1. **Ecoflo® Coco Concrete (ECC) Component Description**

**PLEASE CONSULT THE ILLUSTRATION ON FOLLOWING PAGE**

**Lids**
- Access port for maintenance and inspection – main and secondary access;
- Air intake from the main lid provides proper air flow through the system;
- Secure both openings with bolted assemblies.

**Insulating boards**
- Thermally insulate the system;
- Guides airflow into the shell’s air ducts (main access);
- Seals the system (main access).

**Shell (tank and top tile)**
- Encloses the system’s components;
- Allows connection of water and air pipes;
- Distributes air via its air ducts;
- Collects the treated effluent.

**Central support plate**
- Supports the tipping bucket and one end of the distribution plates.

**Support rails**
- Support the other end of the distribution plates.

**Tipping bucket**
- Evenly distributes the wastewater on both sides of the filtering media;
- Creates hydraulic events required to obtain proper distribution of the water on the distribution plates and promotes self-cleaning.

**Distribution plates**
- Allow even distribution of the influent on the filtering media.

**Filtering media**
- Consists of a natural fibre-based filtering media;
- Promotes good biomass growth which is essential to biological treatment of the wastewater;
- Physically filters the solids contained in the influent;
- Maintains adequate humidity level required for biomass viability when there is no water going through the system for a certain amount of time.

**Treated effluent collection area**
- Layer of clean crushed stone 20 mm ø (¾");
- Supports the filtering media;
- Allows proper drainage of the treated effluent;
- Allows air to circulate under the filtering media.
Access well
- Contains the pumping equipment (models with integrated pump only);
- Allows air circulation between the top and the bottom of the filtering media;
- Allows access to the bottom of the system to collect samples of the treated effluent.

Aeration and drainage system
- Takes the effluent from the gravel bed and directs it towards the discharge pipe;
- Allows air to circulate under the filtering media.

Pumping unit (models with integrated pump only)
- Includes a pump, a float tree, an ON/OFF float, an alarm float and an alarm box;
- Pumps the treated effluent towards an absorption area, watercourse, or a tertiary treatment system.

For any problem, broken or missing part, contact Premier Tech Aqua at 1 800 632–6356.
2. Installation Sequence

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

NOTE: Internal components of the Ecoflo® Coco Concrete can be partly assembled at the manufacturing plant, in that case, installation steps 2.4, 2.5 and 2.6 do not need to be performed. However, it is important to check whether all internal components are properly installed once the unit has arrived on the installation site.

2.1 Make sure you have all the following components:

A. 1 concrete shell including :
   i. 1 access well
   ii. 1 aeration and drainage system
   iii. 1 inlet adapter 100 mm Ø (4”)
   iv. 1 outlet adapter cast in the concrete shell (not shown)
       38 mm Ø (1.5”) (ECC-XXXP series)
       100 mm Ø (4”) (ECC-XXXG series)
   v. 1 bag (not shown) containing the owner’s documents, 4 black plastic ty-wraps and 2 ty-wraps marked Premier Tech (Ty-Rap®)

B. 1 top tile including :
   i. 1 main access embedded in concrete and including an insulating board and a lid attached with 4 lag screws
   ii. 1 secondary access embedded in concrete and including an insulating board and a lid attached with 4 lag screws
   iii. 2 air ducts

C. 1 pallet of filtering media

D. 1 central support plate
E. 2 PVC support rails
F. 4 distribution plates
G. 1 tipping bucket
H. Butyl seal

Additional items for model ECC-XXXP series only (see sections 2.7 and 2.10 for the following items):

I. 1 crenate outlet coupling 38 mm Ø (1.5”) for flexible pipes
J. 1 coupling 38 mm Ø (1.5”) to connect the effluent discharge pipe to the polishing field
K. 1 pumping unit with float tree installed inside the access well
L. 1 alarm box
M. 1 junction box
N. Seal connectors (for the electric wires)

For any problem, broken or missing part, contact Premier Tech Aqua at 1 800 632-6356.
2.2 Excavation, foundation and installation of the system

Excavate an area approximately 3.0 m x 4.5 m (10' x 15'). Depending on the soil condition, it might be necessary to add a 150 mm (6") layer of gravel 0-20 mm Ø (0-3/4") that does not contain any vegetable matter, or a layer of clean crushed stone 20 mm Ø (0-3/4") surrounded by a geotextile. Set the shell down making sure that it is levelled and that its entire floor is in contact with the foundation that has previously been compacted and levelled.

