

## INDION<sup>®</sup> IPC Membrane Bio-reactor

### Innovative MBR Process

#### Improved Waste Water Treatment at Lower Cost

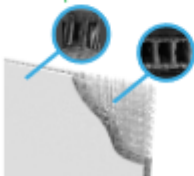
Ion Exchange has pioneered the concept of membrane bio-reactor in various configurations and operating mode for industrial and municipal applications. We have customised INDION MBR technology for requirement of industries, municipalities and household capacities even up to 5 m<sup>3</sup>/day.

INDION IPC<sup>®</sup> MBR is an innovation in MBR technology that combines the advantages of flat sheet and hollow fiber membrane systems while eliminating disadvantages of classically flat sheet MBR. It uses the first fully back-washable membrane with a P < 2 bar.

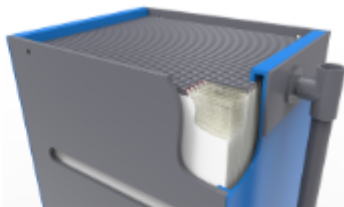
The patented IPC<sup>®</sup> flat sheet PVDF membranes allow operating waste water plants at an extraordinarily higher flux yield thereby, lowering footprint and energy demand combined with extremely good chemical resistance and life of membranes. The treated effluent meets all the discharge standards and can be reused without use of chemicals.

In this biological process the IPC<sup>®</sup> membranes are submerged, which aid in removal of suspended matter from activated sludge; thereby consistently producing treated water with highest possible contaminant reduction.

### Membrane Specifications



- UF - PVDF membranes
- 3D spacer fabric for membrane support structure with a thickness of only 3 mm
- Double Coated
- Membranes well anchored on textile fabric



### Features

- Extremely compact, requires significantly lower area compared to conventional MBR
- Modular design, in varying capacities

### Advantages

- **Improved fouling control:** Efficient physical cleaning is achieved by applying a vigorous backwash at frequent intervals; the flat sheet design allows for a well-defined flow pattern and is less prone to bridging and dogging compared to hollow fibre modules
- **High flux/yield:** Due to better fouling control, 100% flux improvement can be obtained compared to commercially available flat sheet modules
- **Low footprint:** 50% higher packaging density compared with other flat sheet membranes
- **Robust design:** PVDF membranes well anchored on the support with a burst pressure of minimum 4 bar
- **Aeration demand:** The triple deck module configuration allows for up to 50% lower aeration demand
- **Cost:** Competitive pricing due to the integrated concept using one single support layer which is simultaneously coated on both sides with a membrane layer in one single step