

sismat

THE MOST RELIABLE SYSTEM FOR PACKAGE TREATMENT

Biopak





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Biopak, a package type biological treatment unit, is a fixed bed, long aeration, active sludge system used for municipal wastewater treatment. Entirely a product of Sismat's know-how, it does not require any pre-equalization and is not affected by any hydraulic changes. It is an efficient, tested system that provides odorless and clear treated water quality. It is comprised of screening unit, aeration, clarification, disinfection, sludge deposit and control cabin.

Specifications

- Treatment efficiency is over 90%.
- Treated water is so clean that it is safe to use it in your garden or washing outside floors.
- Silent operation.
- Transportable and compact.
- Delivered ready to use. Only inlet, outlet and power connections are done on spot.
- It does not take much room. It can be installed underground, in gardens and even in basements.

Areas of Use

It is used for the treatment of wastewater from settlements with capacities ranging from 50 to 2000 people and without connection to the sewer system.

- Housing complexes
- Hotels
- Holiday villages
- Summer residentials
- Construction sites
- Schools
- Factories





Advantages

- Operation is very simple. Even non-qualified personnel can run the unit.
- Fixed bed system enables more bacteria concentration. Thus, outlet water quality gets higher.
- It is not affected by any hydraulic changes.
- It can bear pollution load over its capacity to a certain degree.
- Even if it is not used for long periods of time, it can be activated in 2-3 days.
- Sludge discharge is very low.
- Capacity expansion is possible.
- Power consumption is low.
- Only two pieces of equipment are operated mechanically, so it needs very little maintenance.
- It is not affected by temperature differences.
- The cost of initial investment is very low. It is only the total of the price of the smallest possible septic tank and hiring cost of a sewage lifting truck for one season.
- It takes smaller room compared to other treatment units.
- Delivery time is short, assembly process takes only a few days.

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Process Features

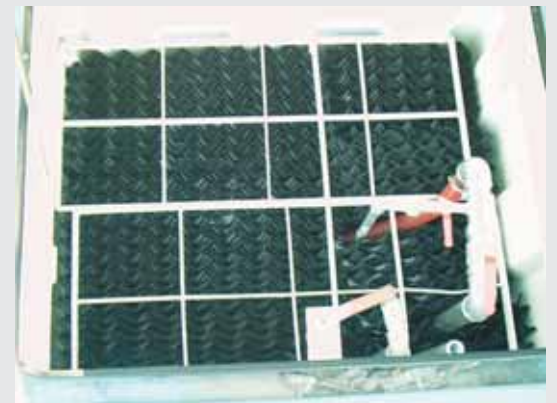
Wastewater is taken to the aeration section through the screens. The aeration process involves the consumption of organic matter by bacteria with the help of oxygen provided by blowers.

In the aeration section, specially formed plastic filling materials providing a large surface area are used as the fixed bed.

Following organic treatment in the aeration basin, water flows to the settlement basin conveying some bacteria flocks. Parallel plates in the settlement basin make the sludge settle immediately and shorten the required staying time. Hence, the required surface area decreases as well.

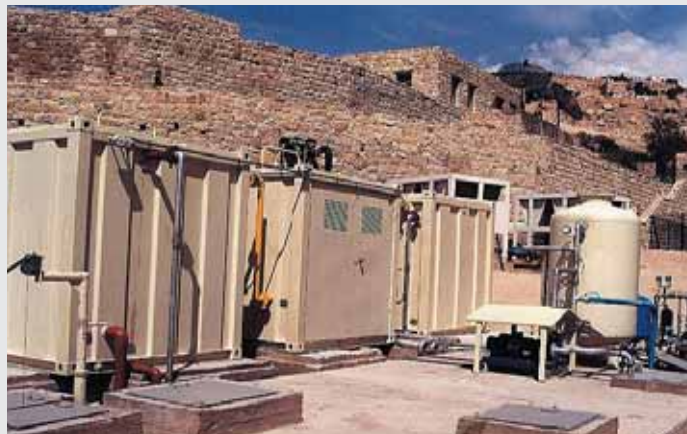
Water, flowing through the weirs from the settlement basin to the disinfection basin, is treated with chlorine. Treated water is then discharged to the environment and can be used for irrigation purposes.