For the Ecoflo® Coco Concrete with gravity discharge, before going to the next step, connect the effluent discharge pipe using the flexible and watertight coupling. Connect the pipe to the Ecoflo® Coco Concrete making sure it is in a downward position all along its length and down to the disposal area. Make sure the soil underneath the pipe is well compacted.

2.3 Initial backfill of the shell

For the Ecoflo® Coco Concrete with integrated pump, make sure the maximum seasonal groundwater table level is below the shell’s inlet pipe at all times. However, for the Ecoflo® Coco Concrete with gravity discharge, the maximum seasonal groundwater table level must be at least 150 mm (6") from the shell’s base.

Backfill the shell up to 200 mm (8") under the inlet invert. When backfilling the shell, start by the two lateral sides and then backfill the two ends. 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 be sandy, with little or no rocks or stones larger than 50 mm (2") in diameter.

ATTENTION: When backfilling, make sure no backfill material gets into the shell.

2.4 Installing the gravel and the filtering media in the tank

Once inside the tank, evenly spread a 200 mm (8") layer of clean crushed stone (with no fine particles or organic debris). To determine the upper level of the crushed stone layer to put, use the upper level of the draining chamber.

From the outside of the tank, pour the bags of filtering media up to the lowest level of the grooves in the concrete walls where the support rails are located and level the surface (see illustration on the right). Remove any particles from the grooves and place the support rails in the end grooves and the central support plate in the center groove. Finish pouring the filtering media up to the top of the support rails and level it with a rake. In the end, the surface of the filtering media must be at the upper level of the support rails of the distribution plates.

ATTENTION!
- When working in the tank, make sure the backfill material is not carried inside.
- Make sure not to compact the filtering media (do not walk on it).
- Carefully level the surface of the filtering media.
- Make sure no filtering media falls into the access well while the tank is being filled.
2.5 Installing the distribution plates

- Install the distribution plates by placing them on their support rails at both ends.
- The arrow on the distribution plates must be oriented toward the end of the tank.
- Place the first plate on the left side and place the second plate against the edge of the first one.
- Repeat on the right side of the shell (2 plates on each side of the shell).

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

2.6 Installing the tipping bucket and the inlet pipe

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 push down the other end to make sure the tipping bucket stays in place. Then, glue the interior part of the inlet pipe in the tank’s water inlet. Be sure that the end of the inlet pipe is lower than the water inlet in order to have a good water flow coming inside the system. Check that the installation of the tipping bucket by tipping it from left to right to make sure nothing is blocking it.

2.7 Connecting the inlet and discharge pipes

Connect the inlet pipe from the septic tank to the Ecoflo® Coco Concrete water inlet, making sure that the pipe runs downward along its length to the Ecoflo® Coco Concrete water inlet. The soil underneath the pipe must be well compacted. The Ecoflo® Coco Concrete is equipped with a standard flexible inlet adapter and is connected with a regular pipe clamp.

The ECC-XXXP series effluent must be connected to the means of disposal (absorption area, watercourse or tertiary treatment system) of the treated effluent by a 38 mm Ø (1.5”) flexible pipe that can support at least 700 kPa (100 PSI) of pressure and is compatible with the underground applications. A 38 mm Ø (1.5”) crenated outlet coupling (item I) connects this flexible pipe to the biofilter outlet. The other end of the pipe is connected to the polishing field using the supplied coupling (item J). When the discharge is into a watercourse, precautionary measures against freezing must be taken.
What you should know if you use PTA's pump:

- The maximum length of the pressurized pipe (flexible pipe) from the pump's outlet, using a 38 mm (1½") Ø pipe, is limited by the volume of water that returns to the Ecoflo® Coco Concrete once the pump has stopped running. The following table presents the different allowable pipe lengths:

<table>
<thead>
<tr>
<th>Head</th>
<th>7.5 m (25')</th>
<th>6 m (20')</th>
<th>4.5 m (15')</th>
<th>3 m (10')</th>
<th>1.5 m (5')</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum length of the Ø 38 mm (1½&quot;) pipe</td>
<td>30 m (100')</td>
<td>30 m (100')</td>
<td>30 m (100')</td>
<td>30 m (100')</td>
<td>30 m (100')</td>
</tr>
</tbody>
</table>

- For a distance that goes up to 40 m (130'), a PSA-240L pumping station can be used. In such a case, a gravity discharge Ecoflo® Coco Concrete followed by a PSA-240L pumping station equipped with a 355 mm (14") riser, as illustrated below, must be used. The diameter of the pipe that goes from the PSA-240L to the absorption bed must be of 38 mm (1½"). The float in the pumping station does not have to be adjusted.

