PureULTRA II
Hollow Fiber Ultrafiltration Modules

MANN+HUMMEL

PureULTRA II Hollow Fiber UF Modules

APPLICATIONS

- RO pretreatment
- Surface water treatment (plant influent)
- Water reuse
- Tertiary wastewater treatment
- Seawater treatment

WATER TREATMENT DONE RIGHT

Water resources continue to be one of the top environmental concerns around the world, leading to increased water recycling efforts in water and wastewater treatment facilities globally and reducing the consumption of fresh water. Getting wastewater to an acceptable level of purification for water reuse can be challenging as it requires several steps. On the other hand, it is important to have access to pure drinking water free from suspended solids and harmful pathogens. Ultrafiltration (UF) has shown demonstrated success in both applications.

UF is a process using a physical barrier to separate water and suspended solids, turbidity, silt, bacteria, and viruses from the feed water. In a system using pressurized PureULTRA II hollow fiber modules, the feed water may come from different sources such as surface water, groundwater, secondary or tertiary treated industrial wastewater, or other sources like tertiary treated municipal wastewater.

PureULTRA II UF modules are constructed using highly hydrophilic modified PVDF hollow fiber membrane with a nominal pore size of 0.025 micron. The outside-in flow configuration contributes to easier cleaning as it keeps the solids, pathogens, and other foulants on the outside of the fibers. The fiber is designed to handle most feed water sources and tolerate solids loadings while operating within an optimal flux range. It rejects particulate matter, Giardia cysts, and Cryptosporidium oocysts, and can helps in virus removal.

Water & Wastewater Treatment

With PureULTRA II, most particles larger than 0.025 micron are rejected while much finer molecules (e.g., water and dissolved solids) pass through the tight pores of the hollow fiber membrane. Our unique permanently hydrophilic membrane is formed using PVDF polymer that is inert, to a great degree, to strong oxidants, allowing the hollow fiber to be cleaned aggressively during chemical cleaning cycles.

The membrane module design and hydraulics of PureULTRA II allow complete solids removal during drain cycles and therefore minimal fouling or chance of continual solids accumulation. These UF modules are designed to run at very low pressure (~0.02 Mpa / 3.0 psi) while operating at optimum fluxes. While the air diffuser installed in the modules leads to very high air penetration, the soft potting allows for fiber movement. Combining these features results in effective solids removal and minimal fiber breakage.

PureULTRA II modules can be operated at low pressures and optimum flux, leading to lower operating costs. The ability to clean the membrane and the overall module design leads to increased membrane life, lowering module replacement costs.

Module Specifications & Operating Data

PUREULTRA II HOLLOW FIBER UF MODULES

Parameter	PHF-60-V	PHF-80-V	PHF-107-V
Membrane Type	Hollow Fiber	Hollow Fiber	Hollow Fiber
Membrane Area (m^2)	60	80	107
Pore Size (µm)	0.025	0.025	0.025
Housing Material	uPVC	uPVC	uPVC
Potting	Epoxy / PU	Epoxy / PU	Epoxy / PU
Filtrate Flow Range (m^3/h)	2.4 - 7.0	2.4 - 9.6	2.4 - 12.8
Filtration Flow Type	Out / In	Out / In	Out / In
Type of Filtration	Dead-End / Crossflow	Dead-End / Crossflow	Dead-End / Crossflow
Regeneration	Backflush, Forward Flush, Air Scouring	Backflush, Forward Flush, Air Scouring	Backflush, Forward Flush, Air Scouring
Max Feed Pressure at 20° C (bar)	6.4	6.4	6.4
pH Range	1-12 (Operation) 1-13 (Cleaning)	1-12 (Operation) 1-13 (Cleaning)	1-12 (Operation) 1-13 (Cleaning)
Max Feed TSS (mg/l)	≤ 350	≤ 350	≤ 350

NOTES: Only information in the data sheets is binding. For higher feed TSS, please contact us.

Americas
USA: +1 805 964 8003
sales.mnus@microdyn-nadir.com

Asia
APAC: +65 6457 7533
China: +86 10 8413 9860
waterchina@mann-hummel.com

Europe
Germany: +49 611 7118 7480
Italy: +39 0721 1796201
info.wfs@mann-hummel.com

MANN+HUMMEL

www.mann-hummel.com