

 **Waste Pure**[®]

Membrane Bio Reactor



WASTEWATER TREATMENT & REUSE



WATER IS EXTENSIVELY USED IN INDUSTRY AND MUNICIPALITY AND ALONG THE WAY PRODUCED EXCESSIVE WASTEWATER THAT MAY POLLUTED WATERWAYS, CANALS, RIVERS, LAKES AND SEAS IF NOT PROPERLY TREATED BEFORE DISCHARGED TO THE ENVIRONMENT.

Conventional activated sludge has been used for many years to handle wastewater treatment but the fact shown that even with stringent daily operation procedure the quality of effluent coming out from the system is not up to the standard of non hazardous to the environment due to imbedded technical limitation.

In some areas where are hard to find raw water resource the need to treat wastewater for reuse is becoming urgent even in the metropolis where public water utility cannot meet the ever increasing of clean water supply demand, the need to recycle wastewater into clean or even potable water is a must.

In other side the membrane technology in treating water is growing rapidly for better quality with less cost and combination between conventional activated sludge with membrane becoming possible to have better result with less cost and now coming the era of Membrane Bio Reactor or MBR as a result of technology synthesis between the two.



WASTE PURE® is a MBR developed by BASUKIWATER with very clear idea that basically an excellent Membrane Bioreactor must consist of two continuous process of toxic materials reduction by microbiological process and separation of suspended as well as dissolved contents in the water by Membrane Filtration to have quality effluent for discharge or reuse.

Microbial seedling is critical to successful MBR application even though by the nature wastewater always contain of microbial that may be use as seedlings but in practice due to operation upset and other reason microbial seedling become the hardest part.

BASUKIWATER has developed microbial that nurtured in the laboratory for specific application in the Refinery, Pulp & Paper, Building, etc and Micronutrient to ensure faster and successful Microbial seedling in the real world and therefore WASTEPURE® is able to operate in the higher Mix Liquor Suspended Solid (MLSS) up to 12.000 mg/l for effective removal and less footprint.

There are vast arrays of Micro or Ultra Filtration Membranes available in the market today but WASTEPURE® is only use immersed or side stream Membranes made of Poly Vinylidene Fluoride for most of the installations and it may change to the application needs from time to time.

MODULAR & PACKAGED UNITS

WASTEPURE® is designed in a modular and packaged unit ready to use on site with the capacity range <16,000 m3/day/unit of treated water with the following advantages:

- Reduced on-site construction costs with less interconnecting requirements.
- Quick delivery with engineering package already completed.
- Cost effective solutions for virtually all water and wastewater treatment applications.
- Comprehensive cleaning capability for peak system performance.
- Simple and highly automated operation and in-situ membrane cleaning
- Modular building-block design.
- Simplified start up with minimal installation time.
- Compact footprint with flexible layout options.
- Greenfield or retrofit solution.

TYPICAL TREATED WATER RESULTS

Turbidity	< 0.1 NTU
Bacteria	> 4-log removal
Giardia	> 4-log removal
Cryptosporidium	> 4-log removal
Virus	> 3.5-log removal
Iron	< 0.05 mg/l
Manganese	< 0.02 mg/l
TSS	< 1 mg/l
TOC	50 – 90 % removal
Arsenic	< 5 g/l
Color	< 5 PCU
BOD5	< 2 mg/l
NH3-N	< 0.5 mg/l
Total Nitrogen	< 3 mg/l
Total Phosphorous	< 0.05 mg/l
Fecal Coliform	< 2.2 CFU/100 ml
SDI	< 2



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