

Ecoflo® Biofilter – Concrete version

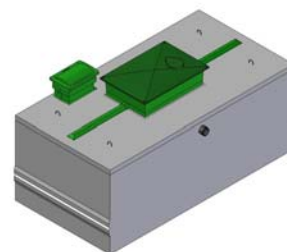
Installation Guide – Virginia

This guide contains the information required to plan the installation of the **Ecoflo® Biofilters STB-650B/BR**. The installation must be performed by an **Ecoflo® Biofilter's** authorized installer. A list of authorized installers is available from our customer service by calling **1 800 6Ecoflo (800 632-6356)**.

Technical Data

Ecoflo® Biofilter components material

- **Shell and top tile:** reinforced concrete 5000 psi;
- **Main access and ventilation system:** fiberglass/polyester resin composite;
- **Lids, secondary access and access funnel:** polyethylene plastic;
- **Support rails:** PVC;
- **Tipping-bucket, central support plate and distribution plates:** ABS plastic;
- **Filtering media:** made of natural fibers.

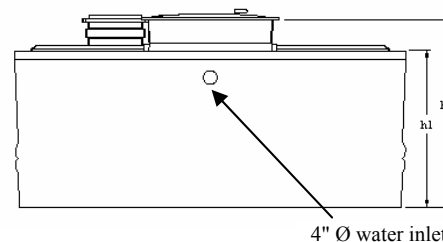
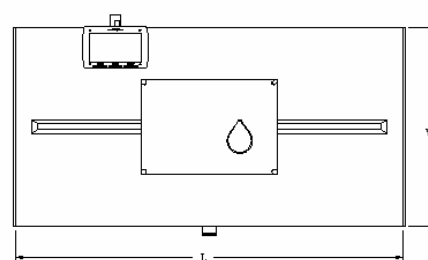


Connections

Flexible, watertight, and adapted to 4" Ø SDR-35 and SCH-40 PVC pipes. Outlet of the STB-650BR adapted to 1½" Ø flexible pipes.

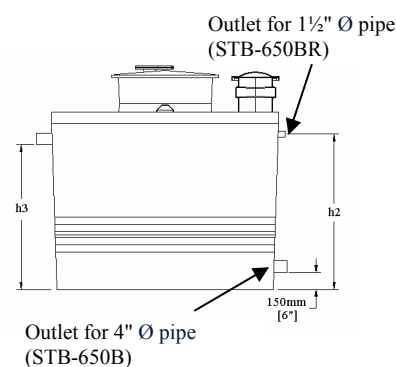
Dimensions

Characteristics	STB-650B/BR
Weight of the top tile (lbs)	4,800
Weight of the shell (lbs)	11,000
Volume of filtering media (ft³)	183
Length (L)(")	151 1/16
Width (W)(")	81 11/16
h1 (")	68 1/8
h2 (")	58 3/4
h3 (")	56 1/2
h4 (")	80



Handling

2 hoisting grooves allow handling of the system with the proper hoisting equipment. The top tile can also be moved separately with the 4 hoisting rings on the top tile.



Ecoflo® Biofilters STB-650B/BR treatment efficiency

Parameters	Septic Tank Effluent*	Ecoflo® Biofilter Effluent**
Biochemical Oxygen Demand (BOD ₅)	≤ 250 mg/L	≤ 2 mg/L
Total Suspended Solids (TSS)	≤ 75 mg/L	≤ 2 mg/L
Fecal Coliforms (CFU/100 ml)	≤ 2 000 000 CFU/100 ml	≤ 948 CFU/100 ml

* Typical values according to sampling campaigns in Canada and United States since 1995. (80% of septic tank effluent samplings).

** Results obtained during ANSI/NSF Standard 40 certification testing period.

Installation procedure

1. System components description
2. Components location and special instructions
3. Determination of the effluent disposal method
4. Functions of the Ecoflo® Biofilter
5. Installation sequence
6. Typical installations
7. Handling and Shipping instructions

1. System components description

1.1 Septic tank

The septic tank must comply with state and local regulations. **Premier Tech Environment (PTE)** can provide you with a complete line of high-performance polyethylene septic tank with size ranging from 600 to 1500 gal. See the Product Technical Guide for more information on these products and refer to the Septic Tank Installation Guide for Ecoflo® Biofilter for septic tank required specifications. The Ecoflo® Biofilter system comes with a concrete or a polyethylene septic tank.

1.1.1 PTE Effluent Filter EFT-080

The effluent filter extends the life of any treatment system by removing solids from the wastewater stream in the septic tank. An effluent filter is especially important in homes equipped with a garbage disposal, sewage pump or any other appliance liable to increase the suspended solids content of wastewater and thereby create premature clogging of the treatment system. An effluent filter will also prevent solids from reaching the effluent pump. The effluent filter **EFT-080** may also include a flow regulator adapted to the Biofilter capacity and a high water level alarm allowing detecting any backflow problem coming from the septic system.

The **PTE effluent filter EFT-080** is normally installed in the second compartment of the septic tank, but may also be installed, after the septic tank in a **PTE** filter container **TLF-240** in accordance with local regulation regulations. Please refer to our Product Technical Guide for more information on the **effluent filter EFT-080** and the **PTE** filter container **TLF-240**.

1.2 Ecoflo® Biofilters STB-650B/BR

The Ecoflo® Biofilter is a biofiltration system designed to treat domestic wastewater from a residential house. It is installed downstream of the septic tank. It can also be used to treat wastewater from commercial, communal and municipal projects. Please refer to the Commercial Design Guide for more information.

The **Ecoflo® Biofilter** collects and discharges treated effluent to an appropriate disposal method or into a watercourse, in accordance with existing regulations. Refer to **Appendix I** to evaluate the required model and the number of **Ecoflo® Biofilter** needed.

The **Ecoflo® Biofilters STB-650B and STB-650BR** are made of a watertight concrete shell. When site conditions permit, the effluent of the **STB-650B** model is evacuated at its base by gravity, while the effluent of the **STB-650BR** model is evacuated just below the surface of the ground with a pump integrated into the system.

These 2 models can treat the effluent from a residence of up to 4 bedrooms.

See the following table for a detail description of all the configurations of the system.

Ecoflo® Biofilters description (STB-650B/BR)	
STB-650B	Gravity effluent discharge (depending on site conditions)*
STB-650BR	Subsurface pressurized (pump) effluent discharge (depending on site conditions)

1.3 Pumping station (when required)

The pumping station is installed between the septic tank and the **Ecoflo® Biofilter** in the event that gravity flow is not possible. Like the septic tank, the pumping station must also be watertight to prevent groundwater infiltration. If the pumping station capacity exceeds 300 gal., Premier Tech Environment recommends using a timed dosing unit TPA-300 to control the pump (see section 1.4 below). Premier Tech Environment recommendation for the amount of water released to each Ecoflo® Biofilter is 8 to 10 gal. per dosing. Refer to the PSA-240 installation guide for more information.

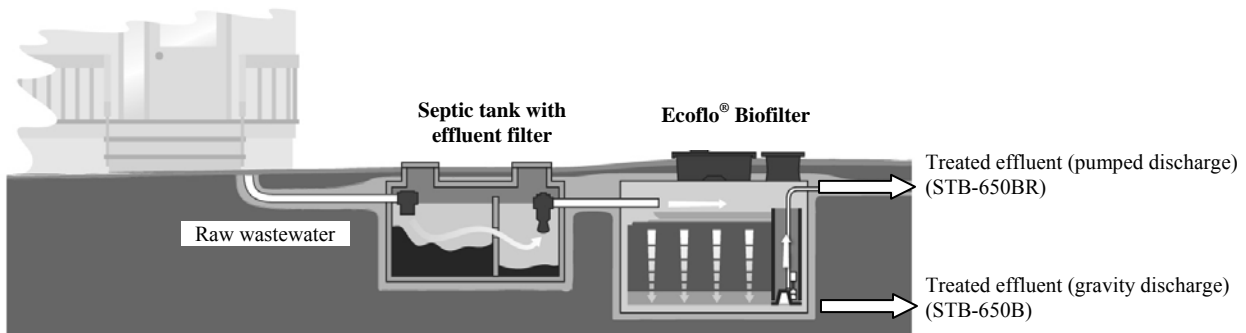
1.4 Timed dosing unit TPA-300 (when required)

The TPA-300 or other acceptable timed dosing units control the release of wastewater to the Ecoflo® Biofilters (See TPA-300 installation guide). All commercial installation with 3 or more **Ecoflo® Biofilters** should be installed with a time dosing unit and an overall pumping totalizer, or with a flow meter.

