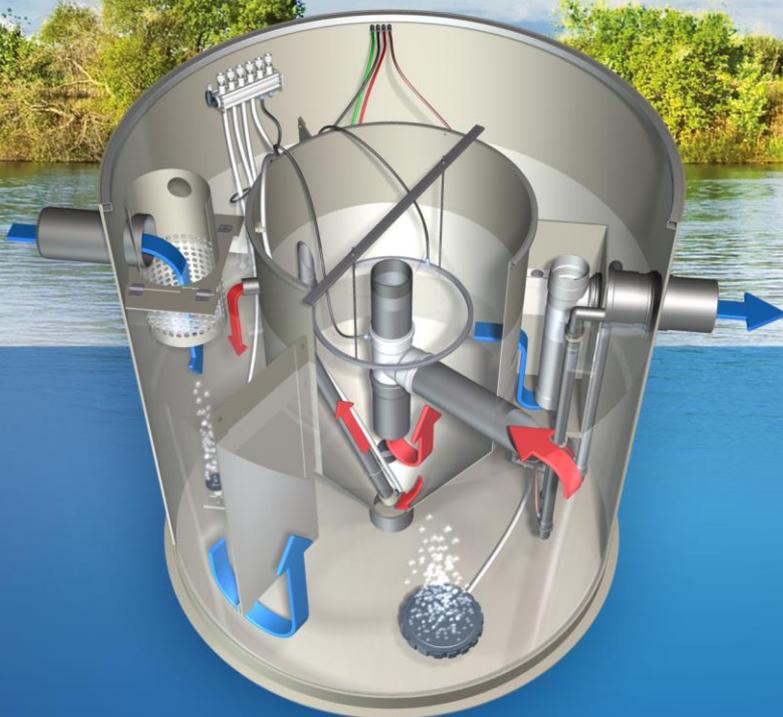


INSTALLATION INSTRUCTIONS



Waste water treatment plants
Type **BioCleaner® BC 4 – 50 PP, SL, B**

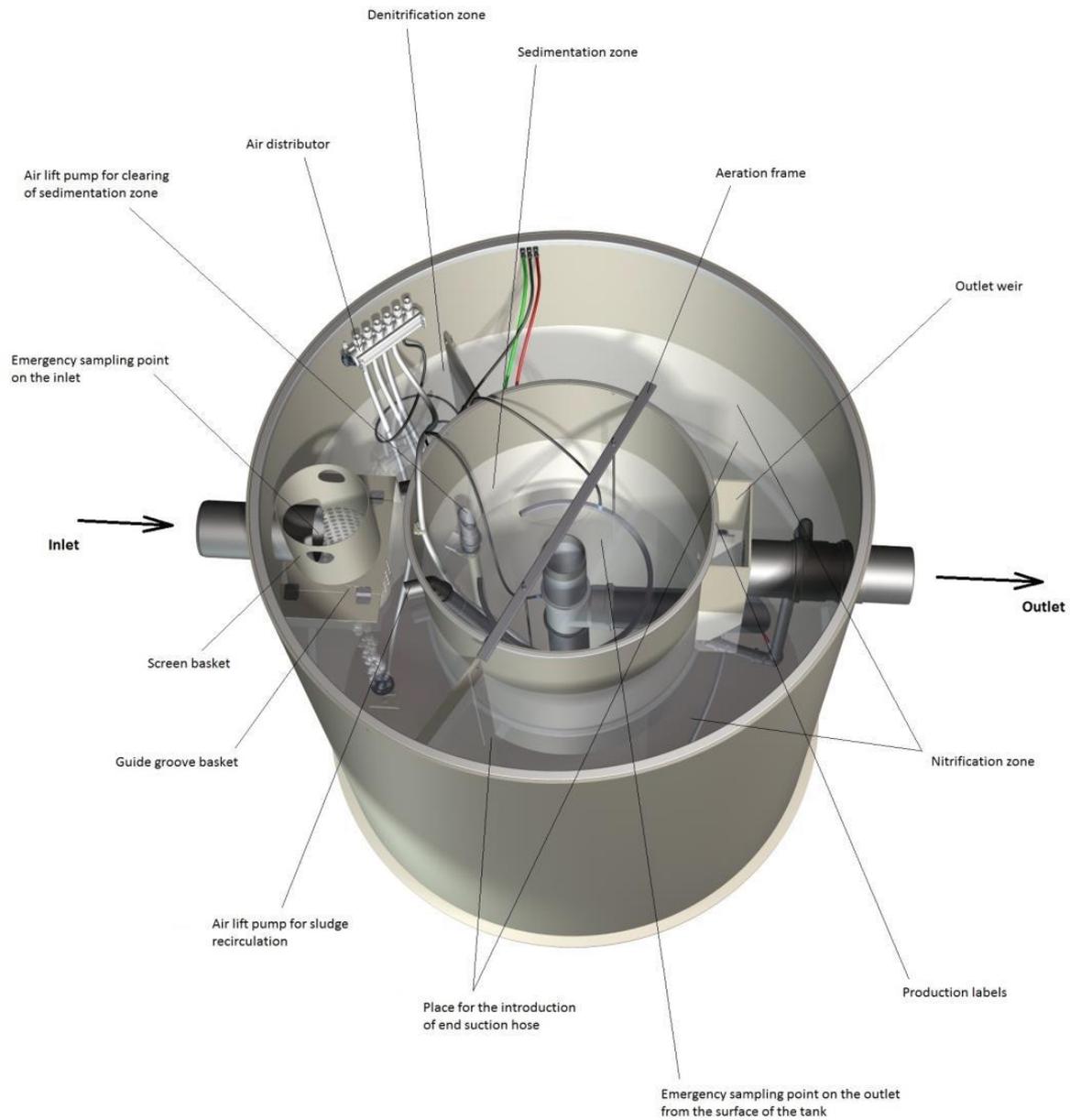


BioCleaner

BASIC
OPTIMA
COMFORT
EXCLUSIVE

This Manual contains important instructions and safety precautions. Please read these instructions thoroughly before installing the waste water treatment plant.

