# biological sewage treatment plant Bioflow

## activated sewage treatment plant BIOFLOW for 250 - 2000 PE

### TECHNOLOGY AND CONCEPT

Waste water treatment plant is designed from the capacity BIOTEL 400 as a twin line system for the reason of adaptability to the actual utilization, feasibility of monitoring and revisions, etc.
Technology guarantees achievement of the given indicators in case of progressing loading from 25 - 30% of the projected capacity. The waste water treatment plant fully meets all requirements on automation and low consumption of electric energy - 0,9 - 1,7 kW 1m$^3$. Proposed machinery and reduced production of sludge signif cally inf uence the total operational costs.
Activation is divided in two parts - nitrif cation and denitrif cation. Activation is equipped with f ne-bubble anaeorobic system enabling the revisions and eventual adjustments of the plant during operation, no need to empty the basin. The procedure of anaeorobication and mixing of activation is governed automaticaly in the electrical distributor. Reason for such a technological set-up of activation is the aim to get rid of nitrogen and phosphorus in maximum way.
Separation of sludge and purif ed water happens in secondary sed tank, in front of which a degasif cation zone is placed. A part of the secondary sed tank of square vertical chape is a soothing cylinder, submersible walls, collecting adaptable manger and recircular mamooth typ air pump. The sludge sector consists of an aeration tank and sludge collector designed for the storage of the sludge for 100-150 days. Thickened sludge from the sludge collector on 2 - 5 % desiccation of the sludge could be further dehydrated or used for the purposes in agriculture as fertiliser, or stored in a dump.

### APPLICATION

Activated sewage treatment plant BIOFLOW is a type series of mechanical-biological sewage treatment plants based on progresssive methods of low-loaded activation with f ne-dubble aeration and separated stabilization of sludge. Brick-box sewage treatment plants BIOFLOW are def ned namely for less and medium sources of contamination. High variability of space arrangement in PP containers enable the product to be used also for industrial waste water which are biologically treatable. The plants are designed on the basis of equivalent persons and datas on specif c production of pollution.
The capacity of the sewage treatment plants is designed for separatable sewer network with the feeder or balast water in the volume upto 10% of the nonrain f ow of sewage water.

### SITING

Construction of the waste water treatment plant can be designed as open or covered, on ground or underground implementation. The basic waste water treatment unit could be further equipped with pumping station, a sand catcher, screen or a measuring object, an oxygen probe for optimalization of air supply to activation tank, data telecommunication, chemical equipment and f lter press.

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TECHNOLOGY FOR ENVIRONMENT

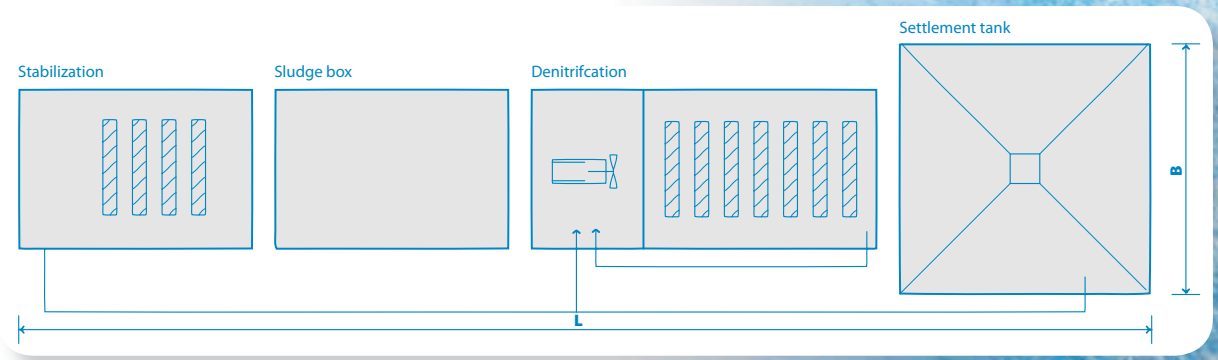
## BIOFLOW 250, 300

### TECHNICAL DATA

| Type of sewage treatment plant | Number of PE | Q $m^3$/day | Q day max $m^3$/day | Q hour max $m^3$/hour | $BOD_5$ kg/day | L m | B m | Hw* m |
|---|---|---|---|---|---|---|---|---|
| BIOFLOW 250 | 200-250 | 30-37,5 | 56,25 | 12 | 15 | 15,5 | 3,0 | 2,65 |
| BIOFLOW 300 | 250-300 | 37,5-45 | 67,5 | 12,5 | 18 | 19,5 | 3,5 | 2,5 |

