

nx

filtration



HYDRAcap™ series by NX Filtration

Hollow fiber ultrafiltration membranes

Clean water for all

NX Filtration produces advanced hollow fiber membrane modules for **nanofiltration**, **ultrafiltration** and **microfiltration** applications. As part of our ultrafiltration offering, we supply the **HYDRAcap™** series for various applications.

HYDRAcap™ is used to treat surface water, ground water, seawater and wastewaters as either primary treatment or as pretreatment to spiral wound reverse osmosis (RO) and nanofiltration (NF). Compared to conventional pretreatment, HYDRAcap™ allows for higher fluxes for RO and NF systems while extending intervals between cleanings. In some cases, it replaces conventional pretreatment for potable applications, ground water recharging and water recycling.





Our HYDRAcap™ series

HYDRAcap™ Module

40

60

60+

60E

60E+

40LD

60LD

Membrane specifications

Surface area [m ²]	30	46	56	46	56	19	30
Inner diameter [mm]	0.8					1.2	
Material	Modified PES						
Pore size	20 nm						

Typical operating ranges

Flux [lmh]	59-145						
Maximum feed turbidity [NTU]	100					200	
Filtration mode	Inside - Out						
	Dead-end and/or Cross-flow						

Performances

Permeate flow [m ³ /h]	1.8 – 4.3	2.7 - 6.8	3.3 – 8.1	2.7 – 6.8	3.3 – 8.1	1.1 – 2.8	1.8 – 4.3
Permeate turbidity	≤ 0.07 NTU						
Bacteria removal	≥ 5 log						
Virus removal	≥ 4 log						



Al Hamriyah Sea Water RO Plant, U.A.E.

Start-up date: May 2014

24 racks of 120 HYDRAcap™60 modules (2,880 in total) are producing 61 mgd (228 MI/d) from an open intake sea water. UF membranes didn't receive CIP until 2017 and are delivering directly in line high quality permeate water to 8 trains of SWC5 membranes.

Operations of HYDRAcap™

The filtration mode of HYDRAcap™ modules is inside-out: feed water flows from the inside of the fibers to the outside. For backwashing, permeate is forced through the fibers in reverse flow, from the outside to the inside, such that accumulated solids are removed from the fibers.

Our HYDRAcap™ is a robust and low fouling hydrophilic polyethersulfone membrane, tolerant to chlorine, peroxide and other oxidants resistant to pH extremes. It exhibits 5 log (99.999%) removal for bacteria, giardia, cryptosporidium and 4 log removal for viruses. Turbidity is reduced to < 0.07 NTU and HYDRAcap™ modules benefit from low pressure operation, either in dead-end mode or cross-flow.



