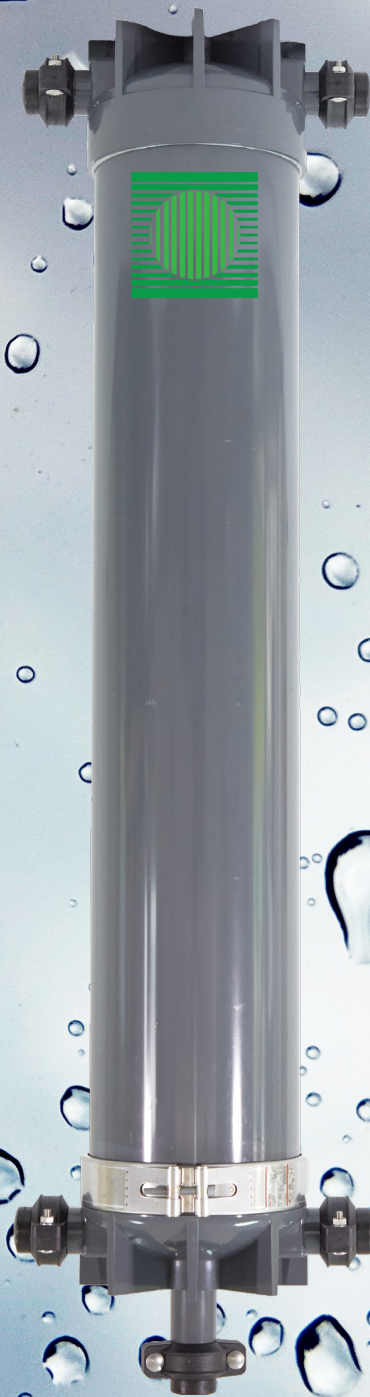


AQUADYN®
Hollow Fiber
Ultrafiltration
Modules



**MANN +
HUMMEL**



AQUADYN®

Hollow Fiber UF Modules

ADVANTAGES

- High flow rates (high hydrophilicity)
- High & stable permeate performance
- Most reliable process (double asymmetric hollow fiber membranes)
- Effective retention of particles and bacteria
- Easy pretreatment
- Compact installation
- High productivity
- Flexible flushing modes
- Low chemical demand

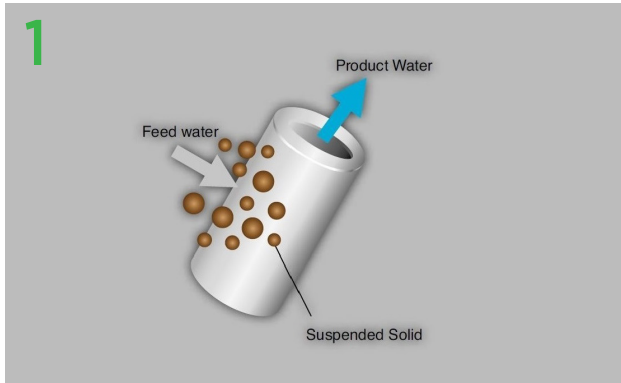
SMARTER SOLUTIONS FOR WATER TREATMENT

AQUADYN® modules are encased ultrafiltration hollow fiber membrane modules that effectively reduce micro-organisms and suspended solids from water. The AQUADYN® series offers a comprehensive range of filtration modules for a wide spectrum of applications. Available with modified Poly Acrylonitrile (PAN), we offer a variety of module sizes.

Due to the optimized design efficient flow distribution, enhanced cleaning, minimal pressure drop, and high packing density can be achieved. For applications requiring higher pressure and large capacities, extra-large modules are available (10" x 60"). Moreover, the AQUADYN® UA (PAN) materials are superior in their hydrophilic property compared to most other polymeric materials. The enhanced hydrophilic property improves the wettability and reduces operating pressure. Additionally, it makes the membrane more resistant to fouling; resulting in less cleaning cycles and reduced chemical usage.

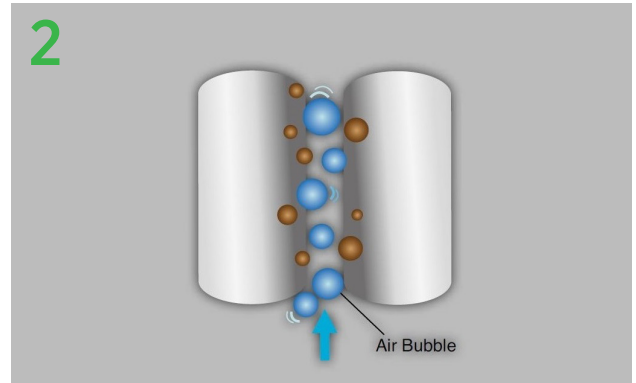
The double asymmetric hollow fiber membranes offer another advantage over single asymmetric membranes. Bacteria, solids, and turbidity can be rejected effectively due to a filtration layer inside and outside the hollow fiber. Therefore, problems such as pore clogging during backflush do not occur.