HW*- high of water surface in activation

### SCHEME OF BIOFLOW



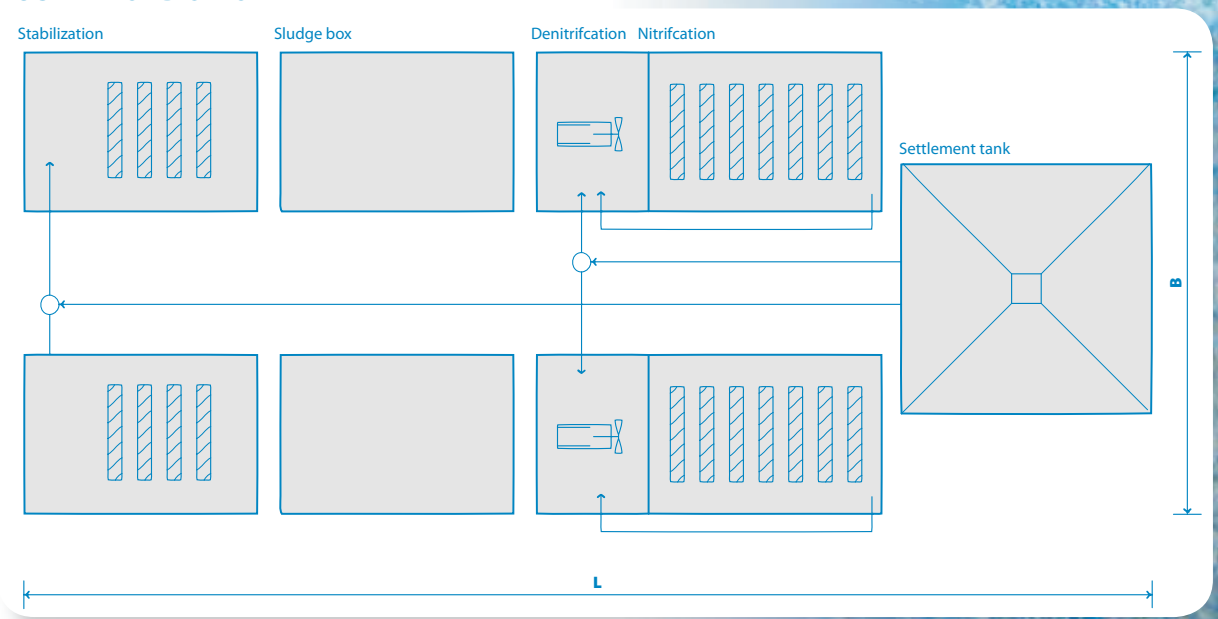

## BIOFLOW 400, 500, 600, 700

### TECHNICAL DATA

| Type of sewage treatment plant | Number of PE | Q $m^3$/day | Q day max $m^3$/day | Q hour max $m^3$/hour | $BOD_5$ kg/day | L m | B m | Hw* m |
|---|---|---|---|---|---|---|---|---|
| BIOFLOW 400 | 300-400 | 45-60 | 90 | 13,1 | 24 | 14 | 5,32 | 2,5 |
| BIOFLOW 500 | 400-500 | 60-75 | 112,5 | 13,5 | 30 | 16 | 5,32 | 2,5 |
| BIOFLOW 600 | 500-600 | 75-90 | 135 | 14,1 | 36 | 16,5 | 5,32 | 3 |
| BIOFLOW 700 | 600-700 | 90-105 | 175,5 | 15,8 | 42 | 19,5 | 5,32 | 3 |