NOTE: The pipes must be positioned such that they can drain by gravity.

WARNING! The maximum seasonal groundwater table level must be at least 150 mm (6") below the shell's base. If the terrain layout it is such that surface run-off accumulation is possible, a drain pipe must be added to evacuate the excess water and prevent any risk of infiltration.

2.8 Opening of the access well

In models with gravity discharge, the main function of the access well is to allow air to flow between the top and the bottom of the system. In models with integrated pump, the access well is also used as a vault for the pumping unit. The cover of the access well is there to prevent gravel or particles of filtering media to fall into the access well during installation. Therefore, once the filtering media has been put in, remove the cover (taking care not to let the ty-wraps fall inside the well) and do NOT put it back on.
2.9 Installing the top tile and final backfill of the system

ATTENTION! The top tile must be installed before finishing the backfill.

Before laying the butyl seal, carefully clean the rim of the tank. To ensure the seal is watertight, it must be installed in one continuous section without overlapping where the two ends meet, as shown below. Proper cleaning of the bottom of the top tile is required to ensure the seal is watertight and that no backfill material gets into the filtering media.

Once the butyl seal is installed, place the top tile on the tank by carefully aligning the secondary access with the access well. To properly position the access, make sure the indicator marks on the top tile align with those on the tank.

Finish backfilling. 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 be sandy with little or no rocks or stones larger than 50 mm (2") in diameter. Allow space for plant cover and make sure that the lids are 50 mm (2") above the finished landscaping.

The usual burial depth is 300 mm (12"). If necessary, you may ADD ONLY ONE (1) 20 cm (8") riser on the main access (STR-080) and secondary (STR-080SP) access. The maximal burial depth is 500 mm (20") over the top tile.

Before the final backfilling of the model with integrated pump, do not forget to connect the pump’s power supply (see section 2.10 of this document).
2.10 Checking the pump and the electrical wiring (models with integrated pump)

Step 1 Pump verification

Make sure there is no debris (sand, stone, gravel, tie-wrap, electrical components, tape, etc.) in the access well when the electrical wiring is complete. Visually inspect the components inside the access well (pump, float tree, floats) to make sure they are properly installed and will work as they should.

Step 2 Electrical wiring

The electrical wiring should be executed by a professional electrician. To wire the system to the residence, two (2) in-ground double strand supply cables are required. It is preferable to protect the wires with the appropriate piping before burying them. The wire rating must also be done by a professional electrician. One of the wires will be used for the power supply line while the other one will send the alarm float signal to the alarm box (item L) or control panel (when required).

Waterproof electrical connectors (item N) must be used to go through the secondary access. The wires must pass under the groove in the access. See the secondary access diagram below.

IF YOUR LOCAL ELECTRIC CODE ALLOWS IT make the appropriate electrical connections using the supplied parts (junction box (item M), waterproof screw-thread wire connectors and electrical connectors (item N)) located in the components box. First, remove the connector plugs from the float and pump wires by cutting 5 cm (2") from the end. Make 2 holes of 2 cm (13/16") in diameter in one side of the secondary access well to pass the connectors through to the other side. Insert the wiring into the system through the 2 holes. The junction box is located in the secondary access on the insulating board. Identify and insert the wires into the junction box as shown in the diagram above. Use waterproof screw-thread wire connectors for the connections to ensure the water does not affect the electrical circuit. Follow the diagram’s colour code. As well, since the white wire of the On/Off float is connected to the pump’s black wire (live wire), wrapping the white wire in black electrical tape is strongly recommended. Close the junction box. Pass the electrical wires from the pumping unit through the groove in the insulating board. Place the insulating board inside the access, install the junction box on top and close the lid of the secondary access.

NOTE: Use two (2) separate circuit-breakers, one for the electrical power of the pump and the other for the alarm box connection. Do not connect anything else on these circuit-breakers (for example: household appliance). They must be used for the pump and the alarm box only.
The pumping unit uses 0.25 kWh of power per day.

The figure on the right represents the performance curve of the pump supplied with the Ecoflo® Coco Concrete with integrated pump. Note that this curve was obtained with clear water; the pump might not perform as well with wastewater. If you have any questions about the interpretation of this curve, please do not hesitate to contact Premier Tech Aqua.

Pump characteristics:
- 0.3 HP
- 6.2 Amps
- 1 phase, 60 Hz, 115 V

The energy consumption of the pumping unit is 0.25 kWh per day.

