



**nx**

**filtration**

# Advanced hollow fiber membranes

for pure and affordable water

# Clean water for all

NX Filtration is your membrane partner for treating water and filtering beverages. We produce advanced hollow fiber membrane modules for **nanofiltration**, **ultrafiltration** and **microfiltration** applications.

A circular inset image showing a young child with light brown hair, wearing a white shirt, holding a clear glass filled with water. The child is looking slightly to the side with a gentle smile. The background is a soft, out-of-focus blue.

Our world is increasingly confronted with challenges around water scarcity and water contamination. NX Filtration's membrane technology is capable of selectively removing organics from polluted water, including micropollutants, color, antibiotics, PFAS, bacteria and viruses. This has resulted in new and simple processes for the treatment of water, the reuse of wastewater and the production of potable water. We deliver robust products and innovative solutions enabling our partners to excel in sustainable membrane filtration applications.



## Our membrane portfolio

### Filtration objective

Suspended solids and micro plastics

Bacteria

Viruses

Protein and colloidal silica

Micropollutants color and nano plastics

Selective salts, softening and pharmaceuticals

Cut off

Typical Flux (lmh)

MgSO<sub>4</sub> rejection (%)

Nano dNF		Ultra UF		Micro MF	
dNF40	dNF80	UF010	UF150	MF100	MF500
○	○	○	○	○	○
○	○	○	○	○	○
○	○	○	○		
○	○	○			
○	○				
○					
400Da	800Da	10kDa	150kDa	100nm	500nm
20-40	25-50	50-100	50-100	25-100	25-100
90	80	n/a	n/a	n/a	n/a



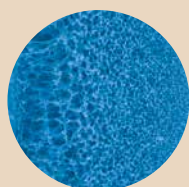
### Nanofiltration

Worldwide unique nanofiltration concept, designed to remove organics from water in one single step: without pre-treatment and without the use of chemicals



### Ultrafiltration

The best choice for the removal of small particles, bacteria and viruses from water. Used for RO pre-treatment, potable water and wastewater treatment



### Microfiltration

Ideally suited for high quality – low energy clarification of beverages, such as wine and beer, as well as for dairy and pharmaceutical applications

# Sustainable solution

## Green chemistry

Our coating process for nanofiltration membranes applies water-based chemistry, in contrast to conventional solvent-based coating processes. Our membrane spinning process is highly energy efficient thanks to our unique in-line polymer mixing concept.

## Nanofiltration

Our membranes realize significant energy savings and carbon footprint reduction during operation compared to conventional technologies such as reverse osmosis, adsorption (activated carbon) and oxidation processes.

## Chemical free operation

Our solution avoids the use of flocculants and coagulants in pre-treatment and requires a very low chemical cleaning frequency.





# Worldwide unique nanofiltration concept: filtration in one single step

Our Direct Nanofiltration membranes offer the unique combination of a low fouling hollow fiber configuration with the ability to remove organics and salinity (hardness) from water in one simple step. Other than a strainer, no further pre-treatment is required.

Direct Nanofiltration provides the ideal solution for color and organics removal, recovery of cleaning solutions (NaOH recycling) and partial desalination and softening for industrial processes and municipal applications. Ideally suited for waste water re-use and for the polishing of surface water to drinking water standards, without affecting the mineral balance of the water.

## Benefits



Energy  
efficient



Chlorine  
resistant



Chemical  
free



Low  
fouling



Back  
washable



Simple  
process

## Unique and patented technology

NX Filtration's hollow fiber membranes are based on unique recipes and innovative patented production methods. The base material for our membranes is PolyEtherSulfone (PES). This provides an ideal chemical and thermal stability for use in robust filtration processes. Compared to other membrane materials, PES enables the production of membranes with very small pore sizes and narrow pore size distribution. We manufacture our membranes with a patented layer-by-layer process, where nano-scale layers are deposited on a membrane support. This method enables very precise and controlled rejection and permeability properties of the membrane.

### Pilots

The complete range of our membranes is also available in laboratory and pilot scale modules that can be used in pilot installations, ranging from lab-scale to full-scale pilots. This provides the opportunity to perform a quick filtration and fouling test and select the best membranes for your application.

### Drinking water certifications



" Our hollow fiber Direct Nanofiltration (dNF) membranes are the next generation polymer membranes. They provide the ideal solution for emerging problems around micro-pollutants, including the residues from antibiotics, hormones, pesticides, pharmaceuticals and nano-plastics. dNF replaces the more traditional multi-step filtration processes with a simple single step process. This results in a significant reduction in capital and operating cost, while reducing the footprint of the installation. "

— Prof.dr.ir. Erik Roesink  
founder NX Filtration