Benefits



Low pressure



Chlorine resistant



Low fouling



5 Log removal

Advantages of hollow fiber technology

Better permeate quality

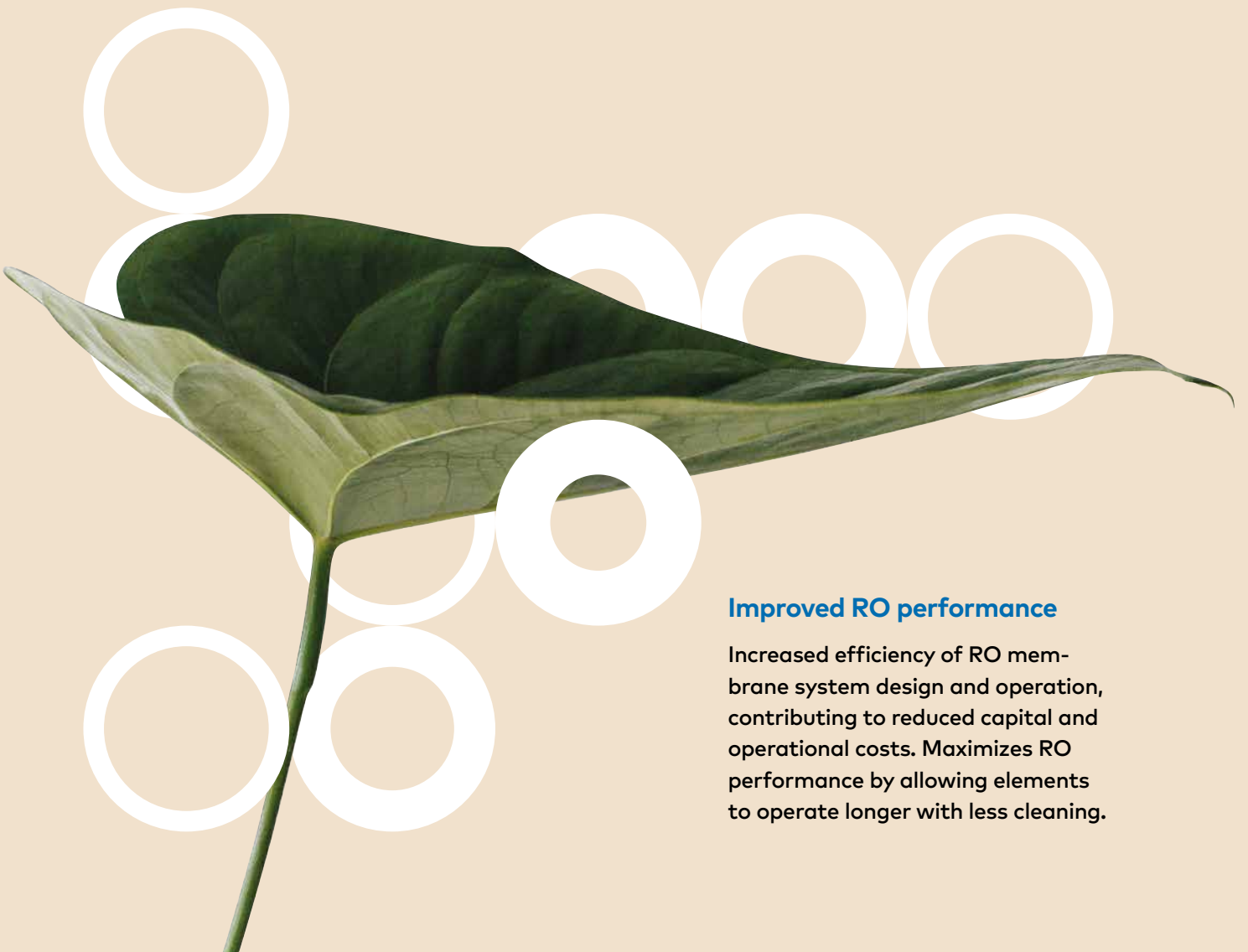
Significantly better permeate quality when compared to conventional pre-treatment, exhibiting 100% removal of colloidal material. Permeate quality is stable regardless of feedwater variation.

Sustainability

Considerably reduces the use of predetermined chemicals. Backwash disposal is less problematic due to lower wastewater volumes.

Improved RO performance

Increased efficiency of RO membrane system design and operation, contributing to reduced capital and operational costs. Maximizes RO performance by allowing elements to operate longer with less cleaning.



NX Filtration, your membrane partner

NX Filtration offers a wide range of advanced hollow fiber membrane modules for nanofiltration, ultrafiltration and microfiltration applications.

We have developed a worldwide unique nanofiltration concept, designed to remove organics from water in one single step: energy efficient, without extensive pretreatment and without the use of chemicals.

Our ultrafiltration membranes are the best choice for the removal of small particles, bacteria and viruses from water. The HYDRAcap™ series is complementary to our existing range of ultrafiltration membrane modules.

Our microfiltration membranes are ideally suited for high quality – low energy clarification of beverages, such as wine and beer, as well as for dairy and pharmaceutical applications.

Drinking water certifications



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.

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