Premier Tech Environment has developed a complete line of associated equipment to achieve optimum performance of the Ecoflo® Biofilter or any septic system. For information on these products, see the relevant technical manual in this catalogue.

2. Components location and special instructions

Components of a residential septic installation (Ecoflo® Biofilter STB-650B/BR)



2.1 Installation conditions

2.1.1 Septic tank

The septic tank must be installed as specified by the septic tank manufacturer. The septic tank must be watertight, be used for disposal of domestic wastewater only (i.e. no roof water, surface water or discharge from footing drains), and be located in a place that is not subject to flooding or where the tank will not be submerged. The septic tank must be installed in accordance with the minimum clearance prescribed by local regulations.

2.1.2 Ecoflo® Biofilter STB-650B/BR

The access lid of the **Ecoflo® Biofilter** must be 2" aboveground after landscaping has been completed. **It is important that all involved parties (installer, landscaper, owner, snow removal company, etc.) be advised of the following:**

- Never cover or bury the access lids;
- Backfill should not exceed 20" over the top tile;
- Never overload the soil (e.g. vehicles, blown snow, embankments) within 6' of the lid;
- Ensure rapid revegetation to prevent soil erosion;
- Ensure that groundwater level never reaches the inlet invert of the **Ecoflo® Biofilter**;
- If a riser is required, only add a PTE **STR-080** riser to the **Ecoflo® Biofilter**.
(see STR-080 installation guide).

3. Determination of the effluent disposal method

IMPORTANT! THIS STEP IS A CRUCIAL ELEMENT FOR ALL SEPTIC INSTALLATIONS

The Ecoflo® STB-650B/BR offers the choice of various disposal methods (according to local regulations):

Here are some proposed by Premier Tech Environment:

Effluent from the **Ecoflo® Biofilter STB-650B/BR** can be discharged by gravity (STB-650B) or via an integrated pump (STB-650BR) towards:

- Subsurface discharge to a disposal method such as; trenches, bed, drip irrigation or any type of gravelless system;
- Discharge to a tertiary treatment system;
- Direct discharge into a watercourse or a ditch if this option is prescribed by local regulation.

3.1 Subsurface disposal

3.1.1 Hydraulic conductivity

An accurate assessment of the soil's hydraulic conductivity is a crucial step in planning any septic installation and should be performed in accordance with local regulation. The soil infiltration capacity is often expressed as a percolation rate, which can be determined by any qualified individual through a field permeability test, a laboratory soil particle-size analysis or any other method approved by the local regulation.

3.1.2 Soil absorption system

Once the soil characteristics have been established, the **soil absorption system or trenches** where the effluent will be disposed can be sized according to the **Appendix II** of this document. The soil absorption system must comply with the construction standards of local regulations.

The location of the absorption bed or trenches must comply with the setbacks prescribed by local regulations governing on-site wastewater treatment systems. If there is discrepancy between the **Appendix II** of this document and the local regulations for these specific products, the last-mentioned must prevail.

3.1.3 Required soil depth

Always consider the following when building a polishing leach field:

- Soil's assessment must be performed in accordance with applicable regulations to determine the type of soil and limiting layer (rock, SHWT or clay);
- The above depth must be calculated using the seasonal high water table (SHWT) during the year;
- The profile of the lot must be such that surface runoff flows away from the septic system;
- The shape of the soil absorption system **may vary** according to site conditions;
- Various means can be used to promote seepage in low permeability soils. Contact your local Ecoflo® distributor or Premier Tech Environment for suggestions.

3.1.4 Other type of disposal method

For other types of disposal system such as drip system, infiltration chamber or other gravelless type system refer to the product manufacturers catalog for their sizing and installation recommendations.

3.2 Discharging into a watercourse

The **Ecoflo® Biofilter** effluent may be discharged into a watercourse in accordance with local regulations. The profile of the lot must ensure that surface runoff flows away from the septic system.

4. Functions of the Ecoflo[®] Biofilter STB-650B/BR

4.1 Components functions (see exploded view of the system on the following page)

Lids:

- Give access inside the system (main and secondary access);
- Feed the filtering media with air (via air intake);
- Secure access with bolted assembly.

Insulating boards:

- Give thermal insulation to the system;
- Helps guiding airflow into the shell's air ducts (main access only);
- Seal the system (with Premier Tech ty-wraps).

Shell (tank and top tile):

- Encloses the system components;
- Allows connection of air and water supply pipes;
- Holds the treated effluent;
- Circulates air to the filtering media's ends via its air ducts.

Central support plate:

- Holds the tipping-bucket and one end of the distribution plates.

Support rails:

- Hold the other end of the distribution plates.

Tipping-bucket:

- Allows equal supply of influent on both sides of the filtering media;
- Creates hydraulic events required to obtain a good water distribution on the distribution plates and contributes to their self-cleaning.

Distribution plates:

- Allow even distribution of the influent over the filtering media.

Filtering media:

- Acts as a support for bacteria that consume the wastewater organic content while trickling down through it;
- Does a physical filtration of the influent solids content;
- Keeps an adequate humidity level required for biomass viability when there is no incoming water.

Treated effluent collection area:

- Layer of clean crushed stone $\frac{3}{4}$ " \varnothing on the bottom of the shell;
- Supports the filtering media;
- Ensures drainage of the treated effluent;
- Ensures aeration under the filtering media.

Access funnel:

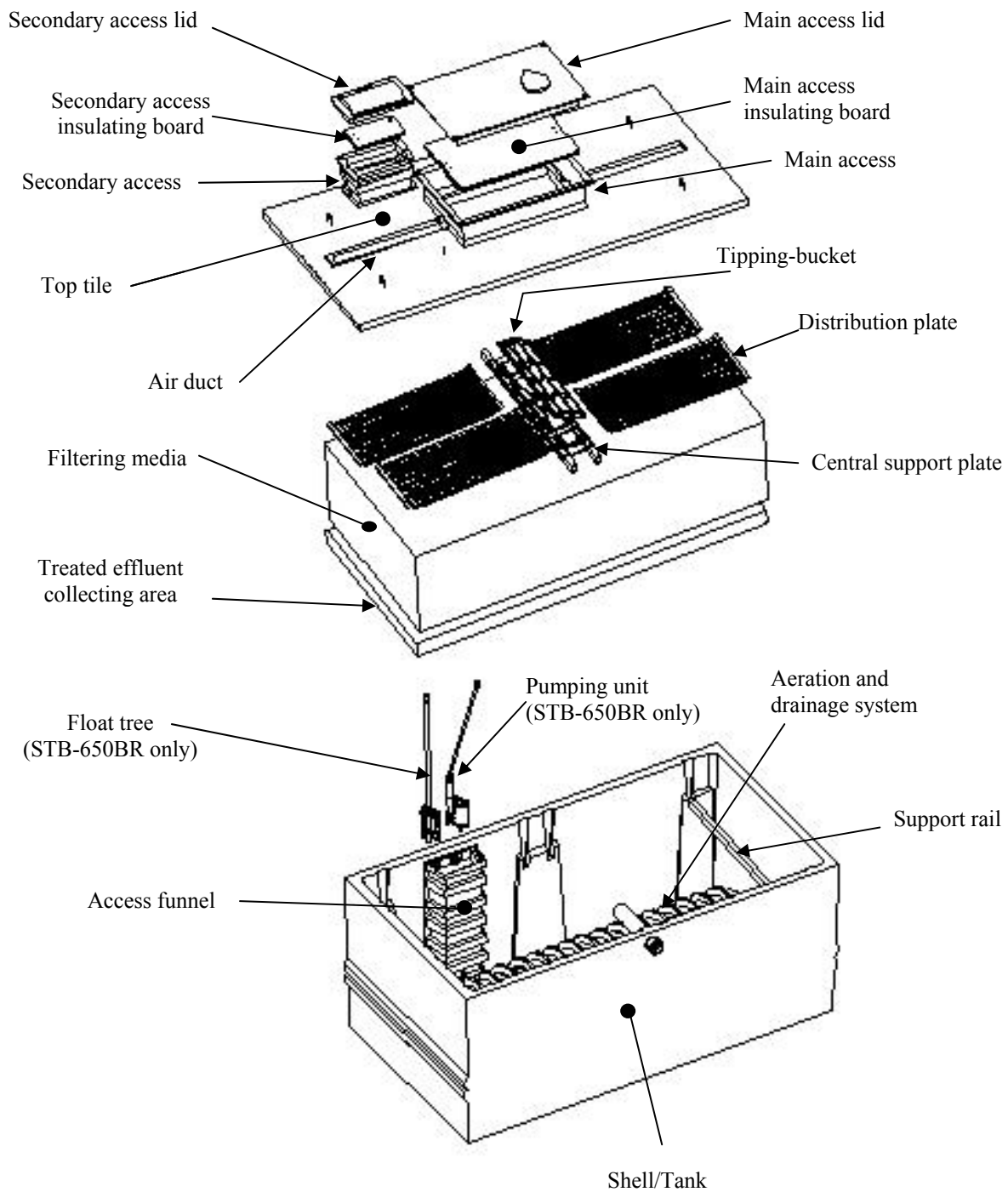
- Encloses the pump equipment (for STB-650BR model);
- Allows air circulation between the top and the bottom of the filtering media;
- Allows inspection of the absorption bed;
- Allows access to the bottom of the system to collect treated effluent samples.