2.11 System operation verification and warranty seals

After making sure the tipping bucket is fully operational and that the distribution plates are installed properly, install the insulating board inside the main access. Seal it shut by attaching the handle of the insulating board to the access of the Ecoflo® Coco Concrete using the two plastic fasteners. Finally, close the lid of the Ecoflo® Coco Concrete.

Don't forget the inspection permit, where applicable.
3. Handling and Shipping

3.1 Transportation of the Ecoflo® Coco Concrete from the manufacturer to the installation site

- Use a vehicle with enough space to load the Ecoflo® Coco Concrete without any part of it extending outside of the vehicle.
- The vehicle must have the capacity to unload the unit at the appropriate location on the installation site.
- Make sure the Ecoflo® Coco Concrete is properly tied down with appropriate straps.
- The transporter is responsible for any damage. He must also respect the regulations of the highway code and all traffic laws.

3.2 Handling

- The concrete tank and the top tile can be moved when they are assembled or still separate.
- Only one unit can be moved at a time.
- Use only lifting equipments with appropriate lifting capacity.
- Make sure no one is inside the tank while it is being handled.

3.2.1 Suggested handling method

- To handle the concrete tank and the top tile together, use the lifting grooves as shown in the figure below and attach chains to both ends of the tank (if possible).
- To handle the concrete tank and the top tile separately, you may use hoisting rings or the lifting grooves.
- When using the anchor rings, make sure to use all 4 rings and chain sections of equal length.
- Avoid using handling methods that might damage the material.
- Make sure to place lid on a levelled surface to avoid damage.
- The on-site handler is responsible for any damage to the material caused by his handling of it.

Handling diagrams for the Ecoflo® Coco Concrete

3.3 Load configuration

- The load configuration depends on the type of vehicle used to transport the Ecoflo® Coco Concrete to the installation site.
- Consult the Technical Data Sheet of the specific Ecoflo® Coco Concrete to be handled for the minimum surface area required for the vehicle so that the Ecoflo® Coco Concrete can fit inside without any part extending outside.
- The transporter must keep enough space to transport the filtering media bags if required (bags can be taken off the pallet). The surface of a pallet of filtering media bags is approximately 1.8 m² (20 ft²).
CHECK POINTS FOLLOWING INSTALLATION:

- NEVER open the lids or go inside the septic tank or biofilter once the installation is complete.
- NEVER cover or bury the lids of your septic system with mulch, soil or a permanent structure. Always keep the lids accessible.
- Never install the Ecoflo® Coco Concrete infiltration area within 2 m (6.5') of a tree.
- It is possible to add an extension to the Ecoflo® Coco Concrete accesses. The soil layer above the top tile must be 500 mm (20") thick maximum. Use the PTA STR-080/STR-080SP extension kit. Use ONLY ONE (1) extension per access.
- For the Ecoflo® Coco Concrete with integrated pump, make sure the maximum seasonal groundwater table level is below the shell’s inlet pipe at all times (unless a drain has been installed).
- For the Ecoflo® Coco Concrete with gravity discharge, make sure the maximum seasonal groundwater table level is at least 150 mm (6") below the shell’s base at all times.
- NEVER connect a drain pipe, roof gutter, sump pump or air conditioning drain to your septic system.
- NEVER empty the backwash of a spa or pool into your septic system.
- NEVER empty wastewater of a recreational vehicle (camping trailer, caravan, etc.) into your septic system.
- If there is a delay in finishing the landscape after the initial installation of the system, place reference posts and protective fences to identify the location of the Ecoflo® Coco Concrete. This will prevent any circulation on the unit and help indicate the system's final level.
- NEVER use automatic toilet cleaners.
- NEVER let anything accumulate on top of your septic system (for example: compacted snow). The overload could damage the system.
- Never operate a vehicle or place objects weighing over 225 kg (500 lbs) within 5 m (16.5’) of the lid. Pass on this information to all those who have access to your system (landscaper, snow blower, etc.).
- Households must be equipped with an air vent that is in proper working condition and complies with the applicable standards. Premier Tech Aqua strongly recommends using a 100 mm (4") Ø pipe.
- Hand over the package containing the Owner’s Manual and the Maintenance Agreement to the customer.
- Remind the customer to fill out and sign the Maintenance Agreement. The customer must keep the white copy, give the yellow copy to the municipality, and send the pink copy to Premier Tech Aqua.

By respecting these guidelines, you are contributing to the proper operation of your wastewater treatment system. Failure to abide by these guidelines may, at Premier Tech Aqua’s discretion, render the warranty invalid.

If you have any problems, questions or comments, do not hesitate to contact Premier Tech Aqua at 1 800 632-6356.