HW*- high of water surface in activation

### SCHEME OF BIOFLOW

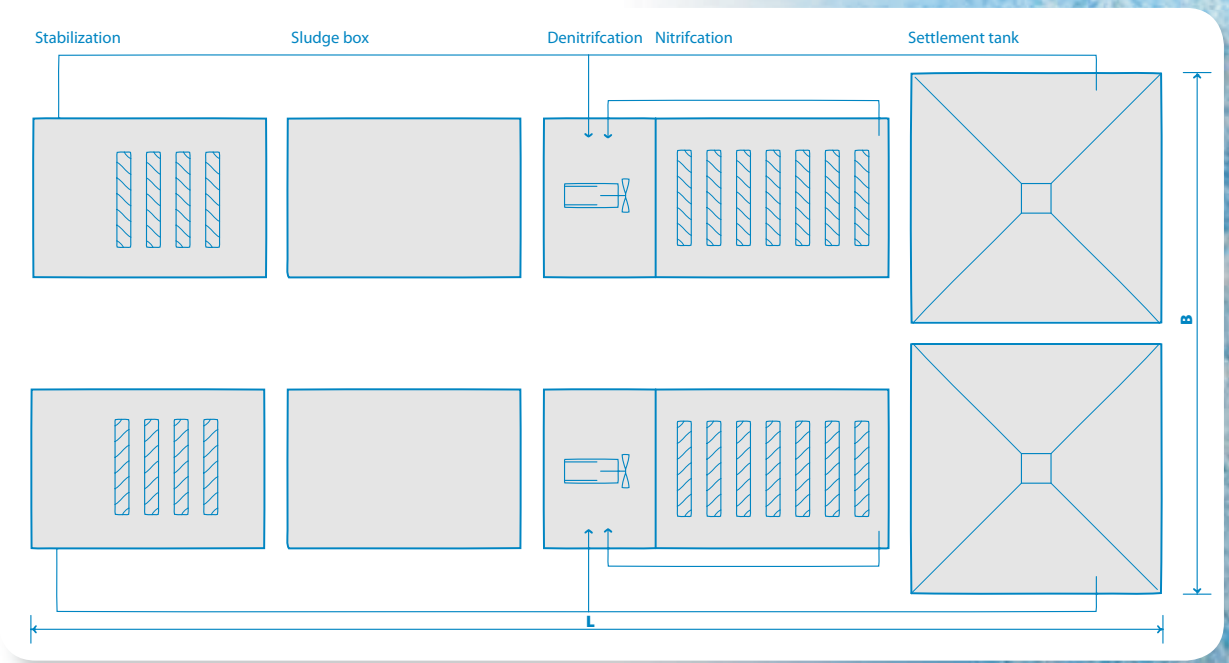


## BIOFLOW 800, 900, 1000, 1500, 2000
TECHNICAL DATA

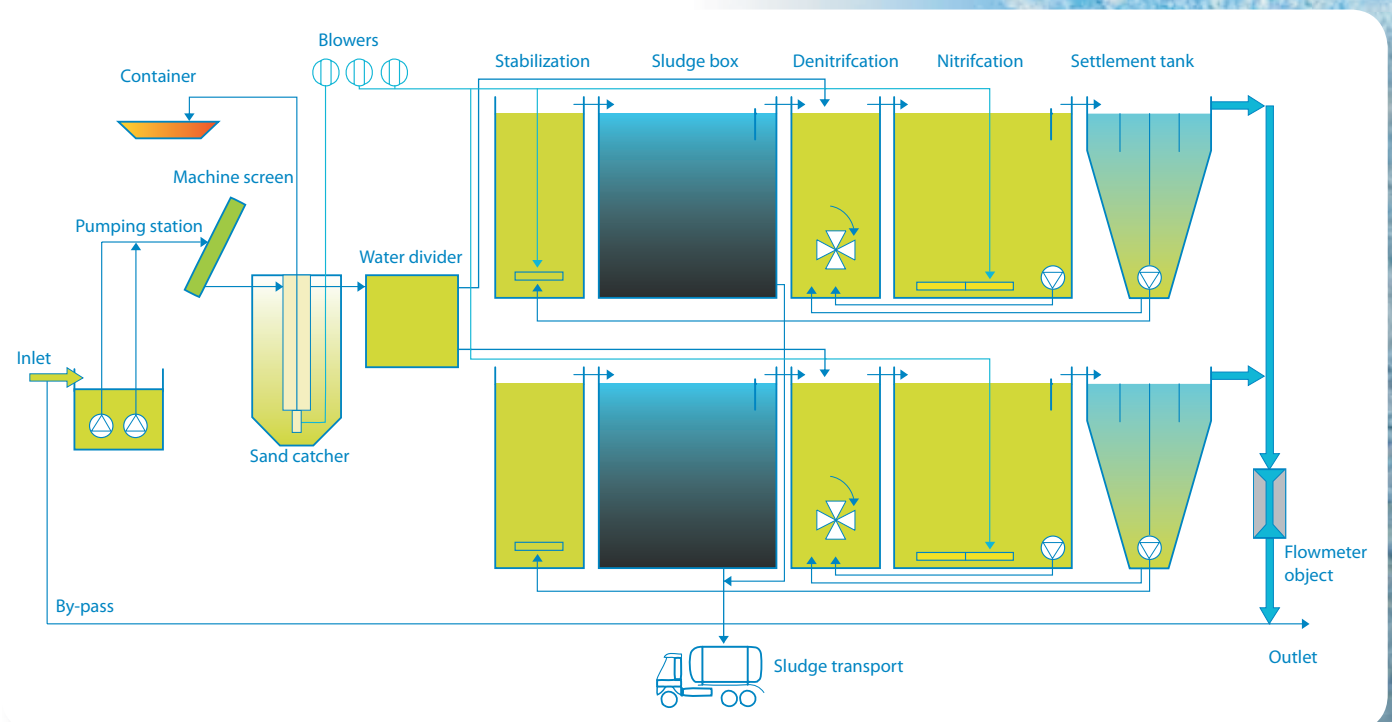
| Type of sewage treatment plant | Number of PE | Q $m^3$/day | Q day max $m^3$/day | Q hour max $m^3$/hour | $BOD_5$ kg/day | L m | B m | Hw* m |
|---|---|---|---|---|---|---|---|---|
| BIOFLOW 800 | 700-800 | 105-120 | 180 | 18 | 48 | 20,5 | 7 | 3,1 |
| BIOFLOW 900 | 800-900 | 120-135 | 202,5 | 19,8 | 54 | 20 | 7 | 3,0 |
| BIOFLOW 1000 | 900-1000 | 135-150 | 225 | 21,1 | 60 | 21 | 7 | 3,1 |
| BIOFLOW 1500 | 1000-1500 | 150-225 | 247,5 | 28,2 | 90 | 19,5 | 8 | 3,5 |
| BIOFLOW 2000 | 1500-2000 | 225-300 | 420 | 36,8 | 120 | 22 | 8 | 3,6 |

HW*- high of water surface in activation

## SCHEME OF BIOFLOW




## TECHNOLOGICAL SCHEME OF BIOFLOW



## GUARANTEED FLOW-OFF VALUES *

| Parameter | p [mg/l] | m [mg/l] |
|---|---|---|
| $BOD_5$ | 20 | 25 |
| CHSK | 75 | 95 |
| NL | 20 | 25 |
| $N\text{-}NH_4$ | 5 | 8 |

p - acceptable concentration for analysis of mixed samples f ow-of sewage water
m - maximum aceptable concentration of single samples
* values available in case of observance projected capacity and operation according to operational orders

## SERVICING OF THE PLANT

For the type of capacity 250 - 2000 PE only one professionally trained serviceman is required for the period of 1 - 4 hours daily.

## ADVANTAGES OF WASTE WATER TREATMENT PLANT BIOFLOW

- reduction of requirements for construction works
- low operational requirements
- use of non-corrosive materials
- minimal requirements on the servicing staf
- high ef ciency of cleaning
- no problem winter seson operating

## 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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