Aeration and drainage system:

- Takes the effluent from the gravel bed and directs it towards the discharge pipe;
- Allows air circulation between the top and bottom of the filtering media;
- Gives storage capacity inside the Ecoflo[®] Biofilter (depending on the model) as required by local regulation.

Pumping unit (STB-650BR models only):

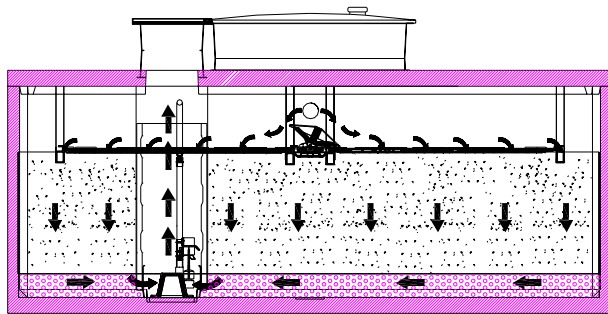
- Comprises a pump, a float tree, a ON/OFF float, an alarm float and an alarm box;
- Pumps the treated effluent towards a polishing field, a watercourse or a tertiary treatment system.



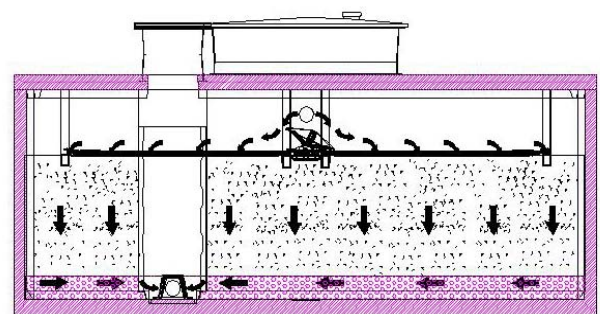
Exploded view of the system

4.2 Global function of the system

The overall function of the **Ecoflo® Biofilter** is to treat domestic wastewater after a primary treatment. It is done via a water and air (oxygen) management inside the system. Wastewater is treated aerobically by fixed bacteria in the filtering media.

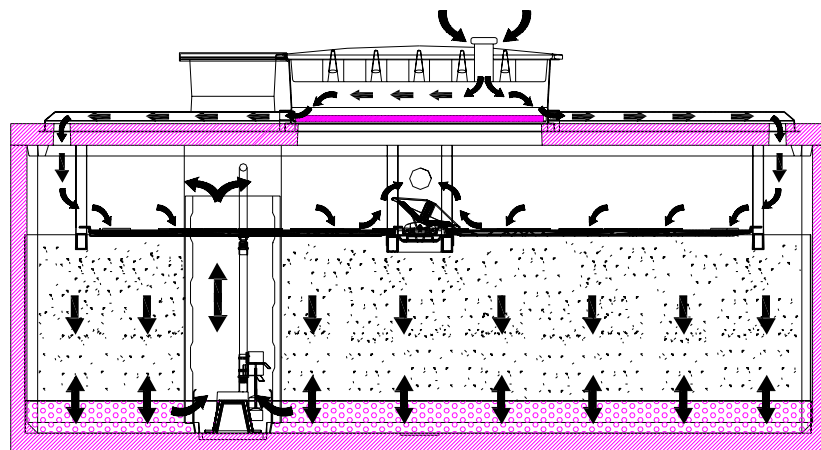


Water flow diagram
(STB-650BR with integrated pump)



Water flow diagram
(STB-650B gravity discharged)

To be treated, the wastewater goes first into the septic tank where it is submitted to a primary treatment and then it enters to the **Ecoflo® Biofilter**. Once inside the Ecoflo®, the water is directed into the tipping bucket in order to be split equally over the distribution plates located on both sides of the central support plate. These plates include channels with orifices to distribute the effluent evenly on top of the filtering media. Afterwards, wastewater trickles down into the filtering media where its organic content is consumed by bacteria. The treated effluent is collected in the gravel bed and evacuated by gravity (STB-650B) or with an integrated pump (STB-650BR).



Air flow diagram

To be efficient, the system requires enough oxygen so that the filtering media's bacteria do their work. In order to achieve this goal, the filtering media is fed oxygen by air flowing both at the top and the bottom of the filtering media. Air comes into the system by the intake located on the main access lid, flows to the extremities of the filter bed via the top tile's air ducts, on top of the filtering media underneath the distribution plates, and enters the filtering media via the water infiltration that takes it to the bottom. Moreover, a gas exchange occurs at the top and bottom of the filtering media promoting its oxygenation. The air coming out of the bottom of the filtering media is taken back towards the water supply line through the opening located in the access funnel and is directed by convection to the home air vent via the septic tank.

5. Installation sequence

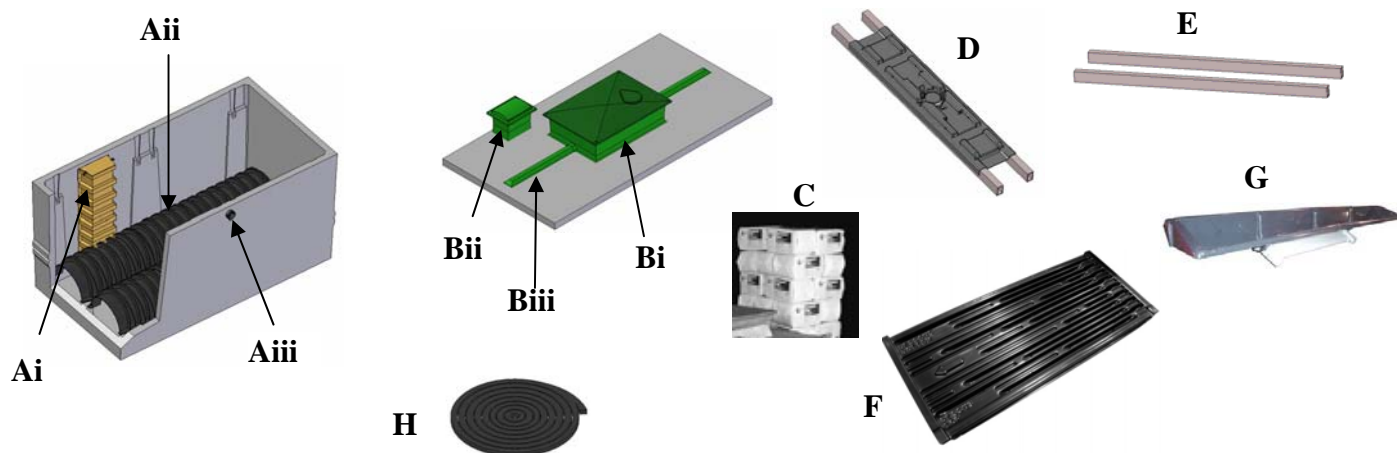
5.1 Make sure you have all the following components:

- A.** 1 concrete shell including :
- i 1 access funnel;
 - ii 1 aeration and drainage system
 - iii 1 inlet adapter 4" Ø;
 - iv 1 outlet adapter 1½" Ø cast in the concrete tank;
 - v 1 bag (non-illustrated) containing the owner's documents, 4 black plastic ty-raps and 2 ty-raps marked "Premier Tech";
- B.** 1 top tile including :
- i 1 main access cast in concrete including an insulating board and a lid fixed with 4 lag screws;
 - ii 1 secondary access cast in concrete including an insulating board and a lid fixed with 4 lag screws;
 - iii 2 air ducts.

- C.** 1 pallet of filtering media
- D.** 1 central support plate;
- E.** 2 support rails in PVC;
- F.** 4 distribution plates;
- G.** 1 tipping-bucket;
- H.** Butyl seal;

Additional Items for model STB-650BR only (see sections 5.7 and 5.10 for the following items) :

- I.** 1 pumping unit with a float tree installed inside the access funnel;
- J.** 1 alarm box;
- K.** 1 junction box with waterproof wire connectors.



**For any problem, broken or missing part,
contact our customer service at 1-800-632-6356**

NOTE: The installer is responsible for all security measures applicable to all steps of installation including the use of hard hat, gloves, boots, glasses, mask, etc.

5.2 Excavation, foundation and system installation



Excavate an area of about 10' x 15'. Depending on the soil conditions, it might be necessary to add a 6" layer of gravel Ø ¾" exempt of any vegetable matter, or a layer of clean crushed stone Ø ¾" surrounded by a geotextile. Set the shell down making sure that it is levelled and that its entire floor is in full contact with the foundation that has previously been compacted and levelled.

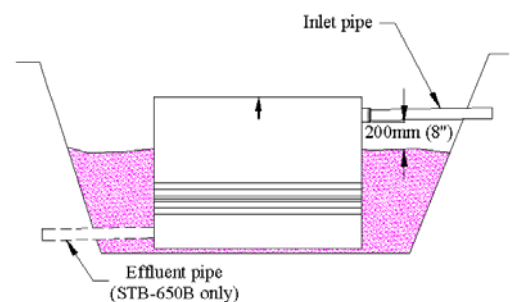
For the **Ecoflo® Biofilter STB-650B (discharged by gravity)**, connect the effluent discharge pipe, before going to the next step, using the flexible and watertight coupling. Connect the pipe to the **Ecoflo® Biofilter** making sure it is in a downward position all along its length towards the disposal area. Take note that the soil underneath the pipe must be well compacted.

5.3 Initial backfill of the shell

The inlet invert height is 56 ½ ". Make sure that the groundwater highest seasonal level never reaches the level of the inlet invert.

Backfill the shell up to 8" under the inlet invert. When backfilling the shell, start by the two lateral sides and then backfill the two extremities. It is important that the backfill material be deposited, not dumped, which is why we do not recommend using a bulldozer for this step. The backfill material should contain no organic matter, impermeable soil, stones, rocks, debris or other objects that could damage the shell.

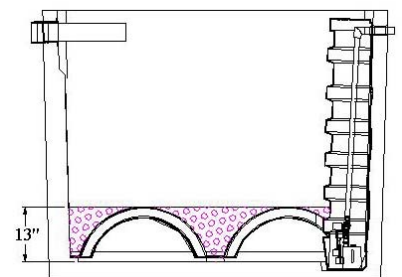
ATTENTION: Make sure that no backfill material enters the shell when backfilling.



5.4 Installation of the gravel and the filtering media

First inside the shell, spread a layer of clean crushed stone ¾" (exempt of fine particles or organic debris) in the tank over the aeration and drainage system. Carefully level it. To determine the top level of the crushed stone layer, refer to the illustrations below depending on the model you are installing.

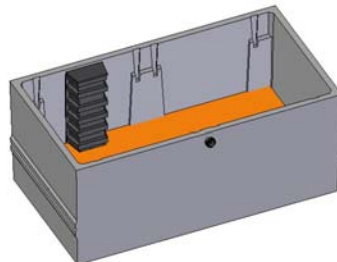
From the outside of the shell, pour the bags of filtering media up to the bottom of the grooves that hold the support rails and level the surface. Clean the grooves of any particle, and place the support rails in the end grooves and the central support plate in the center grooves. Finish pouring the filtering media up to the top of the support rails and level it with a rake.



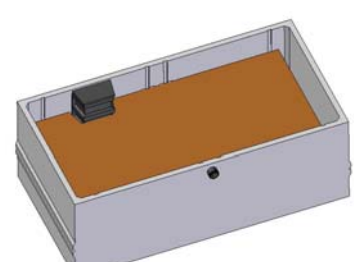
Model STB-650BR



without the clean crushed stone and the filtering media



with addition of the clean crushed stone

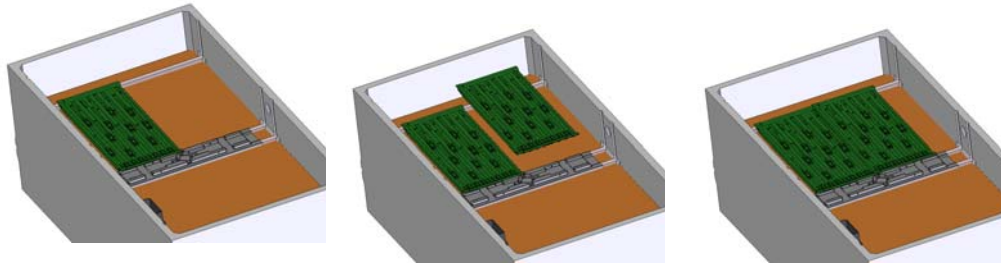


With the clean crushed stone and the filtering media

ATTENTION!

- **Make sure no backfill material enters the tank while moving inside.**
- **Make sure not to compact the filtering media (do not lean on it).**
- Carefully level the surface of the filtering media.
- Make sure no filtering media enters the access funnel while pouring it.

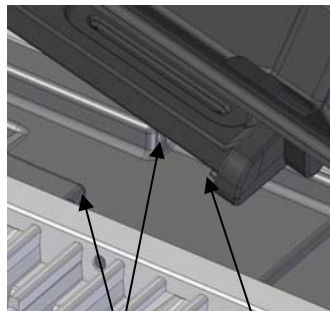
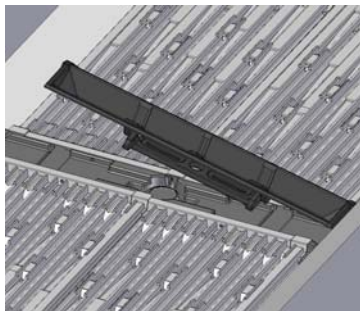
5.5 Installation of the distribution plates



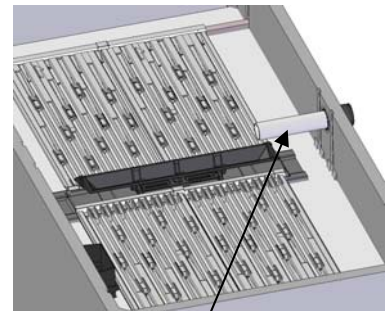
- Install the distribution plates by placing them on the support rails at the ends;
- Place the first plate on the left end side and set the second one on the edge of the first one;
- Repeat on the right side of the tank (2 plates on each side of the tank).

