

# SBR VS MBBR

Parameter	SBR (Sequencing Batch Reactor)	MBBR (Moving Bed Biofilm Reactor)	Inference
<b>Technology</b>	SBR is a modified form of the conventional activated sludge process (ASP), existing since the 1940s. It operates in sequences within a single basin for multiple processes.	MBBR is a continuous flow reactor (CFR) with enhanced bacterial activity, using biofilm media to sustain high biomass concentration in a smaller footprint.	MBBR offers superior efficiency and user-friendliness compared to SBR, especially in process efficiency and user experience.
<b>Influent Characteristics</b>	SBR has limited tolerance for variable organic influent characteristics, as it operates with a single air-influx system, requiring extended aeration duration to adjust.	MBBR uses special bio media with higher surface area, allowing better oxygenation, which effectively handles variations in influent organic characteristics.	MBBR has an advantage in managing variable influent characteristics.
<b>Plant Footprint and Cost</b>	SBR typically requires two reactors with a clear water holding area, which can increase the footprint and cost, especially when handling higher flows.	MBBR operates with a shorter Hydraulic Retention Time (HRT), typically 8-12 hours, reducing space requirements and lowering civil costs.	MBBR generally has a smaller footprint and lower civil costs than SBR.
<b>Sludge Settling and Separation</b>	SBR allows sludge to settle naturally under quiescent conditions, which can lead to sludge bulking and higher load on tertiary units due to extended settling times.	MBBR's design improves sludge separation efficiency, reducing sludge bulking and providing higher quality of separation with less load on tertiary units.	MBBR offers more effective sludge settling and separation due to its unique tank design and equipment, leading to better quality and lower tertiary unit load.