

Sequential Batch Reactor (SBR)

Packaged Wastewater Treatment system

The BioPAK® SBR (Sequential Batch Reactor) system provides an effective and economical solution for the treatment of various types of wastewaters. The fill-and-draw SBR process has been well proven over many years and is now further refined through the use of modern electronic probes and process controls. Consistently high removal rates are obtained allowing regulatory effluent discharge requirements to be reliably met. Our pre-packaged plug-and-play plant control room makes on-site plant deployment a simple and straightforward task. Ideally suited to remote installations where on-site works must be minimized



Key features

- Plug and play system
- Factory pre-tested
- Simple proven design – ideal for remote locations
- Automatic influent screening
- Aeration options to suit plant requirements including jet aeration, radial aeration and fine bubble diffusers
- Optional tertiary treatment including media filtration, UF membranes etc
- UV and/or Chlorine disinfection
- Effluent monitoring equipment
- Pre-programmed PLC system with HMI

- Remote monitoring and control for minimum operator supervision
- Syngineering maintains an experienced installation and construction crew dedicated to field-erected SBR projects.

Plant description

A BioPAK® SBR system will typically include the following elements:

- Automatic inlet screen
- Influent balance tank
- Bioreactor tank
- Effluent receiving tank
- Waste sludge receiving tank
- Control room with associated pumps, blower and valves.

Applications

Municipal, Mining, Defence, Food & Beverage, Pulp & Paper, Petrochemical, Landfill/Leachate and Textile industries.



BioPAK® specifications

| MBR Technologies model: | Unit | SBR-50 | SBR-100 | SBR-200 | SBR-300 | SBR-500 |
|-----------------------------|---------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Rated flow | m ³ /day | 50 | 100 | 200 | 300 | 500 |
| Operating temperature | °C | 5°C - 40°C | 5°C - 40°C | 5°C - 40°C | 5°C - 40°C | 5°C - 40°C |
| Power requirements | Phase/ kW | 3 phase * | 3 phase * | 3 phase * | 3 phase * | 3 phase * |
| Typical MLSS | mg/L | 2,000 - 8,000 | 2,000 - 8,000 | 2,000 - 8,000 | 2,000 - 8,000 | 2,000 - 8,000 |
| Design Influent: BOD5 | mg/L | 300 | 300 | 300 | 300 | 300 |
| COD | mg/L | 600 | 600 | 600 | 600 | 600 |
| TKN | mg/L | 80 | 80 | 80 | 80 | 80 |
| TSS | mg/L | 450 | 450 | 450 | 450 | 450 |
| TP | mg/L | 15 | 15 | 15 | 15 | 15 |
| pH | | 6.5 - 8.5 | 6.5 - 8.5 | 6.5 - 8.5 | 6.5 - 8.5 | 6.5 - 8.5 |
| Expected effluent: BOD5 | mg/L | < 10 | < 10 | < 10 | < 10 | < 10 |
| N _{tot} | mg/L | < 20 | < 20 | < 20 | < 20 | < 20 |
| TP | mg/L | < 10 | < 10 | < 10 | < 10 | < 10 |
| TSS | mg/L | < 5 | < 5 | < 5 | < 5 | < 5 |
| Turbidity | NTU | < 2 | < 2 | < 2 | < 2 | < 2 |
| E.Coli | CFU/100mL | < 1 | < 1 | < 1 | < 1 | < 1 |
| Inlet screening | | YES | YES | YES | YES | YES |
| Screening aperture | mm | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| pH correction | | Optional | Optional | Optional | Optional | Optional |
| Optional Tertiary treatment | | Media/ Carbon | Media/ Carbon | Media/ Carbon | Media/ Carbon | Media/ Carbon |
| Aeration | | Ejector or Diffusers | Ejector or Diffusers | Ejector or Diffusers | Ejector or Diffusers | Ejector or Diffusers |
| Control room | | 10' ISO ** | 20' ISO ** | 20' ISO ** | 20' ISO ** | 20' ISO ** |
| Remote monitoring | | YES | YES | YES | YES | YES |
| Auto waste off/sludge tanks | | YES | YES | YES | YES | YES |
| Sludge filter press | | Optional | Optional | Optional | Optional | Optional |
| Typical footprint | meters | 10 x 10 *** | 12 x 12 *** | 15 x 15 *** | 20 x 20 *** | 30 x 30 *** |