The distribution plates sit on top of the central support plate and must be attached to it with the four black plastic ty-raps.

5.6 Tipping-bucket and inlet pipe installation



Anchor slots locking catch



Supply line (interior part)

Once the distribution plates are in place, install the tipping-bucket by inserting its locking catches in the anchor slots of the central support plate and set the other end down in secure position. Then, glue the inlet pipe of the supply line in the water inlet of the shell.

5.7 Water supply pipe and discharge pipe connections

Connect the supply line (coming from the septic tank) to the **Ecoflo® Biofilter** inlet making sure that the pipe is in a downward position towards the Biofilter all along its length. Take note that the soil underneath the pipe must be well compacted.

The **Ecoflo® Biofilter** is equipped with a standard flexible inlet adapter. The connection is made with a regular pipe clamp.

The STB-650BR effluent must be connected to the treated effluent disposal mean (watercourse, polishing field or tertiary treatment system) by a Ø 1½" SCH 40 pipe. To connect the effluent disposal pipe to the **Ecoflo® Biofilter**, a flexible joint must be used to prevent the problems associated with the soil settlement. Precautionary measures against freezing must also be taken where the weather requires it.

ATTENTION!

The water supply pipe invert must be at all times higher than the groundwater level. If the terrain layout makes it that surface run-off accumulation is possible, a drain pipe must be added to evacuate the excess water and prevent any risk of infiltration. The pipes must be placed in a manner that gravity can drain them

5.8 Access funnel opening

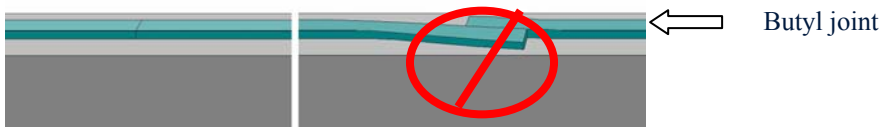
In model **STB-650B**, the main function of the access funnel is to allow air flow between the top and the bottom of the system. In model **STB-650BR** the access funnel is also used as a pump vault. The lid of the access funnel is there to prevent gravel or particles of filtering media to fall into this access during installation. Therefore, after the installation of the filtering media, remove the lid (**taking care not to let the ty-raps fall inside the funnel**) and **do NOT put the lid back on**.



5.9 Top tile installation and final backfill of the system.

Attention! The top tile must be installed before finishing to backfill.

Clean the rim of the tank properly to lay the butyl seal. To provide complete watertightness, the seal must be laid in one continuous section. The junction point between the two ends of the seal must be done as shown below. Proper cleaning of the inside of the top tile is required to insure watertightness and so no backfill material enters the filtering media.

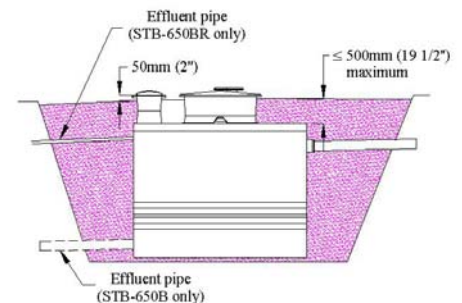


Once the butyl seal is laid, set the top tile on the tank being careful to align the secondary access with the access funnel.

Complete the backfill by complying with the indications provided in sections 5.2 and 5.3 (soil underneath the pipes should be compacted and we don't recommend using a bulldozer for backfilling). Allow space for plant cover and make sure that the lids exceed the finished landscape by 2 in.

The usual burial depth is 12 ". If necessary, you may add **one (maximum) 8 in. extension kit STR-080** on the **main and secondary accesses**. **The maximal burial depth is 20 in. over the top tile.**

Before backfilling model **STB-650-BR**, do not forget to connect the power supply of the pump (see next section).



5.10 Pump verification and electrical wiring (STB-650BR models only)

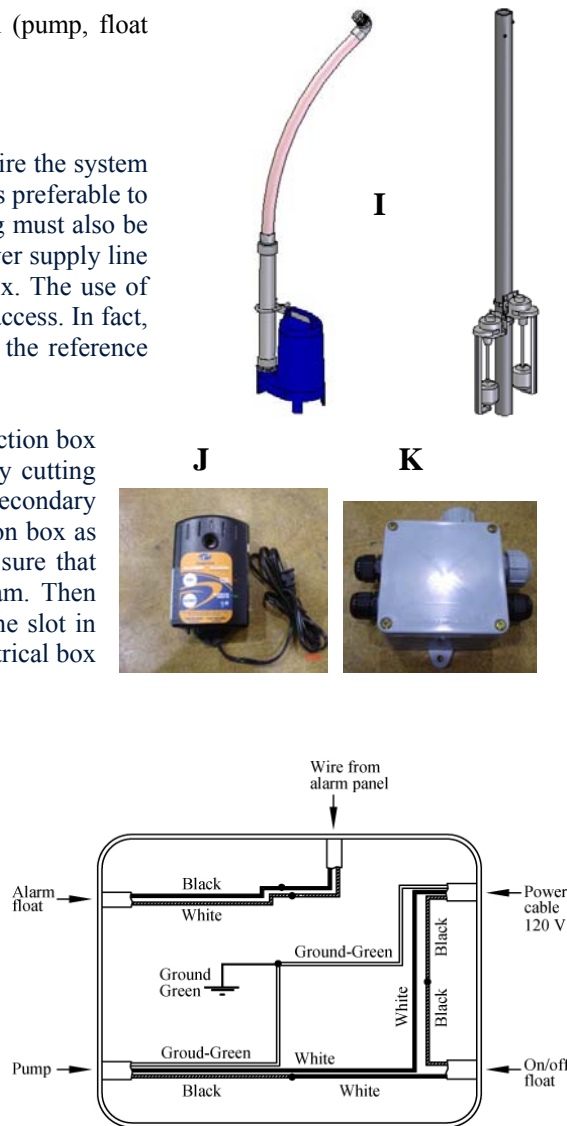
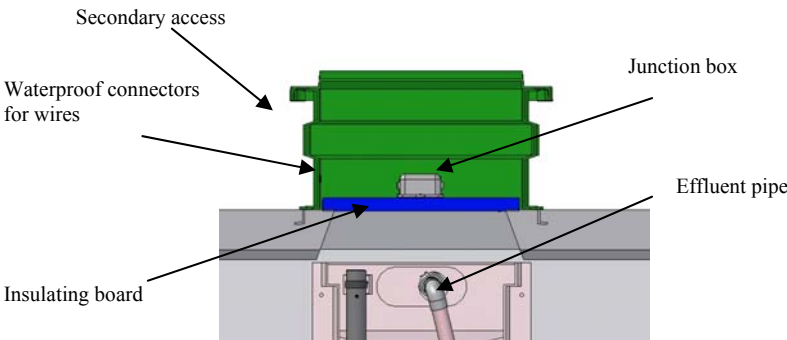
Step 1 Pump verification

Perform a visual inspection of the components inside the access funnel (pump, float tree, floats) to make sure they are installed and will work properly.

Step 2 Electrical wiring

The electrical wiring should be executed by a specialist in the field. To wire the system to the residence, 2 in-ground double strand supply cables are required. It is preferable to protect the wires to be buried with the appropriate piping. The wire rating must also be done by a specialist in the field. One of the wires will be used for the power supply line and the other one will bring power from the alarm float to the alarm box. The use of waterproof connectors is required since they pass through the secondary access. In fact, the wires must enter the secondary access under the structural rib. Use the reference point on the access to locate the right place (see diagram).

