

Comparison Among Different Processes

	Sequencing Batch Reactor (SBR)	Membrane Bio Reactor (MBR)	Moving bed Bioreactor (MBBR)	Rotating Biological Contactor (RBC)	G.NANO Technology
Effluent Quality	High effluent quality direct after SBR which matches all standards reuse and discharge norms	High treated effluent quality	Good effluent quality direct after MBBR which matches standard reuse and discharge norms	Good effluent quality direct after RBC which matches standard reuse	High quality effluent which matches standard reuse and discharge norms
Treated Sewage Effluent Quality	TSS < 10 mg/l BOD < 15 mg/l TN < 10 mg/l TP < 2 mg/l Guarantee on virus reduction , Intestinal Nematode Eggs & Giardia	TSS < 5 mg/l BOD < 5 mg/l TN (no guarantee) TP (no guarantee) Guarantee on Virus reduction , Intestinal Nematode Eggs and Giardia	TSS < 10 mg/l BOD < 15 mg/l No Guarantee on virus reduction, Intestinal Nematode Eggs & Giardia	TSS < 10 mg/l BOD < 15 mg/l No Guarantee on virus reduction, Intestinal Nematode Eggs & Giardia. (Advanced tertiary treatment required to achieve control on pathogens and viruses)	TSS < 5 mg/l REDUCTION OF NITROGEN. REDUCTION OF PHOSPHORUS Odorless Removal of heavy metals
Tertiary Filtration	Required to polish effluent below BOD / TSS < 10 / 5 mg/l .	Not required	Required to polish effluent below BOD / TSS < 10 / 5 mg/l	Required to polish effluent below BOD / TSS < 10 / 5 mg/l	Require polish at high concentration soluble COD only
Footprint	Moderate	Low	Low (depends on media fill factor in MBBR tank, type of liquid solid separation unit e.g. settling tank verses DAF unit etc.)	Low	Very Low 80% less than any other Treatment technologies
Fat , Oil and Grease Tolerance	High	Low	High (MBBR system may tolerate higher FOG concentration when it is compared to MBR system)	Low	High removal efficiency for oil and grease.
Control	Simple	Complicated	Simple	Simple	Simple and it can be completely automated
Effluent Reliability / Quality Consistency	High	Low	High	Low	High
Cost on sludge treatment	Cost on sludge treatment (digestion , thickening / dewatering) : Moderate	Cost on sludge treatment (digestion , thickening / dewatering) : Low	Cost on sludge treatment / disposal (digestion , thickening / dewatering , tinkering etc.) : Moderate	Cost on sludge treatment (digestion, thickening / dewatering) : Low	Condensed sludge can match with different types of system.
Power consumption	800 <u>watt.hr/m3</u>	1500 <u>watt.hr/m3</u>	1200 <u>watt.hr/m3</u>	100 <u>watt.hr/m3</u>	200 <u>watt.hr/m3</u>
Sludge Reuse	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Sludge includes nitrogen, phosphorus, and high amount of potassium so can be used direct as a Fertilizer heavy metal capsulated in our sludge this make sludge don't release the heavy metal again to soil.