biological sewage treatment plant Bioflow

activated sewage treatment plant BIOFLOW for 60 – 200 PE

APPLICATION

BIOFLOW is a type series of mechanical-biological sewage treatment plants designed for purif cation of sewage wastewater from households, boarding houses, hotels, recreation centres, sanitary installations of f rms, etc. These plants can also be used for cleaning or f nal cleaning of industrial wastewater which is biologically degradable. BIOFLOW can be sited in places where it is not possible to divert wastewater from small sources of contamination into the central sewage treatment plant by a public sewerage system.

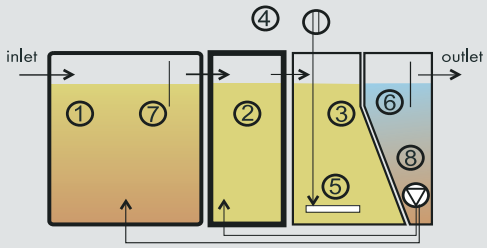
DESCRIPTION

BIOFLOW consists of one or two compact whole-plastic polypropylene containers which are divided by partitions into individual functional sections. BIOFLOW is composed of primary and secondary settling sections, an activation section and a sludge reservoir. The sewage treatment plant has a movable PP lid with openings for a visual control of the purifying process. The source of air for activation is produced by the blast engine which is installed in the container or possibly outside the tank (room for the blast engine, garage, cellar, store). Stability of the operation of sewage treatment plants is reached by means of time-tested technology of f ne-bubble aeration, nitrif cation and pre-denitrif cation.

TECHNOLOGY

Wastewater f ows into the settling section **(1)** Coarse f owing and settleable impurities are caught there and stabilised in an anaerobic way. Mechanically pre-treated water f ows into the activation divided into denitrif cation **(2)**and nitrif cation **(3)** Activation is designed as low-loaded ensuring stabilisation of sludge and high quality of purif ed water. Activation is aerated by means of the blast engine **(4)** through the aerating grid **(5)** From activation water f ows into the vertical secondary settling section **(6)**where sludge and purif ed water are separated. Removal of excessive sludge into the sludge reservoir **(7)**and re-circulation of sludge from the secondary settling section into the activation one are ensured by means of the air-lift pump **(8)** Finally purif ed sewage water can f ow into a public sewerage system or a stream. The discussed technology can be complemented by a pumping station, a sand catcher, screen or a measuring object.

TECHNOLOGICAL SCHEME



SITING

The construction of the sewage treatment plant is designed as selfsupporting and therefore, if there is no high ground water, it can be only sited on a ready in advance concrete slab planar to ±5 mm and backf lled. Backf lling is done while the plant is being f lled with clean water. In case there is ground water it is recommended to concrete the separator around and to use the walls as formwork.

PUTTING INTO OPERATION

Putting into operation is dependant on connection of the sewage treatment plant with a feed delivery pipe and an outfall pipe. Furthermore, the mechanical device must be connected with mains.

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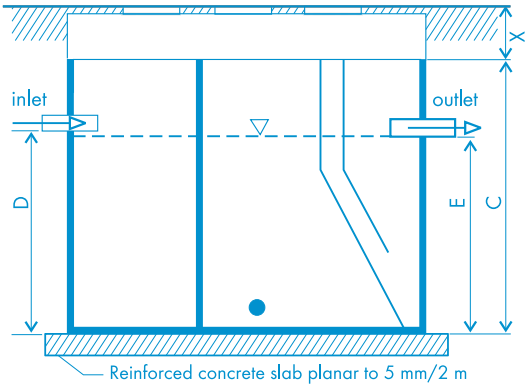
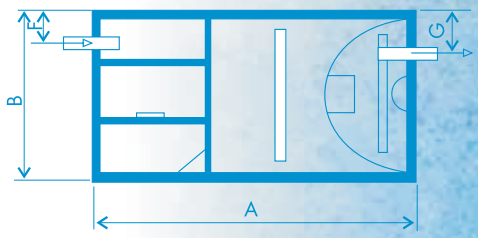
TECHNOLOGY FOR ENVIRONMENT

SCHEME OF BIOFLOW

Cross section



Ground plan



Dimension of **X** can be adjusted individually with regard to local conditions. It is possible to site it into the grass land with height of the soil 250 mm.

TECHNICAL PARAMETERS

Type of sewage treatment plant	Number of PE	Q m^3/day	BOD_5 kg/day	A mm	B mm	C mm	D mm	E mm	F mm	G mm	Power Input W	Weight kg
BIOFLOW 60	40-60	9,0	3,6	3500	2560	2680	2280	2180	350	450	370	1300
BIOFLOW 90	60-90	13,5	5,4	5000	2560	3080	2830	2730	350	450	550	1600
BIOFLOW 120	90-120	18,0	7,2	6000	2560	3080	2830	2730	350	450	550	2000
BIOFLOW 160	120-160	24,0	9,6	4500	5120	3080	2830	2730	350	450	750	3000
BIOFLOW 200	160-200	30,0	12,0	5500	5120	3080	2830	2730	350	450	750	3200

GUARANTEED FLOW-OFF VALUES

Parameter	BOD_5	COD	SS
mg/l	30	120	30

REQUIREMENTS FOR MAINTENANCE

Maintenance is based on a visual control of the purifying process, the quality of purif ed water and the amount of sludge. With regard to the fact that the sewage treatment plant does not have turning components it does not require permanent professional care. Stabilised sludge can be put into a compost or removed by a f rm having a licence for this activity.

THE TECHNOLOGY HAS THE FOLLOWING ADVANTAGES

- high ef ciency of purif cation
- usage of non-corrosive materials
- simple installation
- low energy consumption in operation and low operation costs
- minimum maintenance requirements
- reliable operation even in winter conditions
- self-supporting construction
- removal of sludge once or twice a year
- minimum requirements for building facilities of the customer
- the lid of BIOFLOW is UV-resistant
- high quality for moderate price

OUR COMPLEX SERVICES INCLUDE

- adjustment of solutions to meet your requirements
- design of the proposed technology
- design documentation
- supply and assembly of technology
- putting the plant into operation
- training of the servicing staf
- elaboration of the operational

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TECHNOLOGY FOR ENVIRONMENT