

## Ultrafiltration (UF)

### ULTRAFILTRATION PACKAGED SYSTEM

A consistent and reliable supply of clean water is essential to sustain a healthy and safe living environment. Our valuation of this precious resource is ever increasing. Rising costs of treatment and the challenges of providing adequate supplies of safe drinking water is leading many high volume users to look at ways of recovering and recycling water for use in less critical or non-potable applications. At the same time, authorities are tightening up on allowable contaminate discharge levels, particularly where effluent is discharged into natural rivers, lakes or the sea.

### Wastewater recycling

Municipal wastewater is typically around 99% water. With modern treatment techniques, clean water can be extracted and purified to a level which is safe for use in a multitude of non-drinking water applications.

The MemPAK UF® wastewater polishing package plant has been designed to accept treated effluent from a conventional wastewater treatment plant and to purify the extracted water to a high level suitable for a variety of reuse applications.

### Key features

- ↻ Factory assembled and tested
- ↻ Plug and play design
- ↻ Capable of 6.5 log reduction of viruses
- ↻ Large capacity inlet media filtration
- ↻ Automatic media and membrane backwashing
- ↻ Ultrafiltration membrane by Dow
- ↻ Automatic membrane pressure decay integrity testing
- ↻ PLC controls with touch screen
- ↻ Online monitoring and data recording system
- ↻ Optional remote monitoring and control
- ↻ Optional UV sterilization
- ↻ Optional Chlorine dosing and monitoring
- ↻ Optional RO stage for high quality filtrate
- ↻ Small footprint
- ↻ Standard Skid frame design
- ↻ Optional fully containerised package
- ↻ Robust design using quality components for long service life

### Membrane filtration for wastewater polishing

- ↻ Membrane filtration has become the key tertiary treatment process used in water-for-reuse systems.

An Ultrafiltration membrane system provides a positive barrier screen which eliminates all bacteria and most viruses.

Further treatment stages are often added for multiple barrier protection including UV sterilization, chlorine disinfection and reverse osmosis filtration.



### Applications

MemPAK UF® provide an effective and reliable treatment of wastewaters purified to a level for safe water-for-reuse applications.

The large capacity, automatic back-flushing inlet media filter protects the membranes and allows for varying inlet water quality.

Ultrafiltration is an ideal pre-treatment to reverse osmosis systems.

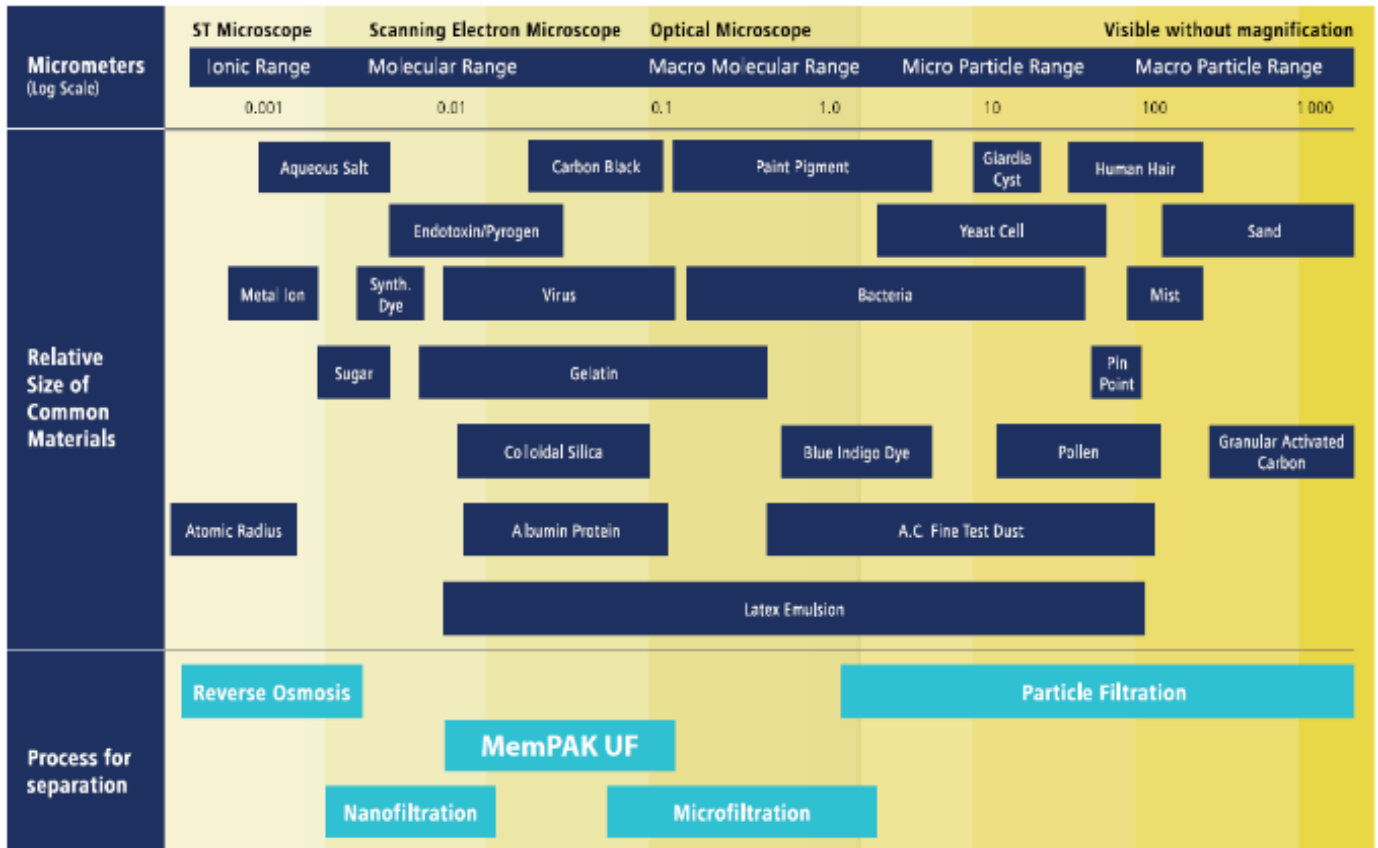
### Typical wastewater sources include:

