aqi-SBR

COMPACT AND EFFICIENT TECHNOLOGY FOR BIOLOGICAL INDUSTRIAL EFFLUENTS

FCC Servicios Ciudadanos

aqualia industrial

www.aqualiaindustrial.com · aqualiaindustrial@fcc.es

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COMPACT AND EFFICIENT TECHNOLOGY FOR BIOLOGICAL INDUSTRIAL EFFLUENTS

Sequencing batch reactors (aqi-SBR) are used in the world of water purification, reduction the complexity of current treatments that have been proven to be inefficient.
They are discontinuous reactors in which the wastewater is mixed with a biological sludge in an aerated tank. The process brings together reaction, aeration, clarification and extraction in the same tank, simplifying the purification process enormously.

THE TECHNOLOGY

The technology is an optimised variant of conventional activated sludge technologies. It is based on the use of a single reactor that operates in a discontinuous sequence. The **aqi-SBR** system is made up of at least four cyclic processes: fill, react, decant and idle. This technology is able to tolerate variations in the load and volume of flow, and generate stabilised sludge as a product. The quality and properties of the sludge generated will depend on the nature of the influent that is to be treated.

OPERATION AND MAINTENANCE

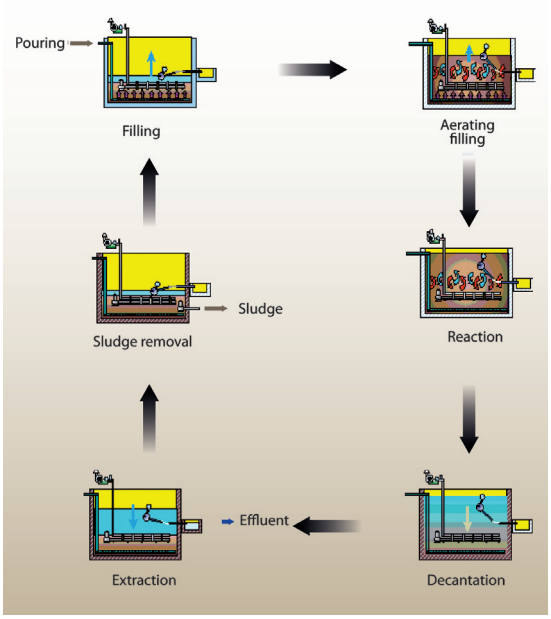
aqi-SBR systems are associated with significant operational flexibility and incorporate an aeration system, highlighting their great efficiency in removing nutrients.

These plants can be set up to simulate any conventional activated sludge process.

aqi-SBR operate over time, changing the number of cycles they perform each day.

By controlling the desired effluent limits in this way, they offer additional flexibility.

aqi-SBR technology uses equipment outside the reactor, eliminating the need for sludge recirculation pumps and most primary and secondary clarifiers, thereby reducing the operational and maintenance requirements and therefore also the initial investment.



ADVANTAGES

- Lower investment costs It does not require a pump for sludge return and the settler is smaller due to the system's excellent settling ability.
- Stability and flexibility: it can be adapted to suit fluctuating conditions and can tolerate variations in the organic load.
- Efficient removal of: BOD5, nutrients (N, P) and refractory compounds.
- Better control over the growth of filamentous microorganisms.
- Better retention of Biomass compared with other technologies, such as activated sludge.
- Easy operating, requiring a smaller workforce and less maintenance, as the system is completely automatic and, furthermore, can be controlled remotely.
- Significant nitrate reductions, incorporating an anaerobic cycle.
- Lower power consumption than conventional continuous systems.
- Great operational flexibility.
- Compact design, requiring less space than conventional systems such as activated sludge.
- Generation of secondary "stabilised" sludge which, just like with conventional systems, can be used as fertilisers, soil amendments and biogas producers, among others.
- No visual impact; can be installed underground.

APPLICATIONS AND USES

- Highly recommended for businesses with limited usable ground, as it covers a smaller surface area compared with conventional systems.
- It is recommended for agro-industrial waste with a high load and volume of flow.
- Suitable for minimal operator attendance.
- Ideal for plants with a large variety of effluent and / or organic load.
- Convenient for systems that require nitrification, denitrification and / or phosphorus extraction.
- Can be used in areas where the effluent requirements may change frequently and /or may be more strict, thanks to the great flexibility of these systems in changing their treatment options.

- They are perfect for the following sectors and industries:

- Meat industry.
- Dairy industry.
- Juice and drinks industry.
- Canned vegetables.
- Canned fish.
- Oil refineries and petrochemical industry.
- Pharmaceutical industry.
- Leachates.
- Paper and card industry.
- Urban purification in small communities.

AQUALIA INDUSTRIAL Federico Salmón, 13, 2ª Pl. 28.016 Madrid T.: +34 913 595 400
Epalza, 8, 3ª Pl. 48.007 Bilbao T.: +34 944 46 04 00
P. I. Nuevo Calonge, Pincel, 25. 41.007 Sevilla T.: +34 954 43 44 99
www.aqualiaindustrial.com · aqualiaindustrial@fcc.es