble particles such as turbidity, as well as soluble charged parameters such as dissolved organic carbon (DOC).

Multitude of Treatment Process Benefits

- Molecular charge on the membrane's separation layer
- Log removal credits for Cryptosporidium and Giardia
- Single step process for the removal of turbidity, Dissolved Organic Carbon (DOC), and colour without chemical addition
- Less operator involvement using fully automated processes, minimizing operator requirements
- Lower electrical draw
- Significantly reduced chemical costs, as there are no online process chemicals (only chemicals as part of the maintenance modes)