- ↻ Effluent from Municipal / Sanitary wastewater treatment plants
- ↻ Wastewater from textile and laundry industries
- ↻ Wastewater or treated effluent from food and beverage industries
- ↻ Hydroponic nurseries

### Typical uses of recycled water include:

- ↻ Spray irrigation > Cooling towers
- ↻ Boiler feed > Toilet flushing
- ↻ Plant wash down
- ↻ Cooling towers
- ↻ Toilet flushing

## › Micron size and substance removal

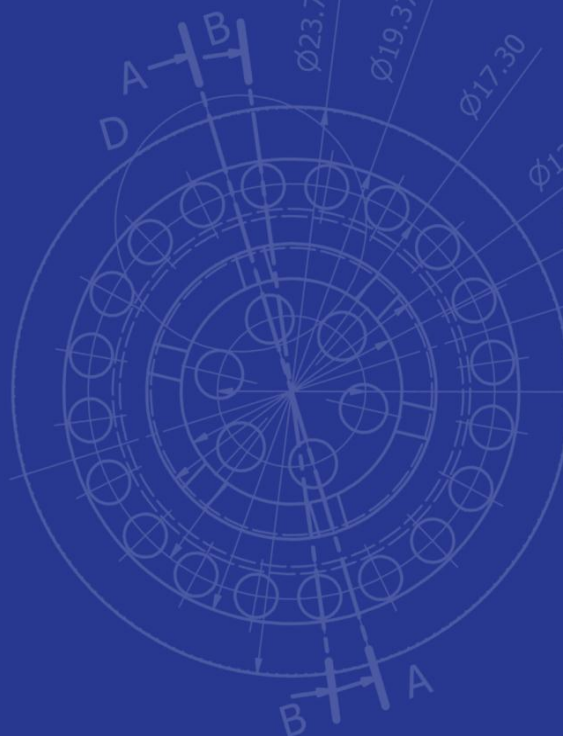
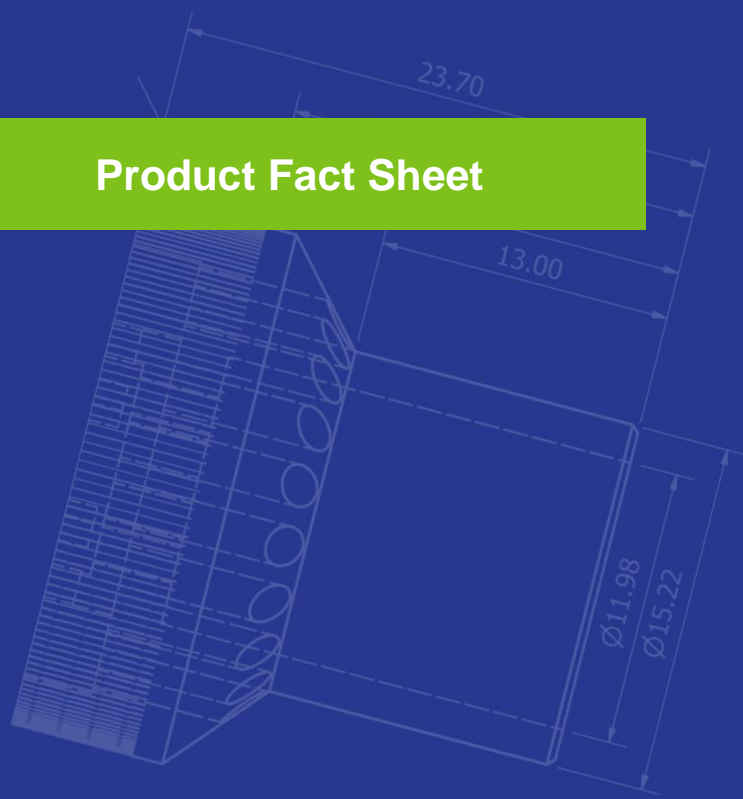


## › MemPAK MBR® specifications

### QUALIFIED FEED WATER QUALITY PARAMETERS

MODEL	RATED FLOW (m <sup>3</sup> /day)	PARAMETER	Unit	DESIGN BASIS	MAXIMUM ALLOWABLE
MemPAK UF-10	10	Turbidity	NTU	< 50	300
MemPAK UF-20	20	TOC	mg/L	< 10	40
MemPAK UF-30	30	Particle Size	Micron	< 150	300
MemPAK UF-50	50	COD	mg/L	< 20	60
MemPAK UF-75	75	Oil/ Grease	mg/L	0	< 2
MemPAK UF-100	100	pH continuous	-	6 - 9	2 - 11
MemPAK UF-150	150	Temperature	°C	25	40
MemPAK UF-200	200	Cl <sub>2</sub> continuous	mg/L	0.5	200
MemPAK UF-250	250	TSS	mg/L	< 50	100
MemPAK UF-300	300				
MemPAK UF-400	400				
MemPAK UF-500	500				
MemPAK UF-600	600				
MemPAK UF-750	750				
MemPAK UF-1000	1.0ML/day				
MemPAK UF-1250	1.25ML/day				
MemPAK UF-1500	1.5ML/day				
MemPAK UF-2000	2.0ML/day				

## Product Fact Sheet



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