Basic parts of the BioCleaner reactor



The identical installation instructions used for the "PP" variant (plastic version) as stated below apply for the "SL" variant (stainless version).

The "N" variant (dependent version) is always intended for concrete encasement according to the drawings to specific WWTP type.

The BASIC variant is always distributed in the N (dependent) version.



Building pit must be excavated in advance for WWTP installation according to the constructional readiness for specific WWTP type. Execution and security of the excavation must meet the safety requirements. Next, a minor trench should be excavated to allow building of the sheltered area, for example, a wooden house to accommodate the WWTP operation control system (see the figure on the left).



In case of plastic WWTP, a compacted gravel bed must be placed in the trench bottom. Thickness of the layer is 100 mm in the compacted state.

In case of concrete WWTP, a sand bed must be placed in the trench bottom. Thickness of the layer is 100 mm in the compacted state.



The plastic waste water treatment plant must be situated on the blinding concrete (baseplate) of a thickness of either 100 mm or 150 mm depending on specific type of WWTP reinforced with reinforcing net. A concrete slab is cast on the pre-compacted gravel bed. The required flatness of the blinding concrete is 2 mm/2 m.

The concrete waste water treatment plant is seated directly on the sand bed, that is, without any blinding concrete.



Place the waste water treatment plant on the ferro-concrete baseplate. The height of waste water treatment plant's tank is specified in the documents to specific WWTP type. If the installation depth exceeds the WWTP tank height a plastic extension piece must be extra ordered - its maximum height is given in the documents to specific WWTP type. The extension piece height needs to be consulted with the WWTP manufacturer.

The concrete waste water treatment plant is seated directly on the sand bed, that is, without any blinding concrete.

The "N" variant (dependent version) of WWTP is always intended for concrete encasement according to the drawings to specific WWTP type.



Connect the inlet pipe and outlet pipe.

The manufacturer recommends to position the inlet in the outlet axis as indicated on the ground plan.

The wastewater treatment plant tank without extension piece is statically dimensioned for the pack with C14 earth of a specific gravity of 1.8 t/m^3 with the angle of internal friction of 36° with a footing bottom in a maximum depth of 2500 mm below the final grade level. The value is stated in the documents to specific WWTP type. In case the plastic WWTP is installed in the conditions with higher load (for example, into larger depth) it is necessary to secure WWTP statically in sufficient manner by, for example, concrete encasement, depending on the design documents based on the statical analysis that takes into account all the aggravating conditions. The concrete encasement procedure shall be specified in the design documents and consulted with the WWTP manufacturer.



After WWTP has been installed, the clean water amount for WWTP filling must be identified.

Packing is carried out while filling the tank gradually with water in order to eliminate the pressure of earth to the tank jacket. Water level in the tank must be gradually increased during the packing process depending on the height of earth. The maximum height difference between the earth layer and water level must not exceed 30 cm (proceed like this to the outlet height only).



The next phase of the WWTP filling and packing.

Air supply line depends on the possible location of the blower. Blower air hose must be placed into the protector. It is advisable to select the pipe length as short as possible, max. 15 m. If necessary, it is possible to use a hose of a maximum length of 25 m, however, different blower type must be used depending on the individual recommendation of the manufacturer and special attention must be paid to the blower operation.

Connection of air hose (if necessary, air hoses) in WWTP conforms to the diagram of specific WWTP variant.



The correct height of packing and filling of the WWTP tank with water.

If there is a risk for plastic WWTPs that groundwater level may rise above the WWTP's baseplate it is necessary to concrete the tank using the impermeable (watertight) concrete. Seal the lift joint in convenient manner, for example, by inserting the water intumescent sealant (twine), sheet metal, etc. If only plain concrete is used the building must be provided with a pump sump, located apart from WWTP, in order to assure that the groundwater level is lowered below the baseplate level in case the WWTP water content is emptied. The pump sump must be extended by 20 cm above the final grade level and if the water level in WWTP is lowered it is always necessary to lower the groundwater level around WWTP below the baseplate. Design and equipment of the pump sump can be consulted with the supplier of the technological part of WWTP.



It is further necessary to provide sheltered areas for blower, electrical cabinet and cable that will be connected from the building's main switchboard to the planned location of electrical cabinet. One of the possible solutions is the use of wooden house or, if appropriate, both components can be placed into the engineering room, and so on.



Electrical cabinet needs to be connected using a cable protected by separate circuit breaker in the building's main switchboard. The connection cable type and circuit breaker type are specified in the documents to specific WWTP type.

Connect the air hose to the blower.



The WWTP tank must be provided with ceiling in such a manner that it prevents access of unauthorized personnel to WWTP and, simultaneously, allows performance of servicing. Ceiling must allow access to the entire WWTP section. The WWTP tank is not adapted to allow entry of personnel. In case the extension piece is higher than 0.5 m it is necessary to ensure safe access into the tank (e.g. by walkway). A removable laminate ceiling that is rated for the load of 2.5 kN/m² can be delivered together with WWTP.



General view of the connected WWTP and visualization of possible garden development.

If it is not possible to meet all the requirements above it is necessary to elaborate the design documents for WWTP installation.