Execute the appropriate electrical wiring using the items supplied for: junction box and waterproof wire connectors. First, remove the plugs off the wires by cutting off 2" from the pump and float wires. The junction box is located in the secondary access on the insulating board. Identify and insert the wires in the junction box as indicated on the diagram. Use the waterproof wire connectors to make sure that water will not affect the electric circuit. Follow the color coded diagram. Then close the junction box. Pass the wires coming from the pump through the slot in the insulating board. Place the insulating board in the access with the electrical box on top and put the access lid on.



Step 3 Float adjustment and verification

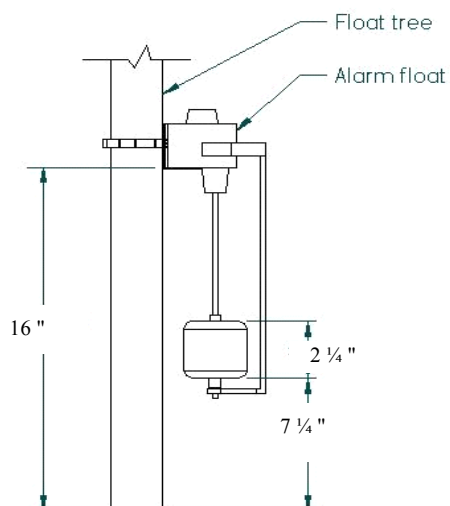
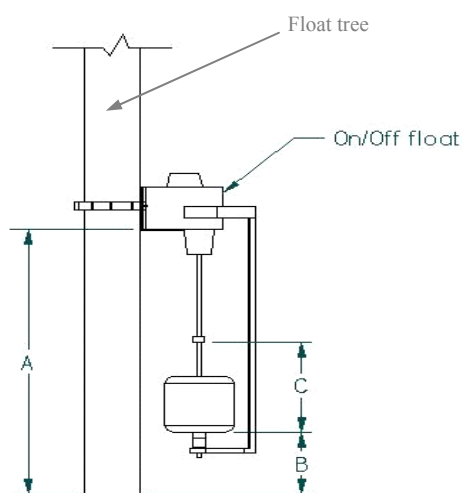
The floats are pre-adjusted in order to give the dose volume described hereunder. These pre-adjustments should fit for most of the applications.

Model	Volume in outlet pipe (gal/ft of pipe)		
	1" Ø	1½" Ø	2" Ø
STB-650BR	0.04	0.09	0.16

However, the following table and figures indicate the dose volume obtained related to the On/Off float adjustment for the STB-650BR (Virginia model)

STB-650BR			
Float adjustment			Dose volume (gal)
A	B	C	
11 ¼"	2 1/2"	2 ¾"	30
		3"	50*
		4"	85
		5"	120

*The ON/OFF float is pre-adjusted to obtain this volume

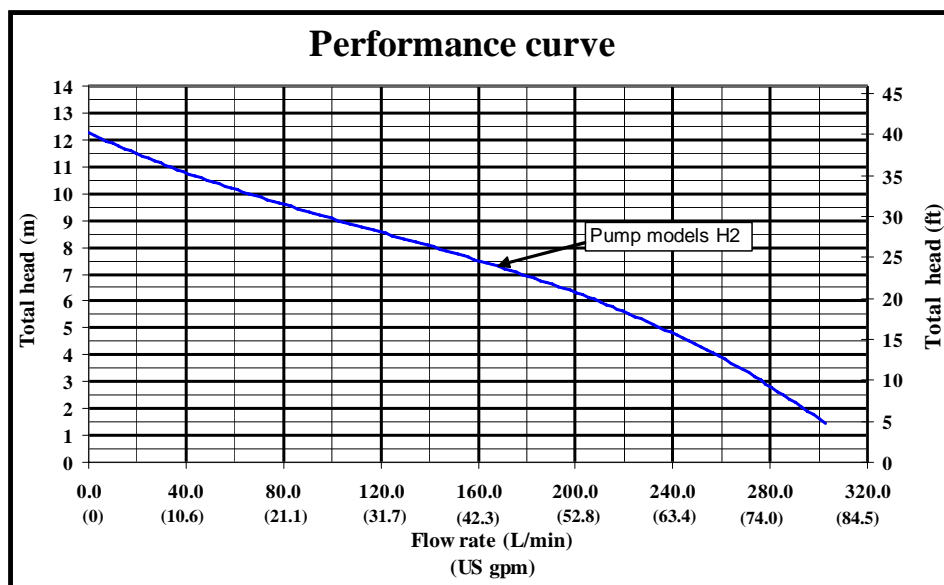


PERFORMANCE CURVES OF THE PUMP

The diagram below presents the performance curve of the pump supplied with the **Ecoflo® STB-650BR**. Note that this curve was achieved with clean water; the pump's performance could be lower with wastewater. If you have any question concerning the reading of this curve, do not hesitate to contact Premier Tech Environment.

Pumps characteristics

- 0.4 HP
- 9.1 amps
- 1Ø, 60 Hz, 115 V



5.11 System operation verification and sealing



After making sure the distribution system operates properly, close the **Ecoflo® Biofilter** by installing first the insulating board and then the lid. Seal it shut by attaching the handle of the insulating board to the access of the **Ecoflo® Biofilter** using the two plastic ty-raps marked "Premier Tech".

Do not forget the municipal inspection when required.

Checkpoints following installation:

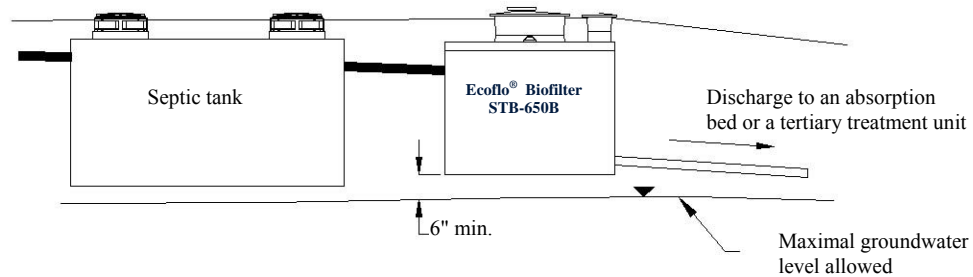
- ☐ Never cover or bury the access lids.
- ☐ Never locate the absorption bed of the **Ecoflo® Biofilter** within 6.5' from a tree.
- ☐ Never enter the system after installation without prior written authorization.
- ☐ Never connect a drain pipe or roof gutter or sump pump to the septic installation.
- ☐ Never drive vehicles or place objects weighing over 500 lbs within 6' from the lid, and make sure you advise those involved so they don't damage your septic system.
- ☐ It is possible to add only one extension kit on the system's access. The maximum distance between the top of the top tile and the top of the accesses is 20". Use only one (1) PTE's extension kit **STR-080**.
- ☐ Do not let anything accumulates on top of the septic system (ex. blown snow).
- ☐ The home must be equipped with an air vent that is in proper working order and complies with the applicable standards. Premier Tech Environment strongly recommends using a 4" Ø pipe.
- ☐ Give the owner the plastic bag containing the Owner's Manual and the Maintenance Agreement.
- ☐ Mention to the customer to fill out and sign the Maintenance Agreement. He is to keep the white copy, send the yellow copy to the municipality (if required) and the pink copy to Premier Tech Environment.

**FOR ANY PROBLEM, QUESTION OR COMMENT,
DO NOT HESITATE TO CONTACT OUR CUSTOMER SERVICE AT
1 800 632-6356**

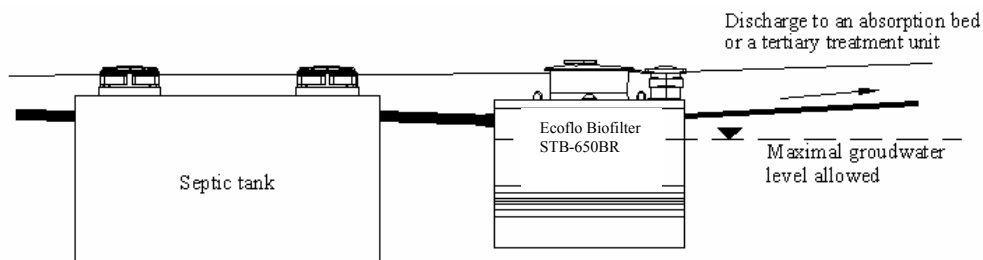
6. Typical installations

The type of installation depends on the site constraints. Here are some examples.

