

# biological sewage treatment plant Bioflow

## activated sewage treatment plant BIOFLOW for 1-50 PE

### APPLICATION ...

BIOFLOW is a type series of mechanical-biological sewage treatment plants designed for purification of sewage wastewater from households, boarding houses, hotels, recreation centres, sanitary installations of farms, etc. These plants can also be used for cleaning or final 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 compact whole-plastic polypropylene container which is 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 fine-bubble aeration, nitrification and pre-denitrification.

### TECHNOLOGY ...

Wastewater flows into the settling section (1). Coarse flowing and settleable impurities are caught there and stabilised in an anaerobic way. Mechanically pre-treated water flows into the activation divided into denitrification (2) and nitrification (3). Activation is designed as low-loaded ensuring stabilisation of sludge and high quality of purified water. Activation is aerated by means of the blast engine (4) through the aerating grid (5). From activation water flows into the vertical secondary settling section (6) where sludge and purified 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 purified sewage water can flow 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.

### SITING ...

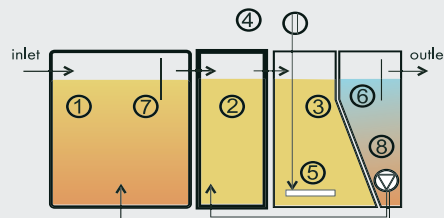
The construction of the sewage treatment plant is designed as self-supporting and therefore, if there is no high ground water, it can be only sited on a ready in advance concrete slab planar to  $\pm 5$  mm and backfilled. Backfilling is done while the plant is being filled with clean water. In case 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.



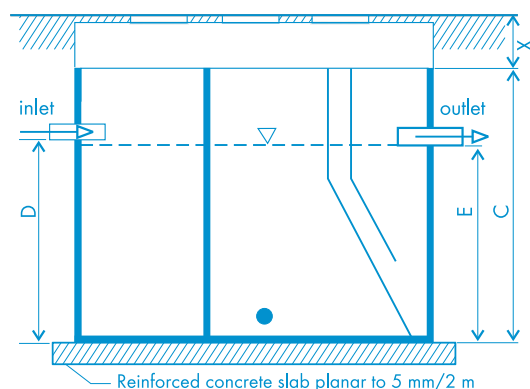
### TECHNOLOGICAL SCHEME



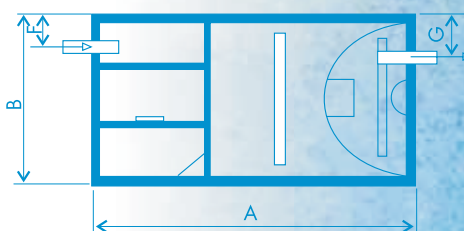


## SCHEME OF BIOFLOW

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 <sup>3</sup> /day	BOD <sub>5</sub> kg/day	A mm	B mm	C mm	D mm	E mm	F mm	G mm	Power Input W	Weight kg
BIOFLOW 5	1–5	0,75	0,3	2160	1660	1865	1500	1420	450	450	50	600
BIOFLOW 10	5–10	1,5	0,6	2160	1660	2095	1730	1650	450	450	50	650
BIOFLOW 15	10–15	2,25	0,9	2160	2000	2095	1730	1530	450	450	100	700
BIOFLOW 25	15–25	3,75	1,5	2160	2000	2580	2280	2080	450	450	130	800
BIOFLOW 40	25–40	6,0	2,4	2600	2560	2680	2280	2080	450	450	200	1100
BIOFLOW 50	40–50	7,5	3,0	3000	2560	2680	2280	2080	450	450	350	1300

## GUARANTEED FLOW-OFF VALUES

Parameter	BOD <sub>5</sub>	COD	SS
mg/l	30	120	30

## REQUIREMENTS FOR MAINTENANCE

Maintenance is based on a visual control of the purifying process, the quality of purified 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 firm having a licence for this activity.

## THE TECHNOLOGY HAS THE FOLLOWING ADVANTAGES

- high efficiency of purification
- 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 staff
- elaboration of the operational



**EKOPLAST TELČ s.r.o.**  
 Hradecká 8, 588 56 Telč  
**tel/** +420 567 563 781  
**fax/** +420 567 563 785  
**mobil/** +420 606 711 050  
**email/** ekoplast@ekoplast.cz  
**web/** www.ekoplast.cz



**THIS PROJECT IS CO-FINANCED  
BY THE EUROPEAN UNION**

**TECHNOLOGY  
FOR ENVIRONMENT**