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SBR BIOLOGICAL PACKAGE TREATMENT SYSTEMS

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GENERAL DESCRIPTION AND INTENDED USE

The wastewater occurred as a result of the activities of the industrial companies in the production processes or the wastewater arising out of domestic use which has no inorganic pollutants and toxicity can be treated via biological treatment.

The wastewater flow rate, treatment process, investment and operation costs are considered in the designs of biological treatment design. For this reason, it is decided whether the facility will be reinforced concrete or package during designing stage.

The biological treatment is a process which removes solved organic materials in the wastewater with the help of bacteria by using oxygen. The food substances such as nitrogen and phosphorus as well as organic substances in domestic wastewater treatment are removed in biological treatment.

The treated water is sent to the receiving body by passing through disinfection system or it is used for irrigation via a water booster after the required conditions are met in accordance with the request of the customer.

The sequencing batch reactor type biological treatment systems consist of pumps, blowers, diffusers, dosing systems and electrical automation system.

The equipment used in the system is mounted to the operation building coupled to the tank.

Areas of Usage;

- Factories and industrial companies,
- Hotels and camps,
- Summer sites and touristic facilities,
- Schools and cooperatives,
- Military facilities,
- Sites and settlement centers with no infrastructure,
- Village, districts and municipalities,
- Temporary settlement places,
- Accommodation facilities.

1

Working Principle Of Equipment

The biological treatment is performed with the activated sludge in the biological reactor tank. Activated sludge is the mixture of organic and inorganic substances and alive and dead microorganisms. During activated sludge process, the microorganisms degrade the organic substance by using oxygen. The organic substance is both used in carbon and energy source in microbial growth and in synthesis of new cells. The degraded products are carbon dioxide and water.

The oxygen which is required by the activated sludge is given to the system with the air produced by the blower via diffusers installed at the bottom of the biologic reactor tank. This aeration ensures the suitable installation of the diffusers and it also provides the mixture required for the activated sludge not to settle. After the blower is closed at the end of the sufficient aeration period in the biological reactor tank, the biological reactor tank is used as the sedimentation tank. At the end of the sedimentation period, the treated water is sent to the receiving body with the help of discharge valve (with discharge pump if necessary).

The chlorine (hypoclorite) is added in the treatment water by the dosing pump during discharging and the microbiologic activities which may occur in the wastewater are prevented.

The stabilized sludge accumulated up to discharge valve in long periods is destroyed in accordance with the relevant legal legislations.

At the end of the treatment process, the system restarts and the same treatment processes are repeated.

TECHNICAL SPECIFICATIONS

- It treats the wastewater in any flow rate in parallel uses.
- Biologic package treatment is a compact unit consisting of all units (aeration, sedimentation and disinfection) required for the systems operating with biologic treatment method.
- The power and control panel are prepared by using materials in accordance with TSE.
- The package treatment systems are installed on a base and it is mounted on such base.
- The package plants have different color options which will complete the aesthetic consistency according to the place where they will be installed.
- The package treatment systems are produced open or closed.
- The treatment plant is periodically visited during the guarantee period and the operational performance of the plant is kept under control.
- If the wastewater complies with the design parameters, the outlet water quality is provided according to the legislation in force.