Type 1 Installation on flat grounds with effluent discharged by gravity (model STB-650B)

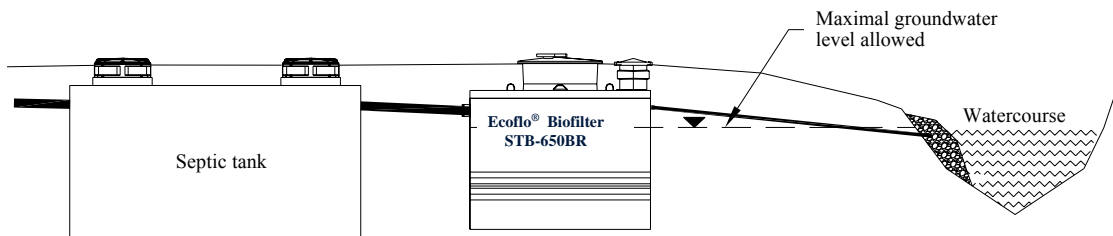


Type 2 Installation on flat grounds with an integrated pump (model STB-650BR)



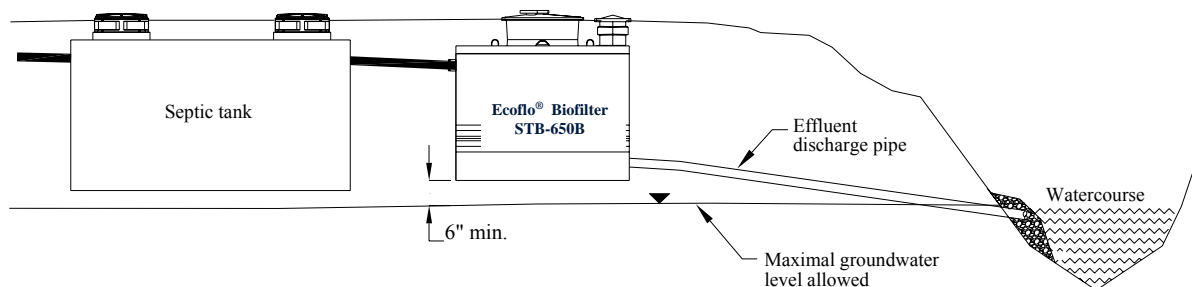
Type 3 Installation with effluent discharge pumped into a watercourse (if in accordance with local regulations)

It is possible, if the watercourse level is higher than the bottom of the shell, that a siphon effect happens and causes a backflow inside the Ecoflo Biofilter. A depressurization vent will then be required at the point connecting the pressurized pipe (1½" ø) with the gravity pipe (DR 35 4" ø) conveying the wastewater to the watercourse.

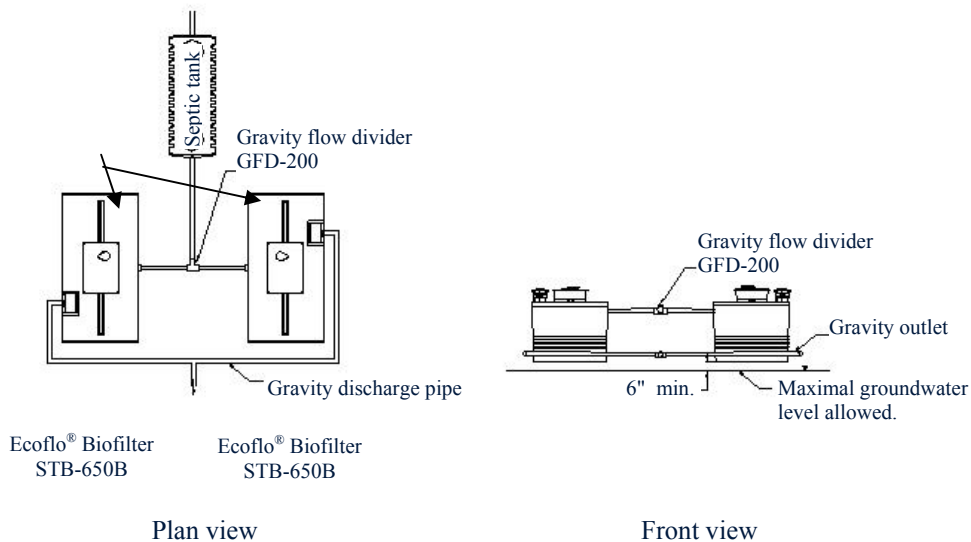


Type 4 Installation with effluent discharged by gravity into a watercourse (if in accordance with local regulations).

The watercourse highest seasonal level must be considered so the bottom of the shell is never submerged.

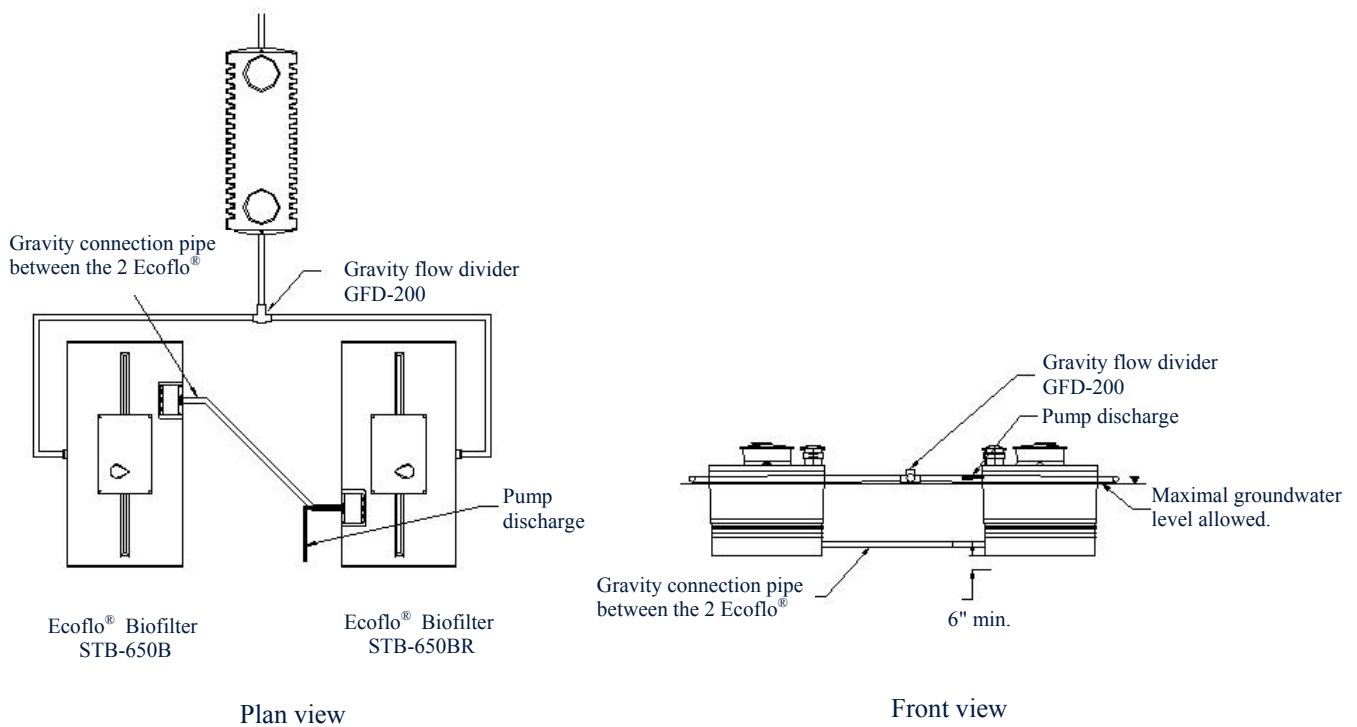


Type 5 Installation of 2 Ecoflo® fed by gravity and discharged by gravity (model STB-650B)