Bacteria in the settlement basin are collected in the sludge deposit and this sludge, whenever needed, can be stabilized by continuous recycling. The sludge in very small amounts is regularly discharged from the system.



Optionals

- Instead of standard applications, the unit can be painted in the requested colors and design.
- Following the guarantee period, continuous maintenance service, repair service, commissioning and training services can be supplied.
- A standby blower can be installed in the control cabin. The control cabin is so arranged that the standby blower can be easily assembled with 4 bolts.
- Entire unit or some parts can be manufactured from stainless steel.
- Control cabin can be constructed separately.
- Extra isolation is possible if the climate conditions require.
- If required, wastewater feed and effluent water discharge pumps can be provided by Sismat.
- Pump controls can be done from the Biopak control panel.
- Filterpress can be added to discharge sludge more easily.
- Additional filtration system may be recommended to increase the quality of outlet water.
- Self-cleaning mechanical screen can be provided instead of basket type manually cleaned screen.



BIOPAK SERIES



S Series

Outlet water quality is in accordance with the Water Pollution Regulations in Turkey. Because of their dimensions, S Series models are preferred in cases where transportation is to be done by land.

C Series

Having the advantage of 2-step aeration and settlement process, outlet water quality is very high. Since the dimensions are the same as the containers used in sea transportation, they offer a great price benefit in transportation by sea.

	Inlet	Outlet	
		S Series	C Series
BOI (mg/l)	300	10-15	30
KOI (mg/l)	600	70-100	100-120
AKM (mg/l)	300	10-15	30
pH	6-9	6-9	6-9

Capacity Utilization

S Series

MODEL	Treatment Capacity (m ³ /day)	Person Equivalent	Overall Dimensions (m)	No. of Tanks
BIOPAK - 50	10	50	226x226x226	1
BIOPAK - 100	20	100	226x316x288	1
BIOPAK - 200	40	200	226x516x288	1
BIOPAK - 300	60	300	226x766x288	1
BIOPAK - 400	80	400	226x941x288	1
BIOPAK - 500	100	500	226x1116x288	1
BIOPAK - 600	120	600	226x1200x288	1
BIOPAK - 700	140	700	226x766x288	2
BIOPAK - 800	160	800	226x866x288	2
BIOPAK - 900	180	900	226x966x288	2
BIOPAK - 1000	200	1000	226x1066x288	2
BIOPAK - 1100	220	1100	226x1166x288	2
BIOPAK - 1200	240	1200	226x1266x288	2
BIOPAK - 1300	260	1300	226x916x288	3
BIOPAK - 1400	280	1400	226x981x288	3
BIOPAK - 1500	300	1500	226x1046x288	3

C Series

MODEL	Treatment Capacity (m ³ /day)	Person Equivalent	Overall Dimensions (m)	No. of Tanks
BIOPAK - C1	30	150	2.4 x 2.4 x 6. (1 x 20")	1
BIOPAK - C2	50	250	2.4 x 2.4 x 12 (1 x 40")	1
BIOPAK - C3	100	500	1 x 20" + 1 x 40"	2
BIOPAK - C4	150	750	2 x 40"	2
BIOPAK - C5	200	1000	1 x 20" + 2 x 40"	3
BIOPAK - C6	250	1250	3 x 40"	3

200 litres of water consumption is considered per person per day in the above list. In cases where wastewater flow is not known and especially for touristic resorts please refer to Sismat for Biopak unit selection

PRE-TREATMENT EQUIPMENT

- Screens
- Screening Compactor
- Grit Classifier

TREATMENT EQUIPMENT

- Screw Pump
- Surface Aerators
- Scrapers
- Thickeners
- Flow Control Devices

DEWATERING EQUIPMENT

- Pre-dewatering Belt
- Beltpresses
- Filterpresses
- Chemical Preparation and Dosing Units

PACKAGE TYPE BIOLOGICAL TREATMENT PLANT

- BIOPAK

FILTRATION UNITS

- Pressure Sand Filter
- Ion Exchanger
- Activated Carbon Filter

OTHERS

- Screw Conveyor
- Belt Conveyor
- Double Shaft Mixer
- Container Station
- Oil and Grease Separators

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