NXF hollow fiber membranes now also include various chlorine tolerant nanofiltration products for use in high fouling applications.

The extensive experience of the NXF team in the development, manufacturing, marketing and sales of polymeric membrane enabled the present advances. NXF owns IP on membranes and modules that form the basis for its novel membrane production technologies and diverse membrane products. Patents that have been awarded include US20100307946, US20130192459 and US2012132580; additional patent applications are pending.

**MEXPLORER™**

The complete range of NXF membranes is available in pilot MP025 modules to perform quick filtration test and select the best membrane for your application. MP modules with a length of 300 mm (12”) can be used in our MexPlorer test unit.

NXF projects are supported by:

**MEXFIL™ ADVANCED HOLLOW FIBER MEMBRANES**

NX Filtration manufactures hollow fiber membranes and modules for use in microfiltration, ultrafiltration and nanofiltration applications.
MEMBRANES AND APPLICATIONS

NXF MexFil™ hollow fiber membranes are used in water, wastewater and process applications. Membranes are operated in an inside to outside mode. The base chemistry of the membranes is a modified polyethersulphone (PES). Compared to other membrane materials PES enables the production of membranes with very small pore sizes and narrow pore size distribution. In addition, it provides outstanding properties with respect to thermal and chemical resistance.

MEMBRANE RANGE

Pore sizes for the NXF microfiltration (MF) membranes range from 50 to 500 nm. Applications include clarification and purification of wine, beer, cell broths, sterile filtration of dairy products, and the separation of casein and whey proteins.

The ultrafiltration (UF) membrane is tighter than most UF membranes available on the market today. The small and uniform pore size distribution limits pore blocking and ensures stable operation of the UF system due to reduced fouling. Furthermore, the lower cut-off ensures outstanding virus and bacteria rejections, making this an excellent membrane for portable water production and RO pretreatment. UF membranes can be used either in crossflow mode, or in semi dead-end mode.

dNF AND UF MEMBRANE PRODUCT OVERVIEW

<table>
<thead>
<tr>
<th>Membrane</th>
<th>Est. MWCO (Dalton)</th>
<th>Typical Flux (l/hm)</th>
<th>Min. MgSO₄ Rejection (%)</th>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>dNF-20</td>
<td>200</td>
<td>10 to 30</td>
<td>95</td>
<td>Removal of micro-pollutants, Softening</td>
</tr>
<tr>
<td>dNF-40</td>
<td>400</td>
<td>20 to 40</td>
<td>90</td>
<td>Selective salt removal</td>
</tr>
<tr>
<td>dNF-80</td>
<td>800</td>
<td>20 to 50</td>
<td>80</td>
<td>Removal of color and organics, RO pretreatment</td>
</tr>
<tr>
<td>UF-075</td>
<td>75k</td>
<td>50 to 100</td>
<td>N/A</td>
<td>High bacteria and virus removal, RO pretreatment</td>
</tr>
</tbody>
</table>

Three types of nanofiltration (NF) membranes are available, with increasing molecular-weight-cut-offs (MWCO). NF products are used in cross flow mode, typically in a vertical position.

The primary focus of the NF membranes is on the removal of low molecular weight organics, including micro-pollutants. Micro-pollutants are a growing threat to the quality of our drinking water supplies. NXF membranes remove these components in one simple direct nanofiltration (dNF) step. NXF’s technology is also ideally suited for waste water re-use applications and for polishing of surface water to meet drinking water standards. Other applications for dNF include color removal, softening, partial desalination, and recovery of cleaning solutions (e.g. NaOH recycling).

HOLLOW FIBER NANOFLTRATION FEATURES

- Ultra-thin selective nano-scale layers on chemically resistant polyethersulphone (PES) support
- Ideal solution for decentralized water treatment
- Hollow fiber geometry provides:
  - High fouling tolerance, no pretreatment required
  - Chemical stability: chlorine tolerant, pH 1-14
  - Backwashable
  - Organics and Salt removal
  - Simple one step water filtration processes with small footprint

ONE STEP DIRECT NANOFLTRATION

MODULES

MexFil™ modules are available in 110 mm (4”) and 200 mm (8”) diameter. UF modules are available for loading into horizontal pressure vessels (WED200 configuration) or for easy rack assembly in a vertical position (WMC200 configuration). Modules are sized to allow for easy replacement in existing ultrafiltration systems. dNF modules are supplied with robust end caps to ensure reliable operation at higher pressure.