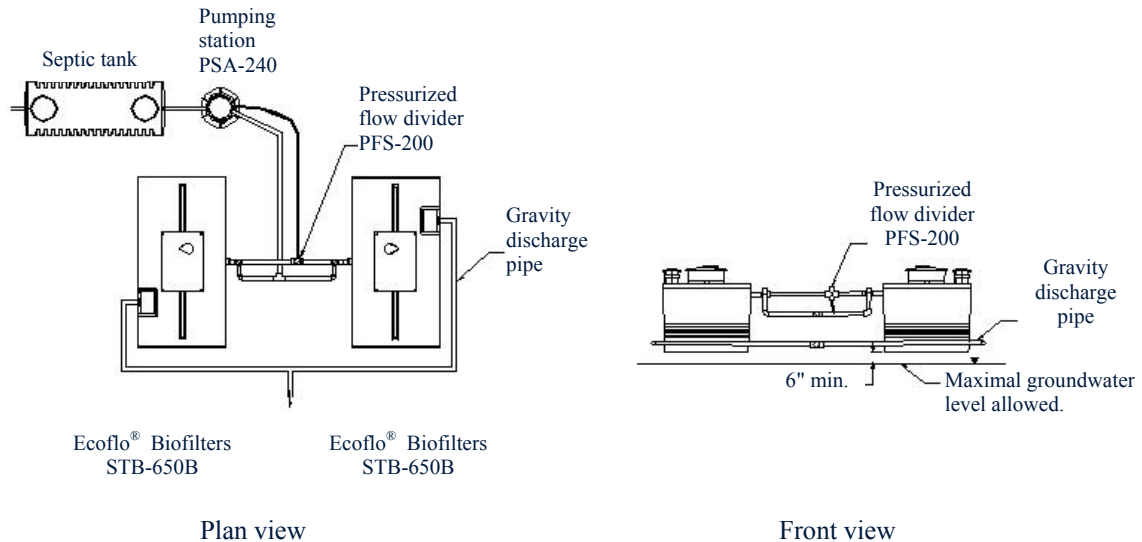
Very important: The Ecoflo® modules must be at the same level ($\pm \frac{1}{2}$ in)

Type 6 Installation of 2 Ecoflo® fed by a gravity and discharged by an integrated pump (1 model STB-650B combined with 1 model STB-650BR)



Very important: The Ecoflo® modules must be at the same level ($\pm \frac{1}{2}$ in)

Type 7 Installation of 2 Ecoflo® fed by a pump and discharged by gravity (model STB-650B)

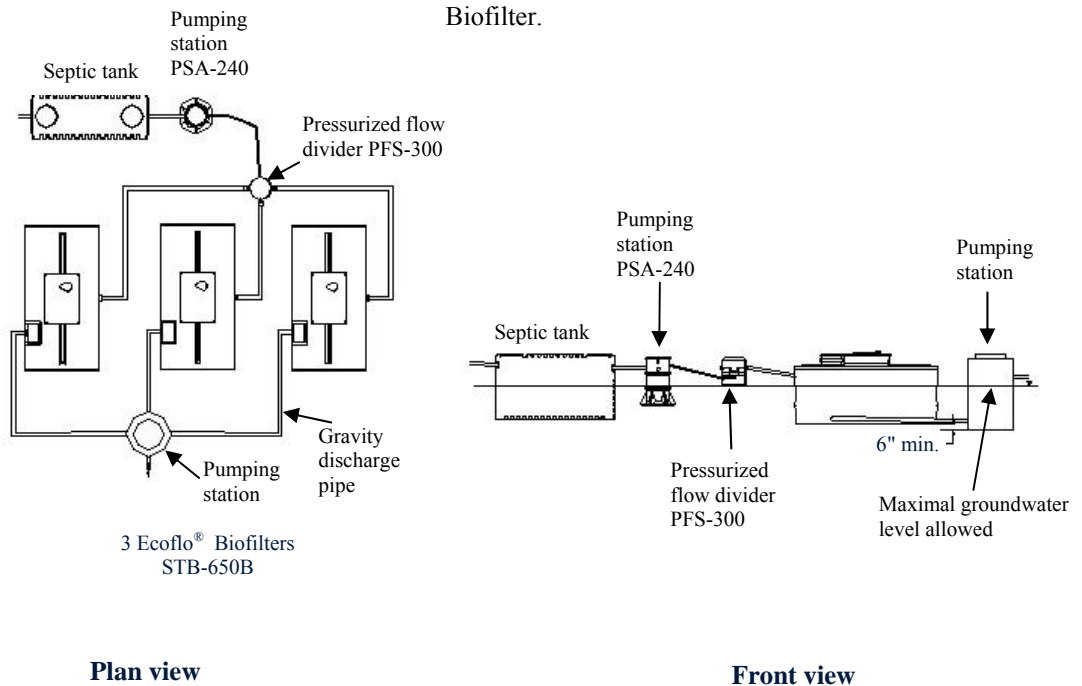


Very important: The Ecoflo® modules must be at the same level ($\pm \frac{1}{2}$ in)

Type 8 Installation of 3 Ecoflo® fed by a pump station and discharged by gravity (model STB-650B)

Notes:

- It is possible to use a PSA-240 pumping station to feed up to 3 Ecoflo® Biofilters maximum;
- The ground water level must not exceed the flow divider base level and the inlet level of the Ecoflo® Biofilter.



Very important: The Ecoflo® modules must be at the same level ($\pm \frac{1}{2}$ in)

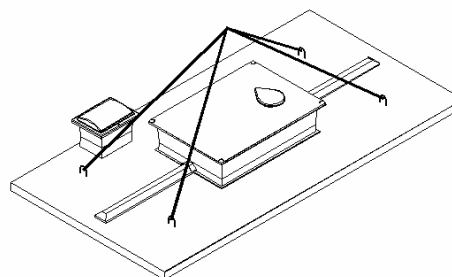
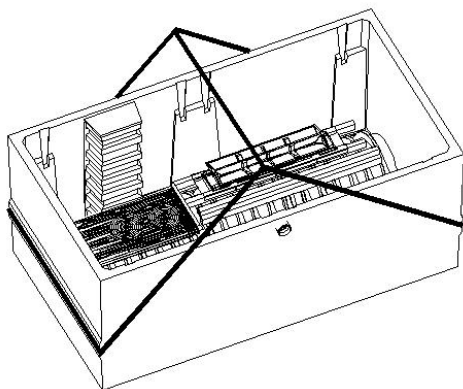
7. Handling & Shipping instructions

7.1 Shipping from the dealer to the installation site of the Ecoflo® Biofilter STB-650B/BR

- Use a vehicle with loading space wide enough for the **Ecoflo® Biofilter** to fit in completely.
- The vehicle must also be capable of moving the **Ecoflo® Biofilter** once on the installation site.
- Secure the Biofilter to the vehicle with appropriate straps.
- The carrier is responsible for any damages and for the observance of traffic regulations.

7.2 Handling

- The concrete shell and the top tile can be handled together or separately.
- Nobody should be inside the Biofilter during handling.
- To handle the shell and the top tile together, use the lifting grooves and chains on both ends of the shell.
- To handle the shell and the top tile separately, use the anchor rings or the lifting grooves.
- When using the anchor rings, make sure to use the 4 rings and chain sections of the same length.
- Material handler is responsible for any damages caused by him.



Handling diagrams for the Ecoflo® Biofilter STB-650 B/BR

7.3 Loading configuration

- The loading configuration depends on the type of vehicle used to transport the Biofilters to the installation site.
- The loading area must be at least 12'6" x 6'7" for all models of **Ecoflo® Biofilters** to fit in completely.
- The carrier must keep enough space to transport the filtering media bags (bags can be taken off the pallet). A pallet of filtering media bags measures about 4'8" x 3'8".

For further information or comment, please contact our customer service:



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