

MEMBRANE BIOREACTOR SYSTEM (MBR)

Product description

Colloide's submerged membrane bioreactors (MBR) are the most technically advanced product in its field, giving unparalleled performance in wastewater treatment. These can be installed in both new and upgraded plants.

The membranes are installed within or immediately after the aeration zone. This replaces the clarifier and other downstream equipment, while achieving a much better standard of treatment.

At the heart of our system we use an ultrafiltration, back washable, flat sheet membrane. This membrane combines the advantages of classic plate and frame and hollow fibre modules without the disadvantages.

Key features of our MBR system include:

- Ultrafiltration membrane giving very high effluent quality
- Flat sheet backwashable membrane which minimizes/removes chemical cleaning requirements
- Fine bubble aeration giving low running costs
- Different sizes of membrane packs to suit site conditions
- Robust system design ensures plant performance and long life



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MEMBRANE BIOREACTOR SYSTEM (MBR)



Colloide's MBR systems have been developed with plant performance, reliability and whole life cost in mind. These systems combine activated sludge and filtration within one stage, allowing a high performance of treatment to be achieved in a small compact plant.



This gives the following key advantages

- Compact plant/small footprint.
- Filtrate is always very high quality
- Filtrate is 'fit' for recycling
- MBR's can be used for small plants
- Plant comfortably deals with fluctuations in loads
- The process is simple – easy to control/ manage
- Operating costs much lower than competitive systems
- Low sludge production



MEMBRANE BIOREACTOR SYSTEM (MBR)



Our ultrafiltration submerged membranes have a cut off of 150kDa (effectively 0.04micron pore size) and are made from Polyethersulphone. They are manufactured as a flat sheet, formed into a flat sandwich with the membrane on the outside and spacing material inside, forming a pocket into which the water can pass. These membrane sandwiches are then mounted parallel to each other, spaced 10mm apart, to form a 'cassette'.

While our membranes have the packing density of a hollow fibre membrane and are backflushable like a hollow fibre module, they have the advantage of having the defined channels of a plate module.

Key features of our submerged membranes are:

- Flat sheet membrane which means no blockages
- Range of membrane sizes which means we can choose the optimum size for a given plant
- We use fine bubble aeration for cleaning the membrane which results in much lower running costs
- Our membranes are backwashable which means that they remain cleaner for a lot longer and therefore chemical cleans are much less than other systems
- Solids handling capacity of membrane modules are best available (10mm gap between sheets)
- We have a high packing density allowing the plants to be designed as compact as possible. This also ensures our membranes can be used to replace others to give at least the same membrane area.



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