Module Operating Process



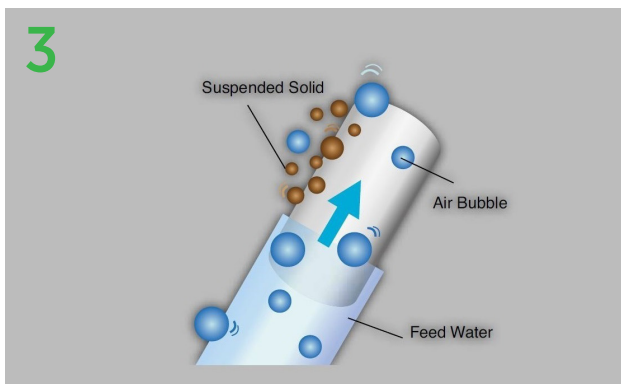
FILTRATION PROCESS

Filtration process is an outside-in flow configuration where feed water is in contact with the exterior of the fibers and the filtrate (product water) is drawn from the inside of the hollow fibers (lumen). This configuration has the distinctive advantage of a larger membrane surface area which translates into higher flows.



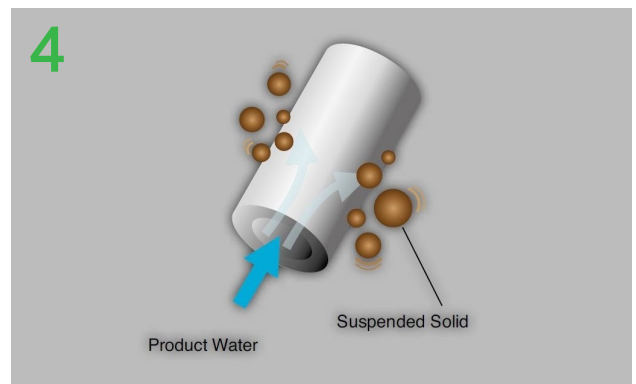
AIR SCOURING

During the backflush process, air is injected into the module to loosen suspended solids on the fiber surface. This enables suspended solids in the module to be flushed out effectively and prevents solid build-up.