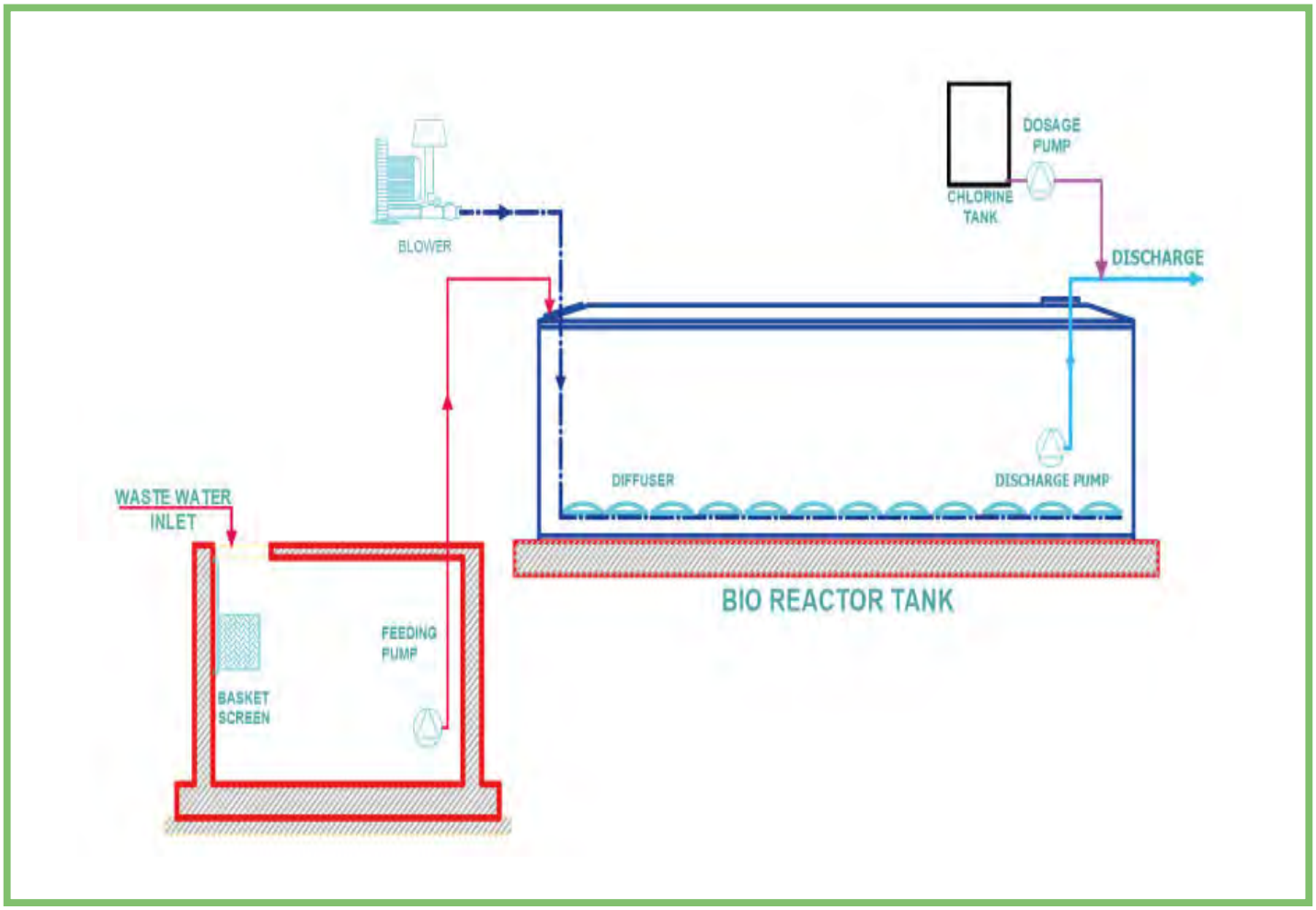
ADVANTAGES

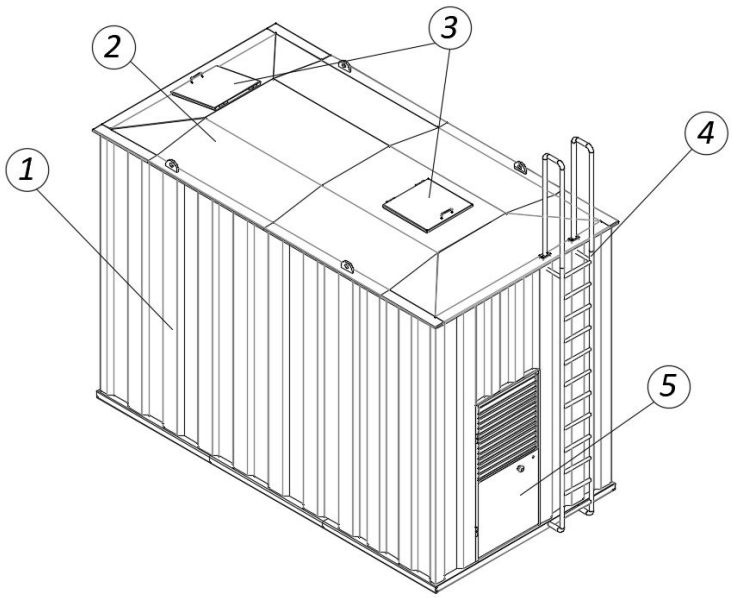
- Project Based Special Design Possibility,
- Compact Design,
- Easy Transportation and Mounting / Demounting,
- Long Operation Life,
- Possibility to Control and Follow the System Operation Over SCADA,
- Minimizing the Field Requirement Reserved for Wastewater Treatment Facility,
- Aesthetic Consistency in the Installation Field,
- Full Automatic Operation of Package Facilities Without Personnel,
- Easy Operation and Maintenance,
- Low Operation and Maintenance Costs,
- Odor and Noise-Free Operation,
- Suitable for Outdoor Operation.

ACCESSORIES

- Ladder
- Diffuser
- Blower
- Discharge Pump / Valve
- Chlorine Dosing System
- Acoustic Cabin*
- Intervention and Maintenance Platform*
- Oxygen meter*
- Frequency Inverter*
- Local Power and Control Panel*

* Optional accessories are defined.





No	Part Name
1	SBR Section (Aeration - Sedimentation)
2	Package Treatment Roof
3	Covers
4	Stairs
5	Operation Room

Material Details

- Tank: Produced as S235JR + Epoxy Paint.
- Roof: Produced as S235JR + Epoxy Paint.

"Different materials can be preferred in accordance with the request of the customer."

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