

## Membrane Bio Reactors (MBR)

### Packaged wastewater Treatment System

The MemPAK MBR® is an advanced 'plug and play' packaged MBR wastewater treatment system featuring the flat sheet submerged MBR ultrafiltration modules. The MemPAK MBR® is engineered to provide a high quality effluent, treated to Class A standards and suitable for a variety of reuse applications.

The fully pre-assembled and factory tested MemPAK MBR® plant is supplied in an ISO shipping container format for ease of transportation.

Primary and bioreactor tanks are open topped with safety railings around access points. Permeate pumps, aeration blower, dosing systems, monitoring and control systems are housed in a lockable control room located at the front of the plant.

The pre-programmed PLC system includes full process monitoring and data logging functions. Full telemetry including remote control is available as an option. The MemPAK MBR® is designed to require minimal operator supervision making it ideal for installation in remote locations.

### Key features

- Plug and play packaged system
- Automatic fine influent screen
- Flat sheet MBR module
- 0.04µm Ultrafiltration membrane
- Automatic cyclic membrane backwash and CIP System
- Proven design
- Fully Factory Tested
- Systems available from 10 - 500KL/day
- Compact and easy to transport
- Optional UV disinfection
- Optional chlorine disinfection with safety eyewash, signage and bunded chemical storage
- Optional effluent monitoring system with remote telemetry

### Treatment stages

The MemPAK MBR® package plant is a fully self-contained MBR wastewater treatment system incorporating the following process stages:

1. Inlet screening
2. Primary / Anoxic tank - Denitrification
3. Aeration / Membrane Bioreactor tank - Nitrification
4. BIO-CEL® membrane filtration modules
5. Permeate receiving and disinfection
6. RAS and sludge removal



## › MemPAK specifications

MemPAK MBR® MODEL	UNIT	MemPAK MBR-15	MemPAK MBR-30	MemPAK MBR-60	MemPAK MBR-100	MemPAK MBR-150
Rated flow	L/Hr	625	1250	2500	4165	6250
Rated flow	m <sup>3</sup> /day	15	30	60	100	150
Operating temperature	°C	5°C - 40°C	5°C - 40°C	5°C - 40°C	5°C - 40°C	5°C - 40°C
Power requirements	Phase/ kW	Single phase *	3 phase *	3 phase *	3 phase *	3 phase *
Design influent:						
BOD5	mg/L	300	300	300	300	300
COD	mg/L	600	600	600	600	600
TKN	mg/L	max 50	max 50	max 50	max 50	max 50
TSS	mg/L	450	450	450	450	450
Temperature	°C	15	15	15	15	15
pH		6.5 - 8.5	6.5 - 8.5	6.5 - 8.5	6.5 - 8.5	6.5 - 8.5
Expected effluent:						
BOD5	mg/L	< 10	< 10	< 10	< 10	< 10
COD	mg/L	< 100	< 100	< 100	< 100	< 100
Ntot	mg/L	< 10	< 10	< 10	< 10	< 10
TSS	mg/L	< 2	< 2	< 2	< 2	< 2
Turbidity	NTU	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
(With UV and post Chlorination) E.Coli	CFU/100mL	< 1	< 1	< 1	< 1	< 1
Membrane surface area	m <sup>2</sup>	50	100	200	300	400
Membrane material		PES	PES	PES	PES	PES
MWCO	kDa	150	150	150	150	150
Pore size	µm	0.04	0.04	0.04	0.04	0.04
Chlorine resistance	ppmh	100,000	100,000	100,000	100,000	100,000
Operating suspended solids	g/L	8 - 12	8 - 12	8 - 12	8 - 12	8 - 12
Dimensions	Container	20' ISO	20' ISO	40' ISO	40' ISO	40' ISO**

## Product Fact Sheet



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