FORWARD FLUSH

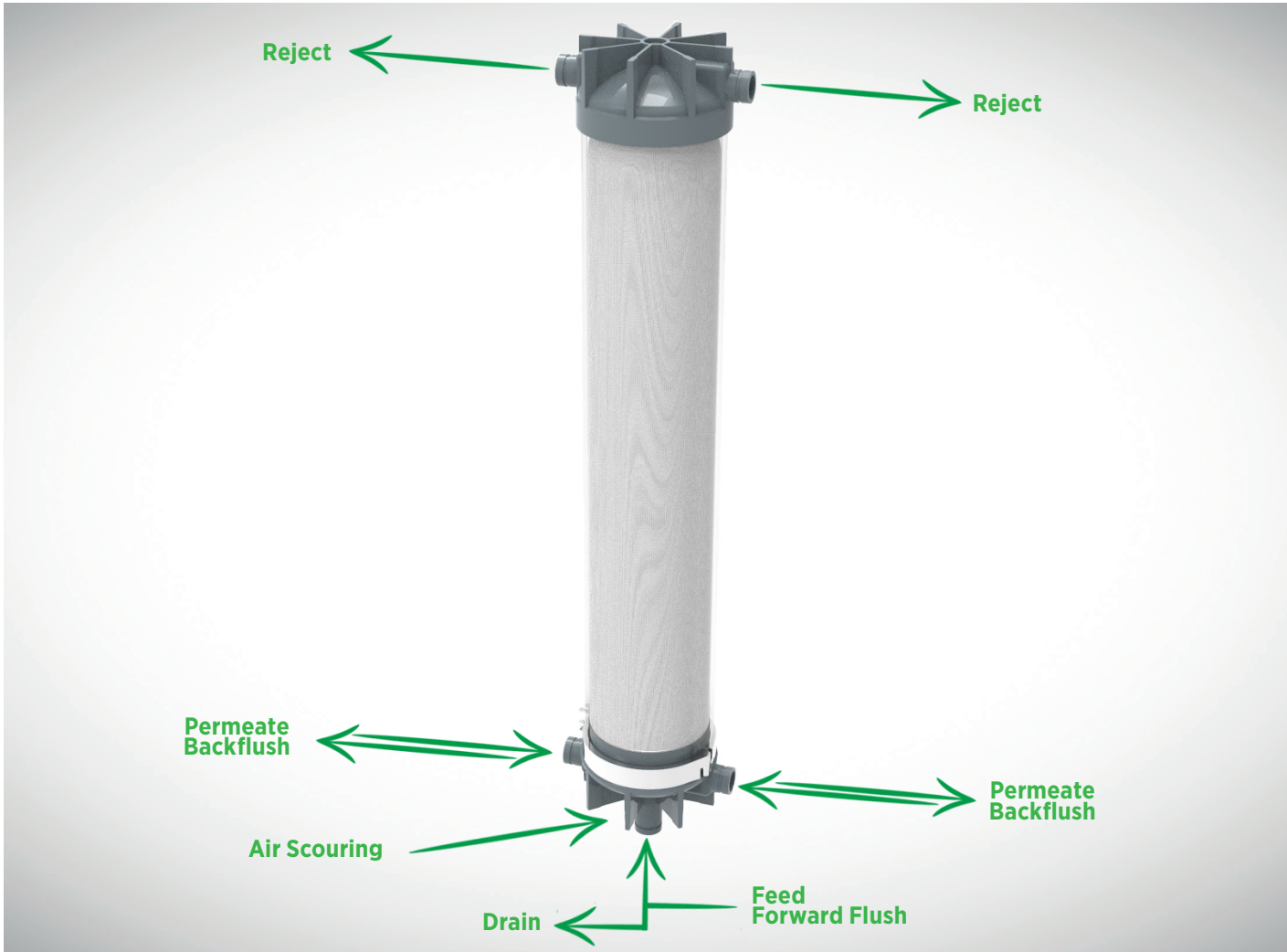
Feed water flushes the exterior surface of the fiber and dilutes the retentate. Air scouring is incorporated along with this process to ensure the suspended solids are dislodged before backflushing. This reduces the use of permeate.



BACKFLUSH

Either at pre-set intervals or when reaching a predetermined transmembrane pressure (TMP), the membrane module undergoes a backflush cleaning sequence where filtrate is used to backflush from the inside of the hollow fibers, hence dislodging the solids attached to the feed surface of the fiber.

Flushing Modes



DECODING THE PRODUCT NAME

U A 10 60 HP

Module	Fiber Arrangement	Membrane Material	Module Diameter (mm)	Module Length (mm)
UA420-BT	U-Shape	PAN	160	604
UA860	U-Shape	PAN	216	1642
UA860-HP	U-Shape	PAN	225	1701
UA1060HP	U-Shape	PAN	267	1737

Applications



**OILY WATER &
WASTEWATER TREATMENT**



**STORMWATER
TREATMENT**



**MINE TAILING POND
TREATMENT**



RO PRETREATMENT



GROUND WATER TREATMENT



AQUADYN® UA420



AQUADYN® UA860



AQUADYN® UA860-HP



AQUADYN® UA1060-HP

HOLLOW FIBER UF MODULES AQUADYN®

Module Specifications & Operating Data

AQUADYN® HOLLOW FIBER UF MODULES

Parameter	UA420-BT	UA860	UA860-HP	UA1060HP
Structure	Hollow Fiber	Hollow Fiber	Hollow Fiber	Hollow Fiber
Membrane Surface (m ²)	6	45	45	60
Pore Size (µm)	0.025	0.025	0.025	0.025
Housing Material	Reinforced PP	Reinforced ABS & uPVC	uPVC	uPVC
Potting	Epoxy	Epoxy	Epoxy	Epoxy
Flow Type	Out / In	Out / In	Out / In	Out / In
Type of Filtration	Dead-End	Dead-End	Dead-End	Dead-End
Regeneration	-	Backflush, Air Scouring	Backflush, Air Scouring	Backflush, Forward Flush, Air Scouring
Max Feed Pressure at 20° C (bar)	1	2	5	5
pH Range	2-10	2-10	2-10	2-10
Max Feed TSS (mg/l)	≤ 5	≤ 150	≤ 150	≤ 150

NOTES: Only information in the data sheets is binding.

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